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# CHINA FINANCIAL MARKET DEVELOPMENT REPORT

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**2022**

PBOC Shanghai Head Office  
*China Financial Market Development Report Committee*



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# Chapter I Overview

In 2022, the growth rates of all economies were generally lower as compared with 2021 amid the worldwide sluggish economic growth. Large swings in global financial markets led to a continuous tightening of monetary policies in major developed economies. Facing severer-than-expected impacts, China's economy maintained stable growth with a steadily upgraded quality. The financial market steadily scaled up, market reforms and innovation progressed continuously, and the opening-up was advanced in an orderly manner. The institutional construction was strengthened on an on-going basis, and the quality and efficiency of financial services for the real economy were further improved.

## 1.1 The economic and financial environment for China's financial market development in 2022

### 1.1.1 International economic and financial situations

#### 1.1.1.1 Slower economic growth globally

(1) Growth rates of all economies were generally lower than those of 2021

In 2022, the growth rates of all economies were generally lower than those of 2021 amid the worldwide sluggish economic growth. The annual GDP of the United States (US) grew by 2.1 percent year on year, down over 60 percent compared with 5.7 percent in 2021; and the year-on-year (YoY) growth rates for each quarter were 3.7 percent, 1.8 percent, 1.9 percent and 0.9 percent respectively. The annual GDP of the Eurozone increased by 3.5 percent year on year, and the year-on-year growth rates by quarter were 5.5 percent, 4.4 percent, 2.4 percent and 1.8 percent respectively. The annual GDP of Japan

rose by 1.0 percent year on year, 0.7 percentage points lower than that in 2021. The annual GDP of the United Kingdom (UK) increased by 4.0 percent year on year, and the growth rates for different quarters varied significantly with a downward trend, registering 10.7 percent, 4.0 percent, 1.9 percent and 0.4 percent respectively. Despite large quarterly fluctuations, the performance of some emerging markets and developing economies was slightly better than that of developed economies. In 2022, India's annual GDP grew by 6.7 percent year on year, and by quarter, its GDP increased by 4.1 percent, 13.2 percent, 6.3 percent and 4.4 percent respectively. The annual GDP of Brazil and South Africa rose by 2.9 percent and 2.0 percent year on year respectively, down from 4.6 percent and 4.9 percent in 2021. Affected by the conflicts between Russia and Ukraine, Russia's annual GDP contracted from an increase in 2021 to a decline, down 2.1 percent year on year.

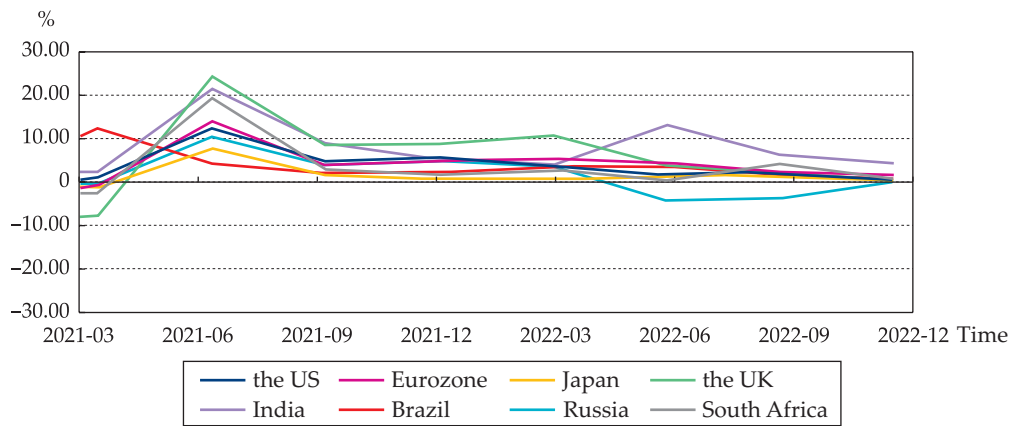


Figure 1.1 Economic growth rates of major economies from 2021 to 2022 (YoY for the current quarter)

(Source: Wind)

(2) The growth of global trade fell after an initial rise

In 2022, the value of global trade reached a record high of USD 32 trillion, up about 12 percent year on year and about 26 percent higher compared with that in 2019, before the outbreak of COVID-19. Specifically, the value of trade in goods stood at USD 25 trillion, a year-on-year increase of 10 percent; and the value of trade in services posted USD 7 trillion, up 15 percent year on year. By quarter, these values of trade registering a record high were largely driven by strong economic growth in H1 2022, while the trade growth has been at a low level since Q3 and turned negative in Q4. In terms of trade types, the economic slowdown had a greater adverse impact on trade in goods than on trade in services. Trade in goods decreased by 1 percent and 3 percent respectively in Q3 and Q4, while trade in services underwent an increase in the same period. As for different economies, the European Union (EU), China and the US reported a total export-import

volume of USD 14.61 trillion, USD 6.31 trillion and USD 5.44 trillion respectively, accounting for 45.7 percent, 19.7 percent and 17.0 percent of the world's total respectively.

(3) Global direct investment showed a downward trend

Affected by the Russia-Ukraine conflict, high food and energy prices, the risk of economic recession and debt pressures in many countries, the global inflows of foreign direct investment (FDI) in 2022 amounted to USD 1.3 trillion, down 12 percent from 2021. Specifically, FDI inflows from developed economies and developing economies totaled USD 378.3 billion and USD 916.4 billion respectively, down 36.7 percent and up 4.03 percent year on year respectively. The US, China, Singapore, Hong Kong (China) and Brazil saw the largest inflows, registering USD 285.0 billion, USD 189.1 billion, USD 141.2 billion, USD 117.7 billion and USD 86.0 billion, respectively. Global FDI outflows were USD 1.5 trillion, down 13.8 percent year

on year. To be specific, FDI outflows from developed economies recorded USD 1.03 trillion, down 17.2 percent year on year, but still accounted for more than 69.2 percent of the world's total overseas investments. FDI outflows from developing economies reached USD 458.9 billion, down 5.4 percent year on year. The US, Japan, China, Germany and the UK ranked the top five economies in FDI outflows, amounting to USD 373.0 billion, USD 161.5 billion, USD 146.5 billion, USD 143.0 billion and USD 129.8 billion, respectively.

#### (4) Commodity prices fluctuated repeatedly

In 2022, repeated COVID-19 outbreaks and geopolitical conflicts had a great impact on global energy prices and led to a drastic fluctuation in commodity prices. In this year, the global oil price measured by the US West Texas Intermediate (WTI) Light Crude Oil fell after an initial rise, soaring from USD 76.08 per barrel at the beginning of the year to USD 122.11 per barrel in early June, and then fluctuating and falling to USD 80.26 per barrel at end-2022, with an annual upward increase of 5.5 percent. The Food and Agriculture Organization (FAO) Food Price Index rose from 135.7 in January to 159.3 in March, and then fell continuously to 132.4 in December, giving a slight decline across the year. The prices of most nonferrous metals went down. At end-2022, the spot prices quoted by the London Metal Exchange (LME) of copper, aluminum, zinc and tin were USD 8,387.0 per ton, USD 2,360.5 per ton, USD 3,025.0 per ton and USD 24,800.0 per ton respectively,

down 13.5 percent, 15.9 percent, 16.7 percent and 37.4 percent from end-2021 respectively. The spot prices quoted by the LME of lead and nickel reached USD 2,335.0 per ton and USD 30,425.0 per ton respectively, up 0.3 percent and 45.4 percent respectively. The prices of precious metals fluctuated throughout the year. London spot gold at end-2022 was USD 1,812.35 per ounce, down 0.4 percent from end-2021.

#### 1.1.1.2 International financial markets experienced sharp volatility

(1) Developed economies continued to tighten their monetary policies

In 2022, the Federal Reserve (Fed) entered a new cycle of interest rate hikes since December 2018, raising rates seven times in the whole year by a total of 425 basis points (bps), and hiking the federal funds rate to a target range of 4.25~4.5 percent from 0~0.25 percent at the beginning of the year. The Fed ended its asset purchases in March and began reducing its holdings of treasury bonds and mortgage-backed securities (MBS) from June, initially by USD 30.0 billion and USD 17.5 billion per month respectively, which increase to USD 60.0 billion and USD 35.0 billion respectively after 3 months. The European Central Bank (ECB) has restarted its interest rate hikes in the past 11 years, raising rates four times in the whole year by a total of 250 bps, with a hike of 50 bps, 75 bps, 75 bps and 50 bps for each time respectively. The Bank of England (BOE) began raising interest rates in December 2021, and in 2022, it raised rates eight times by a total of 325 bps to 3.5 percent

in 2022. In December, the Bank of Japan (BOJ) adjusted the target floating range of the yield on 10-year treasury bonds from  $\pm 0.25$  percent to  $\pm 0.5$  percent. In addition, the central banks of Australia, Canada, New Zealand and South Korea raised interest rates eight times, seven times, seven times and seven times respectively in 2022, with a total increase of 300 bps, 400 bps, 350 bps and 225 bps respectively.

(2) The yields on treasury bonds of major developed economies moved upwards overall. The global bond market was differentiated amid fluctuations. The yield on 10-year treasury bonds in the US once rose above 4.2 percent

in October, and then fluctuated back to 3.88 percent by the end of the year, up 236 bps from end-2021. Affected by the strong signal of interest rate hike released by the ECB, the yield on European bonds went up at end-2022, and yields on 10-year treasury bonds in Germany, France and the UK climbed to 2.53 percent, 3.11 percent and 3.80 percent respectively at the end of the year, up 277.0 bps, 291.9 bps and 278.6 bps respectively from end-2021. The yield on Japanese 10-year treasury bonds rose in tandem with the upper limit of the BOJ's Yield Curve Control (YCC) target, closing at 0.45 percent at the end of the year, up 36.5 bps from the beginning of the year.

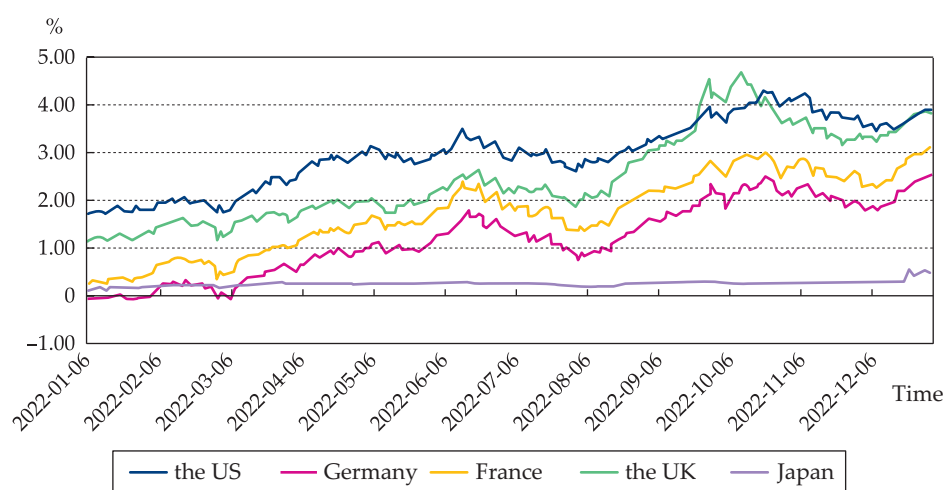


Figure 1.2 Yields on 10-year treasury bonds in major developed economies in 2022

(Source: Wind)

(3) The USD index went up sharply while other major currencies weakened

Driven by high inflation, the Fed was ahead of the central banks of other developed economies in hiking interest rates and shrinking the balance sheet in terms of both magnitude and

pace. Affected by this, the USD index went up sharply from 96 in early 2022 to 114 in late September 2022, with an appreciation rate of 19 percent, and fell back to 103 at the end of the year. Global non-US currencies were generally under pressure. In 2022, the USD appreciated by

7.2 percent against the currencies of developed countries and 3.6 percent against the currencies of emerging market economies. The exchange rates of the euro, the yen and the pound against the USD all hit 20-year lows, depreciating by 5.5 percent, 12.6 percent and 10.5 percent respectively. The Chilean peso, the South African rand and the Brazilian real against the USD depreciated by 1.1 percent, 6.3 percent and 5.5 percent respectively. The Argentine peso against the USD depreciated sharply by 42.0 percent.

(4) Global stock markets generally went down amid fluctuations

In 2022, major developed economies continued to hike interest rates and shrink the balance sheet, and global financial markets experienced

significant volatility. In the whole year, global stock markets witnessed a general decline amid fluctuations. The MSCI World Index dropped from 756.94 at the beginning of 2022 to 605.38 at end-2022, down 20.0 percent. The US S&P 500 Index decreased from 4,796.56 at early 2022 to 3,839.50 at the end of the year amid fluctuations, down 20.0 percent. The Euro Stoxx 50 Index fluctuated and slid from 4,331.2 at the beginning of the year to 3,793.62 at end-2022, down 12.4 percent. The stock markets of France, Germany and Japan fell by 9.5 percent, 12.3 percent and 9.4 percent respectively. The Russia RTS index fell by 39.18 percent, and the UK FTSE 100 index rose slightly by 0.91 percent. The Argentina MERV Index and the Brazil IBOVESPA Index grew by 142.02 percent and 4.69 percent respectively.

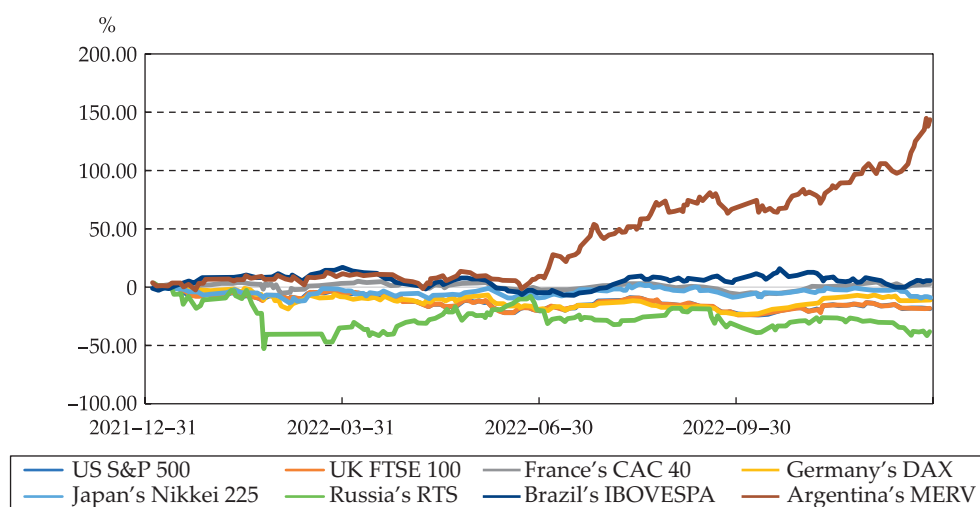


Figure 1.3 Movements of stock indices in major economies in 2022

(Source: Wind)

(Note: All the data in the figure are based on the stock indices at end-2021)

### 1.1.2 Domestic economic and financial situations

In 2022, facing complex and severe domestic

and international situations and multiple severer-than-expected impacts, China worked to coordinate COVID-19 containment and



economic and social development in an effective way, scaled up macro adjustments, and accelerated the implementation of a package of policy measures to stabilize the economy, thus providing robust support for economic recovery and improvement, steadily advancing the quality of economic development, and promoting the growth of overall economic aggregate to a new level. GDP grew by 3.0 percent in 2022, ranking top among major economies. China stepped up the implementation of a sound monetary policy, adopted structural monetary policy instruments in a targeted and effective manner, and maintained reasonable growth in money, credit, and aggregate financing to the real economy (AFRE). The credit structure was continuously improving, the loan prime rate (LPR) reform continued to unleash its benefits, and the loan rate was at a historically low level. Overall financing costs for businesses were guided to remain stable with a slight decline, and the RMB exchange rate remained basically stable at an adaptive and equilibrium level. The financial environment remained basically stable, and the financial sector continued to function well.

#### **1.1.2.1 Facing severer-than-expected impacts, the quality of national economic development was steadily upgraded**

(1) China's economy continued to operate steadily

After consecutively crossing the RMB 100 trillion and RMB 110 trillion thresholds in 2020 and 2021, China's GDP once again reached a

new level of RMB 121.02 trillion in 2022. China remained the world's second largest economy, with a per capita GDP of RMB 85,700, or USD 12,741 at the annual average exchange rate, continuing to maintain above USD 12,000. The consumer price index (CPI) in 2022 was up 2.0 percent from 2021, far lower than the global average inflation of over 8 percent, thus keeping prices basically stable against the backdrop of high global inflation. In 2022, 12.06 million urban jobs were created, exceeding the annual expectation of 11 million. The surveyed urban unemployment rate averaged 5.6 percent, 0.5 percentage points higher than that in 2021, and the employment situation was generally stable. In 2022, per capita disposable personal income stood at RMB 36,883, a real increase of 2.9 percent from the previous year, which was basically in line with the GDP growth. Fiscal revenue grew stably. Revenue in the national general public budgets posted RMB 20,370.3 billion, increasing by 9.1 percent (VAT credit refund excluded), or an increase of 0.6 percent (calculated on a natural basis) year on year. Fiscal expenditure grew rapidly. Expenditures in the national general public budgets registered RMB 26,060.9 billion, increasing by 6.1 percent year on year and accelerating by 5.8 percentage points higher than that of the same period of the previous year. The total volume of China's imports and exports of trade in goods exceeded RMB 40 trillion for the first time and reached RMB 42.1 trillion, up 7.7 percent from 2021, achieving a new breakthrough from a high base level. China was increasingly becoming



the destination for global investment, with the actually utilized FDI reaching RMB 1,232.7 billion, an increase of 6.3 percent from the previous year on a comparable basis. China's FDI achieved growth amid the downward trend of global economy and reached a new

high in scale. Specifically, actually utilized FDI in the manufacturing and high-tech industries grew by 46.1 percent and 28.3 percent respectively, continuing the trend of agglomeration in the two industries mentioned above.

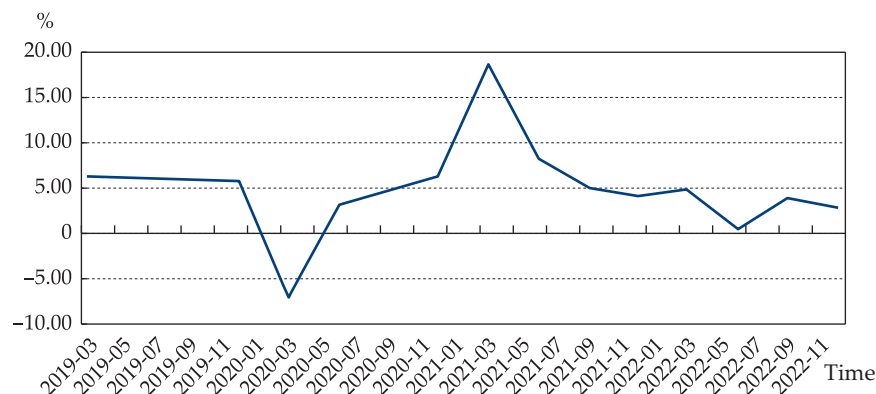


Figure 1.4 Year-on-year GDP growth rates by quarter from 2019 to 2022

[Source: National Bureau of Statistics (NBS)]

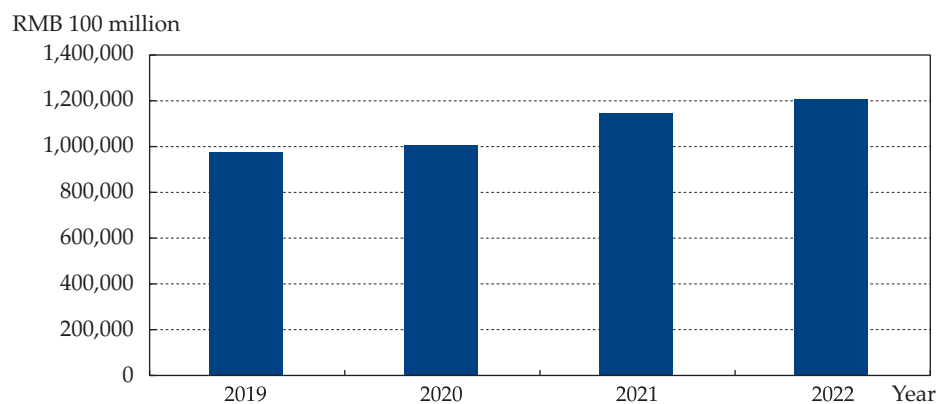


Figure 1.5 Total volumes of GDP from 2019 to 2022

(Source: NBS)

(2) The economic quality was steadily upgraded. Consumption remained basically stable, and the structure of income distribution continuously

improved. In 2022, the total retail sales of consumer goods hit RMB 43.97 trillion, down 0.2 percent from 2021. The retail sales of goods

for basic living grew steadily, and the sales of grain, oil and food and beverages by businesses above designated size grew by 8.7 percent and 5.3 percent, respectively. The online retail sales of physical goods increased by 6.2 percent from the previous year, accounting for 27.2 percent of the total retail sales of consumer goods. The nominal and real growth rates of per capita disposable income of rural residents were 2.4 and 2.3 percentage points faster than those of urban residents, respectively.

Investment grew steadily and its structure was constantly adjusted and optimized. In 2022, total fixed-asset investments throughout China (excluding those by rural households) registered RMB 57.21 trillion, up 5.1 percent from 2021. Investments in manufacturing increased by 9.1 percent, 4.0 percentage points higher than the growth of total investments. Investments in infrastructure grew by 9.4 percent, 4.3 percentage points higher than the growth of total investments. Investments in real estate development decreased by 10.0 percent. Investments in the high-tech industry rose by 18.9 percent, 13.8 percentage points higher than the growth of total investments.

Imports and exports of trade in goods recorded rapid growth, and the trade structure continued to improve. In 2022, exports grew by 10.5 percent year on year and imports grew by 4.3 percent year on year, with the trade surplus in goods posting RMB 5.86 trillion. The import and export of general trade accounted for 63.7

percent of the total volume of China's imports and exports, an increase of 2.2 percentage points compared with that in the same period last year. The import and export of private enterprises increased by 12.9 percent, accounting for 50.9 percent of the total volume of China's imports and exports, up 2.3 percentage points from the same period last year. The import and export of mechanical and electrical products grew by 2.5 percent, accounting for 49.1 percent of the total volume of China's imports and exports. The import and export of China's trading partners continued to grow, with the import and export to the Association of Southeast Asian Nations (ASEAN), the largest trading partner, increasing by 15 percent and the import and export to countries along the Silk Road Economic Belt and the 21-ST Century Maritime Silk Road (Belt and Road) increasing by 19.4 percent.

New growth drivers demonstrated favorable momentum, and new industries, business forms and business models were growing rapidly. In 2022, the total R&D expenditure reached RMB 3.1 trillion, exceeding RMB 3 trillion for the first time, an increase of 10.4 percent from 2021, and the ratio of R&D to GDP was 2.55 percent. The industrialization rate of enterprise invention patents posted 48.1 percent, up 1.3 percentage points from 2021, and the commercialization of innovative products was accelerated. The added value of Industrial Enterprises above a Designated Size (IEDS) increased by 3.6 percent year on year, and the added value of high-tech manufacturing and

equipment manufacturing grew by 7.4 percent and 5.6 percent respectively, accounting for 15.5 percent and 31.8 percent of the added value of IEDS, respectively. The added value of the service industry increased by 2.3 percent year on year. Specifically, the added value of the information transmission, software and information technology services industry and the financial sector rose by 9.1 percent and 5.6 percent year on year, respectively. The growth of the modern service industry was encouraging. In 2022, the revenue of service enterprises above designated size increased by 2.7 percent compared with that in 2021, and the total profits grew by 8.5 percent. The output of new energy vehicles, solar cells, and industrial robots rose by 90.5 percent, 46.8 percent and 21.0 percent respectively.

Green and low-carbon transition was steadily advanced. In 2022, China's energy consumption per RMB 10,000 of GDP decreased by 0.1 percent from 2021, and the carbon dioxide emissions per RMB 10,000 of GDP fell by 0.8 percent. The energy transition towards low-carbon development was further pushed forward. Clean energy production grew rapidly, and the proportion of non-fossil energy consumption was rising. In 2022, the power generation of clean energy such as hydro, nuclear, wind and solar power increased by 8.5 percent from 2021; and the non-fossil energy consumption accounted for 17.5 percent of the total energy consumption, up 0.8 percentage points.

### **1.1.2.2 The financial environment remained basically stable, and the financial sector continued to perform steadily**

(1) The People's Bank of China (PBOC) stepped up the implementation of a sound monetary policy

In 2022, PBOC implemented a sound monetary policy that was flexible and appropriate, sought progress while giving top priority to stability, and took prompt measures at an early stage based on changes in the macro situation. It strengthened the implementation of a sound monetary policy, adopted a mix of instruments, such as the required reserve ratio (RRR) cut, the medium-term lending facility (MLF), central bank lending and discounts, and open market operations (OMOs), to inject liquidity into the market. It also managed the intensity and pace of OMOs in a flexible manner, and brought down money market interest rates, creating a favorable liquidity environment for keeping the economic indicators within a reasonable range. In April and December, PBOC lowered the RRR twice, each by 0.25 percentage points, injecting long-term liquidity of over RMB 1 trillion in total. The surplus profits turned over to the central budget posted RMB 1.13 trillion, and the amount of new funds available for the whole society was equivalent to the overall RRR reduction of about 0.5 percentage points.

PBOC unleashed the benefits of the LPR reform, and gave full play to the important role of the mechanism for market-oriented adjustments of deposit rates. It guided financial

institutions to lower the LPR three times, and cut the average interest rate on newly-issued corporate loans to the lowest level on record, thus creating a favorable monetary and financial environment for stabilizing the macro economy. In December, the one-year LPR and the over-five-year LPR registered 3.65 percent and 4.30 percent respectively, down 0.15 and 0.35 percentage points respectively from the same period last year; and the weighted average interest rate on loans was 4.14 percent, down 0.62 percentage points year on year.

PBOC brought into play the guiding role of structural monetary policy tools, renewed two monetary policy tools that provide direct support to the real economy, increased the percentage of incentive funds provided by PBOC in the incremental balance of MSB loans from 1 percent to 2 percent, and launched a phased interest rate reduction policy for inclusive micro and small business (MSB) loans. In addition, it implemented both the carbon emissions reduction facility (CERF) and the special central bank lending for clean and efficient coal use, and set up and launched the special central bank lending for sci-tech innovation, inclusive elderly care services, the transport and logistics sector, and equipment upgrading, aiming to intensify support for MSBs, sci-tech innovation, green development, key areas and weak links. It increased the credit quota for policy and development banks by RMB 800 billion, supported the launch of policy-backed and development-oriented

financial instruments, and ensured the sound development of major infrastructure projects. PBOC launched the loan support scheme to ensure deliveries of presold housing projects worth RMB 200 billion, and supported financial institutions in issuing guaranteed loans to sold and overdue residential projects with delivery difficulties for the purpose of providing targeted liquidity and positive incentives and in line with market-oriented principles. It established a mechanism that allows dynamic adjustments to first-home mortgage rate policies, and relaxed the floor for first-home mortgage rates, so as to better meet residents' reasonable demands for housing.

Attention was paid to maintaining a balance between internal and external equilibria. PBOC cut the RRR for foreign exchange deposits of financial institutions by 3 percentage points in two installments. It attached importance to guiding and managing expectations, raised the risk reserve ratio for forward sale of foreign exchange from 0 to 20 percent, and raised the macro-prudential adjustment parameter for cross-border financing for enterprises and financial institutions from 1 to 1.25, so as to enhance the flexibility of the RMB exchange rate and keep 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-2022, the broad money supply (M2) and

the AFRE stood at RMB 266.4 trillion and RMB 344.21 trillion respectively, up 11.8 percent and 9.6 percent year on year respectively, basically in line with the nominal GDP growth. Outstanding RMB loans reached RMB 214.0 trillion, up 11.1 percent from 2021 and RMB 21.3 trillion from the beginning of 2022, RMB 1.4 trillion more than the increase during the same period in 2021. Specifically, medium and long-term (MLT) loans to enterprises and public institutions increased by RMB 11.1 trillion from the beginning of 2022, accounting for 64.7 percent of all corporate loans. Outstanding MLT loans to the manufacturing sector rose by 36.7 percent year on year, 25.6 percentage points higher than the growth rate of all loans. Outstanding inclusive MSB loans rose by 23.8 percent year on year, 12.7 percentage points higher than the growth rate of all loans. 56.52 million MSBs were supported, a year-on-year increase of 26.8 percent.

(3) The financial sector functioned stably, and total assets maintained a reasonable growth. The banking sector saw sound growth, and its capacity of risk compensating for losses from risks was sufficient as a whole. The total assets denominated in RMB and foreign currencies owned by China's banking institutions totaled RMB 379.4 trillion, a year-on-year increase of 10.0 percent. The total liabilities of the banking sector were RMB 348 trillion, up 10.4 percent year on year. At end-2022, outstanding non-performing loans (NPL) of commercial banks as legal entities stood at RMB 3 trillion, and

the NPL ratio was 1.63 percent, lower than the 1.73 percent at end- 2021. Outstanding loan loss reserves of commercial banks totaled RMB 6.1 trillion, and the provision coverage ratio was 205.85 percent. The loan provision ratio posted 3.36 percent, the capital adequacy ratio (CAR) registered 15.17 percent, and the liquidity ratio hit 62.85 percent. Most of these indicators improved compared with their levels at end-2021.

The securities industry showed declining performance, while its capital strength was further consolidated. At end-2022, 140 securities companies brought in a total revenue of RMB 394.973 billion and a total net profit of RMB 142.301 billion, down 21.38 percent and 25.54 percent respectively from 2021. Total assets of the securities industry reached RMB 11.06 trillion, net assets came in at RMB 2.79 trillion, and net capital registered RMB 2.09 trillion, up 4.41 percent, 8.52 percent, and 4.69 percent year on year, respectively. The overall risk control indicators of the industry were better than regulatory standards.

In the insurance industry, primary premium income increased year on year and the growth of assets accelerated. In 2022, China's insurance industry achieved primary premium income of RMB 4.7 trillion, up 4.6 percent year on year. Claim and benefit payments totaled RMB 1.5 trillion, down 0.8 percent year on year. In 2022, the number of new insurance policies posted 55.4 billion, up 13.3 percent year on year. The

total assets of insurance institutions reached RMB 27.15 trillion and their total liabilities registered RMB 24.45 trillion, up 9.1 percent and 11.3 percent respectively. At end-2022, the average comprehensive solvency adequacy ratio and average core solvency adequacy ratio of 181 insurance companies, which were reviewed by the Solvency Supervision Committee, stood at 196 percent and 128.4 percent respectively.

## 1.2 Main features of China's financial market performance in 2022

Facing severer-than-expected impact from home and abroad in 2022, 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 brought into full play, financial support for key areas and weak links was intensified in a sustained way, and the function of financial services for the real economy was further improved, providing a favorable environment for stabilizing the macro economy. Measures were effectively taken to further open up the financial market in a thorough way. The institutional building was continuously advanced to promote sustainable and sound development of financial markets.

### 1.2.1 The market scaled up steadily and prices fluctuated

In 2022, the financial market expanded steadily in scale. The trading volume of the money

market continued to increase, representing an annual turnover of RMB 1,526.98 trillion, up 31.18 percent year on year. The bill market scaled up rapidly, registering RMB 27.39 trillion and RMB 19.46 trillion in bill acceptances and discounts, up 13.4 percent and 29.6 percent year on year respectively, indicating stronger payment and financing capacities of bills. A total of RMB 61.9 trillion of bonds were issued, and the volume of outstanding bonds rose to RMB 144.8 trillion. The value of cash bond transactions in 2022 totaled RMB 309.3 trillion, a year-on-year increase of 27.1 percent. The issuance of innovative bonds grew rapidly, and the issuance volume of domestic green bonds rose sharply by 44.04 percent. The resilience of the stock market was significantly strengthened, and the total financing volume of initial public offerings (IPO) hit a record high, reaching RMB 586.886 billion, up 9.67 percent year on year. The volume of the insurance industry continued to rise, with the primary premium income increasing by RMB 4,695.72 billion, up 4.58 percent year on year. The total assets of the industry posted about RMB 27.1 trillion, up 9.1 percent from the beginning of 2022. The overall futures market maintained its large volume since 2020, and commodity futures and options trading took up 72.3 percent of global commodity derivatives trading. The total trading volume of stock index futures was 74.4937 million lots, a year-on-year increase of 11.62 percent. The turnover of treasury bond futures registered RMB 46.42 trillion, up 68.71 percent year on year.



In 2022, the types and number of financial market participants continued to increase. The number of participants in the inter-bank lending market reached 2,432, an increase of 87 compared with that in 2021. The bill market had 22 new participants, with a total of 3,104 various trading entities. The number of inter-bank bond market participants rose to 4,337, with a growing number of investors. More and more institutions were participating in the stock market, and the proportion of trading by institutional investors increased further. Participants of the Shanghai Gold Exchange (SGE) were increasingly diversified, and the engagement of corporate clients in gold futures was enhanced continuously, with their share in the total holdings accounting for over 80 percent.

Prices were fluctuating across financial markets. The money market interest rates were brought down, and the weighted rate in 2022 was 50 bps lower than that of 2021. Major products saw smaller fluctuations, and the term was dominated by short-term products. In the bill market, the interest rate of inter-bank discounts and the discount rates dropped overall, and the repo rate was running at a low level. In the bond market, the yield on treasury bonds maintained at a low level, and the credit spreads were widening. The stock indices went down amid fluctuations, and their fluctuations witnessed an increase. In terms of exchange rates, the RMB against the USD depreciated first and then appreciated overall, with a

significant rise in volatility and continuously enhanced flexibility. Domestic gold prices went up amid fluctuations, with the dominant spot contract of Au99.99 on the SGE rising by 9.8 percent throughout the year, and the spread between domestic and overseas gold prices was generally positive.

### **I.2.2 Innovation progressed continuously, and the quality and efficiency of financial services for the real economy improved**

Financial market innovations were steadily advanced. Policy-backed and development-oriented financial instruments were launched to replenish the capital for major projects or bridge financing for projects funded by special bonds. Investors in financial institutions such as small and medium sized financial institutions and asset management institutions were introduced into the over-the-counter (OTC) bond market to expedite the development of a multi-level bond market. A new generation of bill business system was launched, effectively covering the diversified system of bill product. The market maker mechanism was introduced to the Sci-Tech Innovation Board (STAR Market) in a bid to improve stock liquidity. The China Foreign Exchange Trade System (CFETS) expanded the scope of collateral for foreign currency repos to improve the efficiency of foreign currency repo businesses. The authority expanded the pilot scope of exclusive commercial endowment insurance, standardized and supported the personal pension business, and launched pilot

projects of commercial pension businesses for related insurance companies, aiming to meet the diverse needs of the public. Innovations in commodity futures and options on futures were advanced continuously, and the derivatives system further improved.

The financial market provided stronger support for the real economy. In serving private businesses and MSBs, 3,034,600 micro, small- and medium-sized enterprises (MSMEs) (98.55 percent of all enterprises) used bills in 2021, with a total amount of RMB 75.43 trillion (71.53 percent of the total). The weighted average rate on bill discounts for MSMEs decreased by 90 bps, and bill businesses became more aligned with the needs of MSMEs. A supply chain financial service called Commodity Clearing Net (CCNet) was launched to provide online financing services for spot trade of MSMEs in the commodity industry chain. The existing volume of financial bonds for MSBs grew steadily, helping improve the quality and efficiency of financial services for MSBs. In terms of serving innovation-driven sci-tech enterprises, corporate bonds for sci-tech innovation and sci-tech innovation notes were launched. A total of RMB 157.874 billion of sci-tech innovation notes and RMB 129.9 billion of corporate bonds for sci-tech innovation were issued throughout 2022, benefiting nearly 1,000 innovation-driven sci-tech enterprises, and their full life cycle bond financing support system basically took shape. A total of 123 companies were newly listed on the STAR

Market in 2022 and raised funds of RMB 252.0 billion, accounting for 70 percent of the total amount raised in the IPO. 170 enterprises in strategic emerging industries were newly listed on the Shenzhen Stock Exchange (SZSE) in 2022, with IPO financing totaling RMB 193.3 billion, accounting for 90 percent of the total financing. In promoting the green and low-carbon development, the *China Green Bond Principles* was launched, which facilitated the basic alignment with international standards. 521 domestic green bonds were issued in 2022, totaling RMB 874.658 billion. CFETS Green Bond Index was constantly enriched, now covering 6 green bond indices.

### 1.2.3 Reform and opening-up were advanced in an orderly manner, and new achievements were made in promoting interconnectivity

In 2022, the financial market reform and opening-up were advanced in an orderly manner. The announcement named *Matters Concerning Further Facilitating Investment in China's Bond Market by Overseas Institutional Investors* was released. Based on the principle "consolidated rules, unified bond market", foreign institutional investors with access to the inter-bank bond market were allowed to invest in the exchange-traded bond market in a direct or interconnected manner. The *Rules on Funds Invested by Overseas Institutional Investors in China's Bond Market* was released to further clarify the financing policies for overseas institutions in the domestic bond market. The



process for overseas institutions entering the market was simplified, and overseas institutions were permitted to enter the market as legal persons. The *Notice on Launching Pilot Program to Streamline Panda Bond Registration and Issuance Mechanism* and the *Notice on Matters Concerning the Fund Management for Domestic Bond Issuances by Overseas Institutions* were issued to optimize the registration and issuance mechanism of panda bonds in the inter-bank market, improve the foreign exchange risk management on panda bonds, and facilitate the financing of overseas institutions in the domestic bond market.

New achievements were made in financial market connectivity. In the bond market, cross-border inter-bank bond subscription services for overseas investors and domestic underwriters were launched. The number of overseas investors and the volume of their bond holdings increased steadily. At end-2022, 1,071 overseas institutions from about 70 countries and regions entered the inter-bank bond market, an increase of 5 percent year on year, and the outstanding bond custody volume of overseas institutions in China's bond market reached RMB 3.5 trillion. In the stock market, the interconnectivity depositary receipt mechanism was continuously improved, and the first global depositary receipt was issued publicly in the German market. The scope of the exchange traded fund (ETF) connectivity at home and abroad was continuously expanded, and the SZSE-Singapore Exchange (SGX)

ETF Connectivity Scheme was launched. The interconnectivity mechanism between the stock markets of the Chinese mainland and Hong Kong was continuously optimized, and a number of ETF funds on Shanghai Stock Exchange (SSE), SZSE and Hong Kong Exchanges and Clearing Limited (HKEX) were included in the target of interconnectivity. In the foreign exchange market, the inter-bank RMB foreign exchange market introduced the trading agent function for overseas institutions and the negotiation transaction function for intra-group members to optimize the transaction process for overseas institutions. 21 new overseas member institutions were added to the inter-bank foreign exchange market, with a turnover totaling RMB 1.13 trillion, up 22.6 percent year on year, indicating a stronger market influence of overseas institutions. In the gold market, the international board FT special account was applied and promoted in Hainan and Guangdong. The sharing of gold resources, capital and technology in markets along the Belt and Road was pushed forward, and market participants employed the international board warehouses in Shanghai to carry out businesses related to the "Gold Road" project for the first time. 5 new international members were added to the international board of the gold market, covering 16 countries and regions around the world. In the derivatives market, qualified foreign institutional investors (QFIIs) and RMB qualified foreign institutional investors (RQFIIs) were encouraged to further participate in futures and options trading, thus

pressing ahead with the implementation of the Northbound cooperation framework of Swap Connect.

#### 1.2.4 The institutional building was continuously advanced, and new progress was secured in forestalling and defusing financial risks

The legal system and basic rules of the financial market were improved at an accelerated pace. The *Futures and Derivatives Law of the People's Republic of China* was launched to effectively fill the gaps in the legal framework of the capital market and to improve the laws and regulations system of the derivatives market. The reform to establish a registration-based IPO system in the securities market was advanced in a stable manner. The delisting mechanism of listed companies was improved, thus helping create a sound environment for smooth market entry and exit. The *Measures for the Administration of Bond Lending Business in the Inter-bank Bond Market* was issued to improve the management system for bond lending, protect the legitimate rights and interests of market participants, and increase liquidity in the bond market. The *Measures for the Administration of Acceptance, Discount and Rediscount of Commercial Bills* was released to further improve the market-oriented restraint mechanism and perfect the credit management framework for the bill market. The *Interim Measures for the Administration of Gold Leasing Business* was unveiled to standardize and promote the development of gold leasing business. The *Measures for the Administration of*

*Affiliated Transactions of Banking and Insurance Institutions* was issued to prevent insurance institutions from transferring benefits to shareholders and their related parties.

The regulation on financial markets was continuously strengthened, and major financial risks were resolved in a targeted and effective manner. All types of financial activities were brought under regulation in accordance with the law. Specifically, private equity funds were regulated, and the risks of financial assets exchanges caused by “pseudo financial assets exchanges” were thoroughly defused. Risks in key areas such as “pseudo-private placements”, “quasi-private placements” and local trading venues were continuously mitigated. Risk resolution of key groups and large enterprises was advanced prudently, and progress was made in the risk defusing of small- and medium-sized banks in high-risk areas. Access management and ongoing regulation on financial holding companies were carried out in a steady and orderly manner. The overall regulation and construction planning of financial infrastructures were strengthened, and efforts were made to promote the establishment of a financial infrastructure system that was rationally laid out, effectively governed, advanced, reliable and resilient. In addition, the system for financial risk monitoring, assessment and early warning was constantly improving, and financial institutions were guided to operate prudently and soundly.

### 1.3 Outlook of China's financial market development in 2023

The year of 2023 marks the beginning of implementing the guiding principles of the 20th CPC National Congress. Under the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, China's financial market will pursue progress while resolutely studying and implementing the guidelines of the 20th CPC National Congress and the Central Economic Work Conference. Upholding the general principle of pursuing progress while ensuring stability, it will apply the new development philosophy comprehensively, fully, and faithfully. It will also speed up building a new development paradigm, actively prevent and control risks in key areas of financial markets, and push forward the cultivation of the financial market operation mechanism and coordinate reform, development, and stability, so as to provide strong and effective financial support to ensure a good start in the new journey of building a modern socialist country in all respects.

#### 1.3.1 The capabilities of China's financial sector to support the real economy will be continuously improved

We will enhance the service delivery capability of the financial sector to build a modern industrial system. We will work unswervingly both to consolidate and develop the public sector and to encourage, support and guide

development of the non-public sector, and help deepen the reform of state-owned assets and enterprises, thereby bringing into full play the role of the capital market in supporting the financing and growth of private enterprises. We will continue to promote the support instrument for bond financing of private enterprises, and satisfy their reasonable financing needs. Focusing on supporting sci-tech innovation, we will make overall plans for the construction of a multi-level market system, hence further smoothing the virtuous circle of "science and technology—industry—finance". The role of the market in resource allocation will be at full play. We will comprehensively deepen the functioning of the bond market, highlight its services for stabilizing economic growth and the development of the real economy, and help increase the proportion of direct financing. We will provide small- and medium-sized financial institutions with diversified channels for bond investment, trading, custody and settlement, so as to increase liquidity in the bond market. We will thoroughly implement a new round of the three-year action plan to improve the quality of listed companies, promote the high-quality development of equity funds, guide more MLT funds to enter the market, and give full play to the resource allocation function of the capital market.

#### 1.3.2 Development and innovation of the financial market will be pushed forward

We will promote the construction of the

financial market system. Specifically, we will strengthen the bond market mechanism, expedite the development of a multi-level market system, and improve the macro management on financial bonds to make the bond market more resilient and better at market-based pricing. We will work to foster a stable money market, a standardized bill market and a well-regulated gold market, as well as a sound RMB derivatives market and asset-backed securities market. The reform to establish a registration-based IPO system will be further advanced, thereby further accelerating the development of direct financing. In addition, we will diversify the supply of financial products. We will increase secure and stable property income for residents through multiple channels to enhance their consumption ability, encourage the insurance sector to focus on its main duties and strengthen its risk protection function, and guide the trust industry to stick to its original businesses such as service trusts, asset management trusts and charitable trusts. We will support platform enterprises to play a greater role in promoting sci-tech innovation, enhancing international competitiveness and expanding domestic demand by leveraging their advantages in scenarios, data, and technology.

### 1.3.3 The two-way opening up of the financial market will be advanced in an orderly manner

We will steadily expand the institutional opening-up in terms of rules, regulations,

management and standards, further improve in the financial field the management model of pre-establishment national treatment plus a negative list, and create a market-oriented and world-class business environment governed by a sound legal framework. We will further simplify the procedures for overseas investors to enter the Chinese market, and enrich the portfolio of investable industries and assets, thus constantly facilitating investment in the Chinese market. Measures will be taken to better the overall regulatory framework for financial infrastructures and to advance the opening-up of the bond, derivatives and other markets. We will continue to promote the high-standard opening-up of the bond market, effectively implement measures on facilitating investment in China's bond market by overseas institutional investors, and advance the transformation of the bond market from a factor-flow-driven opening-up to a rule-based institutional opening-up. We will steadily advance the institutional opening-up of the capital market, and deepen the connectivity between domestic and overseas markets. We will continue to enhance the level of financial services for the Belt and Road Initiative (BRI) and actively participate in international financial governance. We will also improve macro-prudential management, strengthen regulation on cross-border capital flows, enhance the capacity for economic and financial oversight as well as risk management in an open economy, and strike a better balance between development and security.

### 1.3.4 Financial market risks will be actively forestalled and defused

It is necessary to make overall plans to guard against major financial risks and moral hazards, and urge all related parties to fulfill their respective responsibilities in a timely manner, so as to prevent the formation of regional and systemic financial risks. We will intensify efforts to forestall and defuse key risks in the bond market, promote the further mitigation of bond default risks, and protect the legitimate rights and interests of investors. Based on market principles and the rule of law, we will step up efforts to crack down on illegal and irregular conduct in the bond market. Risks in key areas will be resolved in a prudent and orderly

manner to ensure a purified market ecology. In line with the differences between private placement and public offering, investment and credit, and equity and claims, we will strictly prevent the resurgence of all types of high-risk shadow banks, promptly investigate and punish fraudulent acts that promise “high returns without risk of loss”, and severely crack down on illegal and irregular financial activities. We will pay close attention to the relevance and systematicness of various financial risks, intensify efforts to forestall and defuse cross-market, cross-industry and cross-border risks, and continuously improve the institutional systems of capital market risk prevention, early warning, resolution, and accountability.



## Chapter 2 Money Market

In 2022, PBOC enhanced the implementation of the sound monetary policy. The liquidity in the banking system remained adequate at a reasonable level. The trading volume of the money market grew, and the market interest rates moved down. The short-term financing costs of financial institutions went down. All these created a favorable liquidity environment for the financial sector to serve the real economy and helped to stabilize the macro economy.

### 2.1 Inter-bank lending market

In 2021, the overall performance of the inter-bank lending market was stable. The number of market participants continued to grow, with more participation of non-bank financial institutions. The trading volume witnessed a significant rise. The interest rates went down, and the term structure was still dominated by

short-term maturities.

#### 2.1.1 Performance of the inter-bank lending market

In 2022, the trading volume of the inter-bank lending market totaled RMB 146.82 trillion, up 23.57 percent year on year and registering an average daily trading volume of RMB 587.287 billion. Specifically, the O/N and 7-day inter-bank lending accounted for 89.18 percent

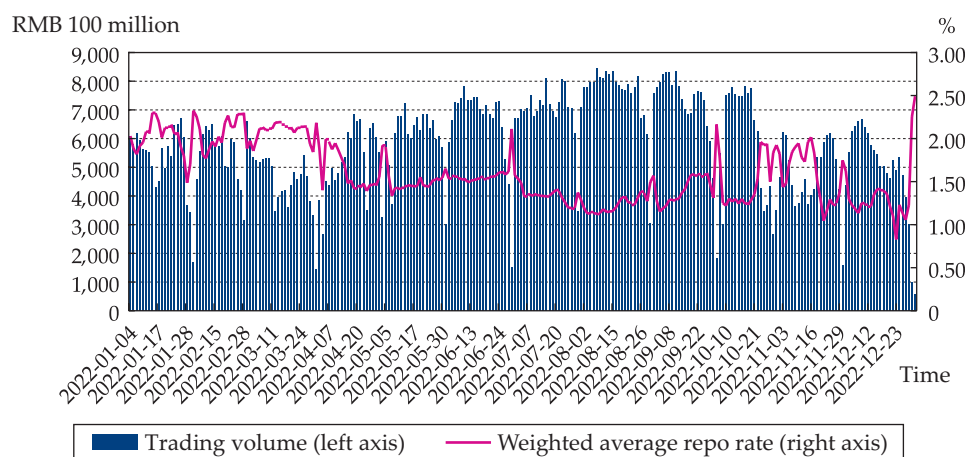


Figure 2.1 Inter-bank lending volumes and interest rate movements in 2022

(Source: CFETS)

and 8.87 percent of the total respectively. The annual weighted average interest rate posted 1.55 percent, down 49 bps year on year. As of end-2022, there were 2,432 market participants, an increase of 87 over the previous year.

## 2.1.2 Main features of the inter-bank lending market

### 2.1.2.1 The interest rates went down significantly

In 2022, the annual weighted average interest rate of the inter-bank lending market decreased by 49 bps year on year. For most of 2022, the inter-bank rates went down amid fluctuations and rose abruptly at the end of the year. At end-2022, the daily weighted rates of the O/N and 7-day inter-bank lending stood at 2.43 percent and 2.68 percent respectively, up 45 bps and 34

bps respectively from the beginning of the year.

### 2.1.2.2 Trading volume and balance increased

In 2022, the trading volume of the inter-bank lending market rose remarkably, with a cumulative turnover of RMB 146.82 trillion, an increase of 23.57 percent year on year. Specifically, the trading volume in March, November and December decreased from the same period last year, whereas the trading volume in other months increased from the same period in 2021, especially in August and September, which registered year-on-year growth rates of 72.55 percent and 66.09 percent respectively. The average daily balance of credit lending was RMB 1.11 trillion, up 18.05 percent year on year.

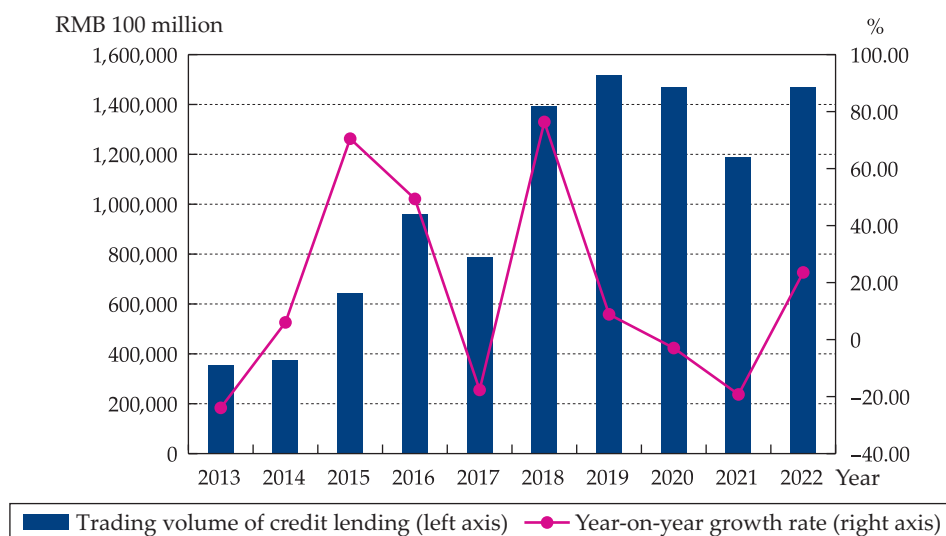


Figure 2.2 Trading volumes and growth rates of the inter-bank lending market from 2013 to 2022

(Source: CFETS)



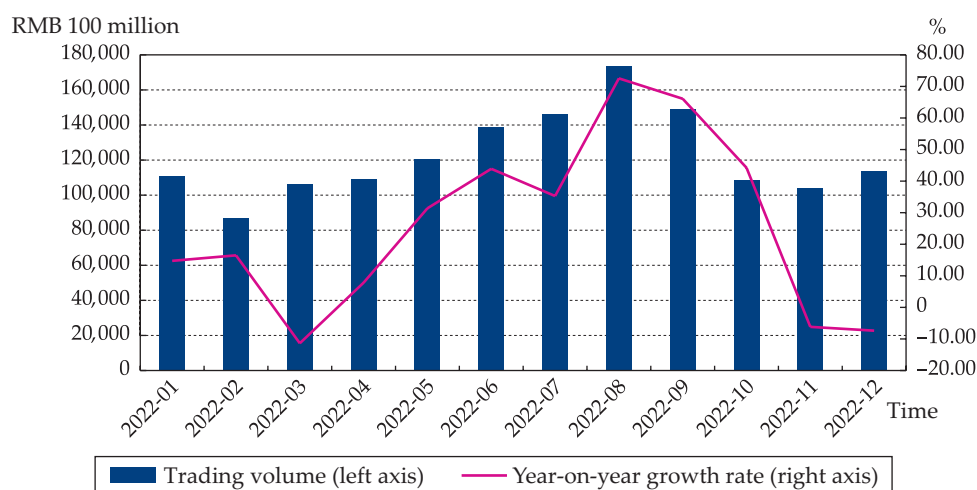


Figure 2.3 Monthly trading volumes and year-on-year growth rates of the inter-bank lending market in 2022

(Source: CFETS)

### 2.1.2.3 Participation of non-bank financial institutions increased

In 2022, the participation of non-bank financial institutions in the inter-bank lending market further grew, and the trading volume accounted for 20.42 percent of the total, up 6.12 percent year on year. From the perspective of capital flow, non-bank financial institutions mainly borrowed from other institutions, with the borrowing volume accounting for 39.86 percent of the total.

### 2.1.2.4 Large-scale commercial banks remained the major net lender in the inter-bank lending market

In 2022, the major net lenders in the inter-bank lending market were large-scale commercial banks, joint-stock commercial banks and policy banks, with a net lending volume of RMB

45.55 trillion, RMB 17.02 trillion and RMB 8.07 trillion, accounting for 61.38 percent, 22.93 percent, 10.88 percent respectively. The major net borrowers were securities companies, urban commercial banks and finance companies, with a net borrowing volume of RMB 44.39 trillion, RMB 16.87 trillion and RMB 9.79 trillion, accounting for 59.81 percent, 22.73 percent and 13.19 percent respectively.

## 2.2 Bond repo market

In 2022, the performance of the bond repo market remained overall stable. The trading volume remarkably expanded; the repo interest rate fluctuated at a low level; O/N inter-bank lending dominated others; and the share of non-bank financial institutions and their products kept increasing.



## 2.2.1 Performance of the bond repo market

In 2022, the cumulative turnover of the bond repo market was RMB 1,783.71 trillion, up 27.83 percent year on year. Specifically, the cumulative turnover of inter-bank bond repo registered RMB 1,380.15 trillion, up 32.05 percent year on year; and the cumulative turnover of exchange-traded bond repo posted RMB 403.56 trillion, up 15.24 percent year on year.

### 2.2.1.1 Performance of the inter-bank bond repo market

In 2022, the cumulative turnover of inter-bank bond repo was RMB 1,380.15 trillion, up 32.05 percent year on year, with the growth rate up 23 percentage points from the previous year. Specifically, the cumulative turnover of pledged repo stood at RMB 1,374.58 trillion, up 32.11 percent year on year; the cumulative turnover

of outright repo was RMB 5.57 trillion, up 17.45 percent year on year. The share of the trading volume of pledged repo in the bond repo market hit 99.60 percent, up 0.05 percentage points from the previous year.

In 2022, the terminal interest rate in the inter-bank bond repo market fluctuated around the policy rate, with smaller fluctuations compared with the previous year. The weighted average pledged repo rate was 1.58 percent, down 50 bps year on year; the weighted average outright repo rate was 1.55 percent, down 56 bps year on year. The interest rate spread between pledged repo and outright repo was 3 bps, the same as that of 2021. The variances of the daily weighted average pledged repo rate and that of the daily weighted average outright repo rate were both 0.13, which continued to go down from the level of the previous two years.

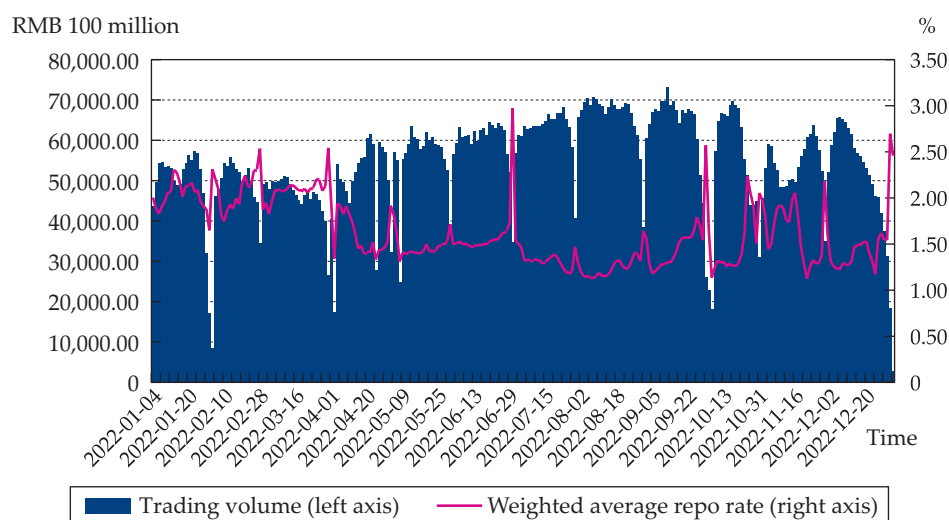


Figure 2.4 Volume and price of inter-bank pledged repo market in 2022

(Source: CFETS)

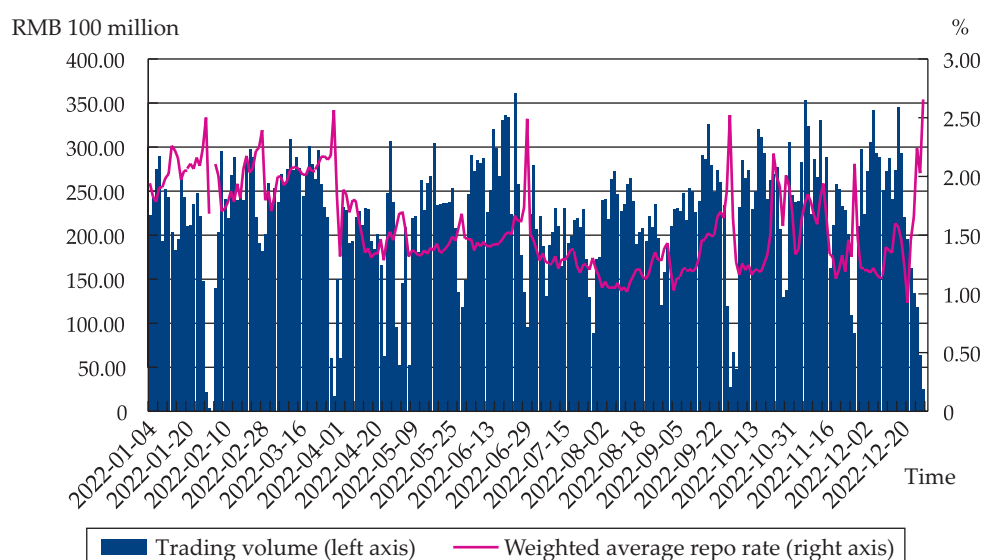


Figure 2.5 Volume and price of inter-bank outright repo market in 2022

(Source: CFETS)

### 2.2.1.2 Performance of the exchange-traded bond repo market

In 2022, the cumulative turnover of exchange-traded bond repo was RMB 403.56 trillion, up 15.24 percent year on year. By trading venue, the cumulative turnover of bond repo on the SSE was RMB 358.44 trillion, up 14.25 percent year on year, while the cumulative turnover of bond repo on the SZSE was RMB 45.12 trillion, up 23.82 percent year on year. By product type, the cumulative turnover of pledged repo was RMB 393.24 trillion, up 15.12 percent year on year, and the cumulative turnover of pledge agreement-based repo was

RMB 3.85 trillion, up 31.57 percent year on year.

The interest rate of exchange-traded pledged bond repo was stable overall with a slight decline. For the SSE, the average 1-day fixing repo rate and the average 7-day fixing repo rate were 2.04 percent and 2.08 percent respectively, down 36 bps and 38 bps respectively from the previous year. For the SZSE, the weighted average rates of 1-day repo and 7-day repo were 2.03 percent and 2.10 percent, down 36 bps and 38 bps respectively from a year earlier.

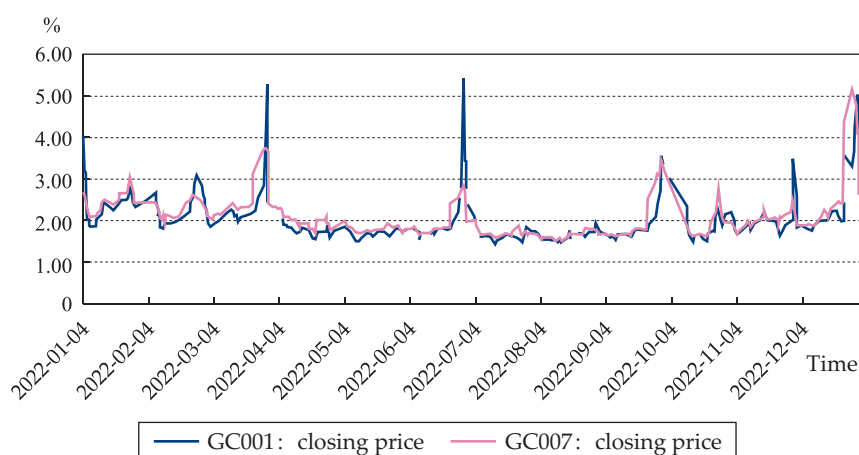


Figure 2.6 Movements of pledged fixing repo rates of the SSE in 2022

(Source: SSE)

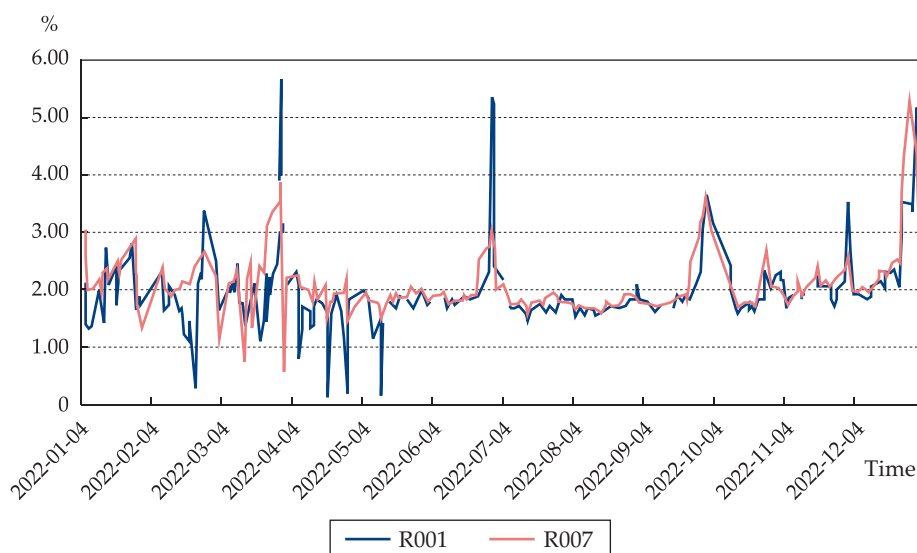


Figure 2.7 Movements of pledged repo rates of the SZSE in 2022

(Source: SZSE)

## 2.2.2 Main features of the bond repo market

### 2.2.2.1 The trading volume of bond repo rose significantly

The trading volume of inter-bank bond repo continued to rise and reported a year-on-year increase of 17.10 percent, 8.90 percent and 32.05 percent respectively in the past three years. In 2022, the trading volume of inter-bank pledged

repo continued to increase, with a year-on-year increase of 32.11 percent, up 23 percentage points from the previous year; and the trading volume of outright repo rebounded by 17.45 percent year on year, up 50 percentage points from the previous year. In 2022, the trading volume of exchange-traded bond repo increased by 15.24 percent year on year, a growth lower than that of the inter-bank market.

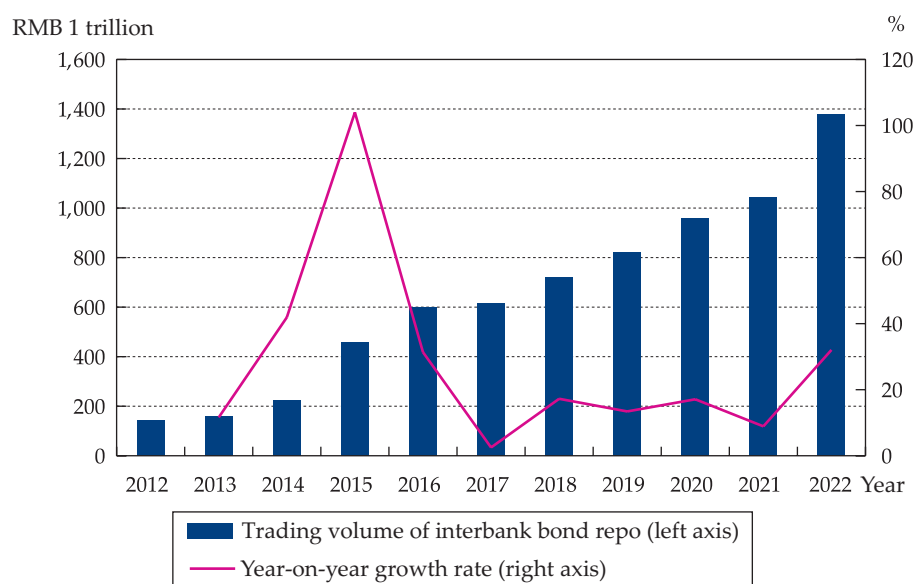


Figure 2.8 Trading volumes and growth rates of inter-bank bond repo from 2012 to 2022

(Source: CFETS)

#### 2.2.2.2 Repo rates fluctuated at a low level

In the inter-bank bond repo market, the market fluidity remained adequate, and the capital price declined year on year with smaller fluctuations. In 2022, the weighted averages of DR001 and DR007 decreased by 51 bps and 40 bps to 1.42 percent and 1.85 percent respectively; and the weighted averages of R001 and R007 decreased by 50 bps and 40 bps to 1.50 percent and 1.98 percent respectively. Throughout the year, DR007 basically fluctuated below the OMO 7-day reverse repo rate, with the minimum value of 1.285 percent, the maximum value of 2.423 percent and the median of 1.7018 percent, down 46 bps year on year; and the fluctuation range was 114 bps, narrowing by 38 bps year on year.

In the exchange-traded market, in 2022, the weighted average rates of 1-day and 7-day

pledged repos on the SSE were 2.04 percent and 2.08 percent respectively, down 36 bps and 38 bps from the previous year, fluctuating at a low level. The weighted average rates of 1-day and 7-day pledged repos on the SZSE were 2.03 percent and 2.10 percent respectively, down 36 bps and 38 bps year on year; the standard deviation of the daily weighted average pledged repo rate was 0.47, down 4.08 percent from 0.49 of 2021; and the standard deviations of the daily weighted average interest rate of the pledged repo on the SZSE from 2020 to 2022 were 0.57, 0.49 and 0.47 respectively.

#### 2.2.2.3 The average daily balance increased, with O/N products playing a dominant role

In 2022, the average daily balance of inter-bank pledged repos was RMB 9.20 trillion, up 26 percent from the previous year; and the average

daily balance of outright repos was RMB 59.9 billion, up 4 percent from the previous year. The trading maturity structure of the inter-bank bond repo market remained stable overall, with O/N products continuing to play a dominant role and making up a slightly greater proportion of the total. In 2022, the share of O/N inter-bank pledged repos registered 86.4 percent of the total pledged repos, up 2 percentage points from the previous year; and the share of O/N outright repos posted 78.36 percent of the total, up 6 percentage points from the previous year.

The exchange-traded pledged bond repo market was dominated by O/N short-term repos, with a generally stable maturity structure. In 2022, the share of repos with a term of up to 7 days (including day 7) on the SSE was 97.13 percent, with those with a term of 1 day accounting for 83.01 percent, up 0.48 percentage points from the previous year; and the share of repos with a term of up to 7 days (including day 7) on the SZSE was 98.98 percent, with those with a term of 1 day accounting for 88.06 percent, down 1.54 percentage points from the previous year.

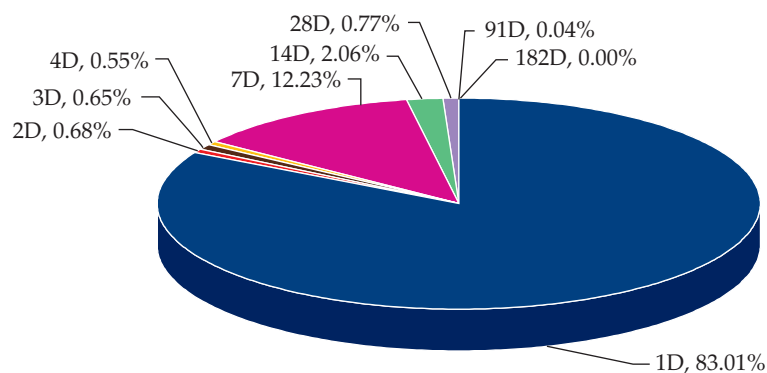


Figure 2.9 Term structure of pledged repo transactions on the SSE in 2022  
(Source: SSE)

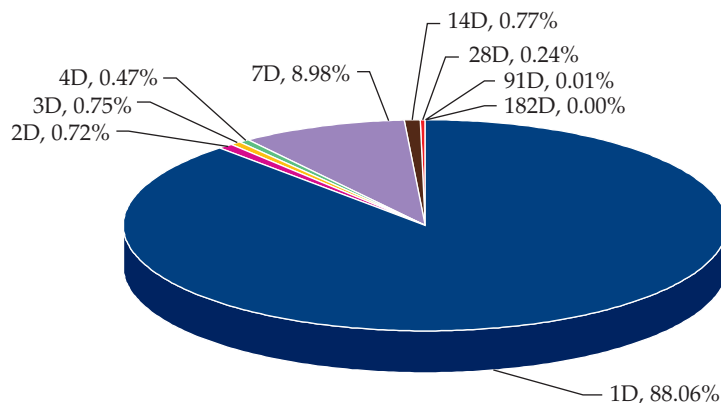


Figure 2.10 Term structure of pledged repo transactions on the SZSE in 2022  
(Source: SZSE)



### 2.2.2.4 The share of non-bank financial institutions and their products continued to grow

In 2022, from the perspective of capital inflow, the largest net borrowers in the inter-bank pledged repo market were fund companies, securities companies and specific asset management portfolios of fund companies, with a net borrowing of RMB 231.25 trillion, RMB 172.66 trillion, and RMB 76.44 trillion respectively, accounting for 33.22 percent, 24.81 percent, and 10.98 percent of the total. The net borrowing of non-bank financial institutions accounted for 94.28 percent, up 1.29 percentage points from 2021. At end-2022, in the SSE repo market, publicly offered funds, proprietary accounts of securities companies and enterprise annuities ranked the top three in terms of outstanding pledged repo borrowing balance, accounting for 18.7 percent, 17.2 percent and 15.8 percent respectively. In the SZSE repo market, proprietary accounts of securities companies, publicly offered funds and other professional institutions<sup>①</sup> ranked the top three in terms of capital inflow, accounting for

29.72 percent, 20.65 percent and 13.09 percent respectively.

In 2022, from the perspective of capital outflow, the largest net lenders in the inter-bank pledged repo market were large-scale commercial banks, policy banks and joint-stock commercial banks, with a net lending of RMB 438.28 trillion, RMB 127.14 trillion and RMB 100.81 trillion, accounting for 62.97 percent, 18.27 percent and 14.48 percent of the total lending, respectively. At end-2022, in the SSE repo market, publicly offered funds, individuals and general legal persons ranked the top three in terms of outstanding pledged repo lending balance, accounting for 29.5 percent, 26.1 percent and 9.6 percent respectively. In the SZSE repo market, individuals, publicly offered funds and other professional institutions ranked the top three in terms of capital flow, accounting for 73.55 percent, 11.37 percent and 5.33 percent respectively, with publicly offered funds accounting for a higher proportion compared with those in 2021.

<sup>①</sup> Since October 2021, the SZSE has fine-tuned the classification of investors according to the unified deployment of the China Securities Regulatory Commission (CSRC), which may affect the relevant data in 2022 and 2021. The proportion of capital inflow of other professional institutions has increased, which may be caused by this reason.

### COLUMN I X-Repo expanded local government bonds and inter-bank negotiable certificate of deposit (NCD) pledged contracts

X-Repo is an electronic trading mode launched by the CFETS in August 2015. It can effectively broaden the channels of capital transactions and raise the efficiency of liquidity transmission by anonymous matching, imposing bilateral quota constraint, and unifying the conversion rate.

In September 2022, to enhance the liquidity of local government bonds and other high-grade bonds, X-Repo further expanded the scope of available pledged bonds, and introduced new trading contracts supporting local government bonds and NCDs as pledged bonds, in a bid to continuously cater to the trading needs of market institutions and improve the efficiency in serving the real economy. Two newly introduced types

of contracts include DRF contracts, which support local government bonds issued in the Yangtze River Delta region and Guangdong-Hong Kong-Macau Greater Bay Area; and CDR contracts, which support NCDs issued by commercial banks and joint-stock commercial banks recognized as systemically important banks (SIBs).

In addition, the full-time quotation trading process of X-Repo will continue to be optimized, in order to realize synchronous bond redeeming when clicking to make a transaction. Currently, there are over 2,000 X-Repo market participating members, with an average daily turnover of RMB 710 billion, up 16 percent from the previous year.

## 2.3 NCD market

### 2.3.1 Performance of the NCD market

In 2022, a total of 323 institutions issued NCDs, down 27 from the previous year. Altogether 25,800 RMB NCDs were issued, with the amount standing at RMB 20.50 trillion; and 21 USD NCDs were issued, with the amount standing at USD 2.670 billion. At end-2022, the outstanding RMB NCDs was RMB 14.16 trillion, an increase of 1.52 percent from the previous

year; and the outstanding USD NCDs posted USD 2.00 billion.

In 2022, the cumulative turnover of NCD transactions in the secondary market stood at RMB 231.98 trillion, up 50.11 percent year on year. All were RMB NCDs except RMB 113 million of foreign currency NCDs. Specifically, the turnover of pledged repo transactions stood at RMB 175.88 trillion, up 58.48 percent year on year and accounting for 75.82 percent of the total. The transactions concluded via cash bond

deals amounted to RMB 55.94 trillion, up 28.81 percent year on year and accounting for 24.11 percent of the total. The outright repo traded RMB 0.15 trillion, up 18.95 percent year on year and accounting for 0.07 percent of the total. The bond lending transactions amounted to RMB 1.30 billion, up 30.13 percent year on year.

### 2.3.2 Main features of the NCD market

#### 2.3.2.1 The issuance volume slightly dropped and the outstanding volume slightly rose

In 2022, the issuance volume of RMB NCDs stood at RMB 20.50 trillion, a year-on-year decrease of 6.00 percent. The average quarterly issuance volume stood at RMB 5.13 trillion. To be specific, the issuance volumes in Q1 and Q2 were higher than the average, while lower in Q3 and Q4. The volumes issued in the four quarters of 2022 registered RMB 5.36 trillion, RMB 5.48 trillion, RMB 4.79 trillion, and RMB

4.87 trillion respectively.

In 2022, the outstanding volume of NCDs fluctuated. Throughout the year, seven months witnessed negative growth, and five months witnessed positive growth. At end-2022, the outstanding volume of NCDs amounted to RMB 14.16 trillion, up RMB 0.25 trillion from end-2021.

In terms of issuer, the outstanding volume of NCDs issued by urban commercial banks, joint-stock commercial banks, and large-scale commercial banks registered the top three in 2022, accounting for 37.10 percent, 33.11 percent, and 18.30 percent of the total, up 2.09 percentage points, down 4.18 percentage points, and up 1.85 percentage points respectively from last year. Rural commercial banks and cooperative banks accounted for 9.21 percent, down 0.68 percentage points year on year.

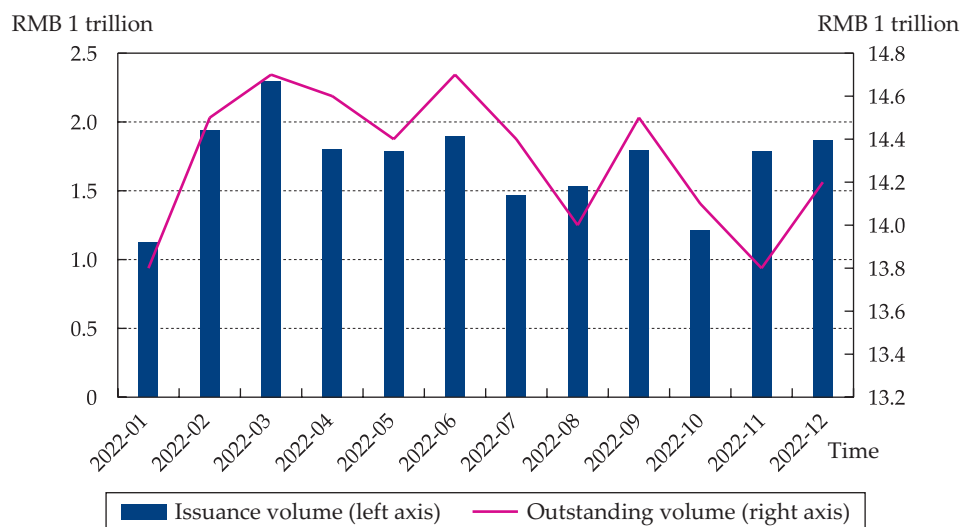


Figure 2.11 Monthly issuance of NCDs in 2022

(Source: CFETS)



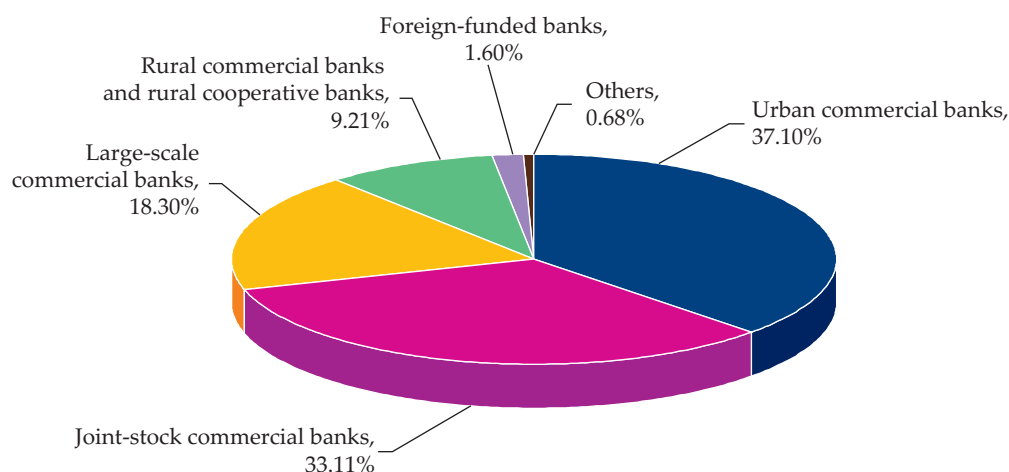


Figure 2.12 Structure of NCD issuers in 2022

(Source: CFETS)

### 2.3.2.2 The issuing rates of NCDs underwent V-shaped movements, with an overall downward trend

The issuing rates of NCDs went down with fluctuations in the first eight months and gradually bounced back afterwards, with a slight decline at end-2022 from the beginning of the year. From January to August, the yield on 1-year NCDs issued by joint-stock commercial banks went downward amid fluctuations

between 1.85 percent and 2.65 percent, and reached the yearly peak and low in January and August respectively, down about 80 bps in total. The NCD yield resurged from August to December, with that on 1-year NCDs issued by joint-stock commercial banks going up about 65 bps in total. Throughout 2022, the weighted average issuing interest rate of 3-month NCDs was 2.22 percent, up 15 bps over Shibor of the same maturity.

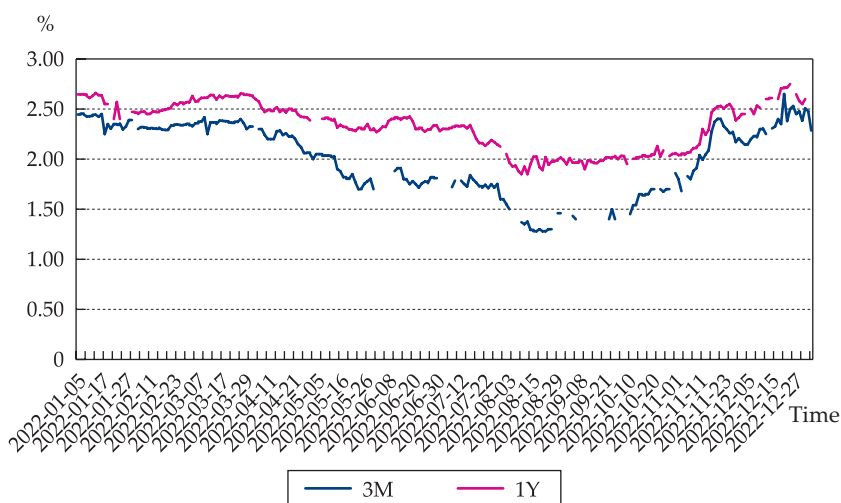


Figure 2.13 Movement of issuing interest rates of NCDs issued by major joint-stock commercial banks in 2022

(Source: CFETS)



### 2.3.2.3 The volatility of the secondary market increased

In 2022, the annual turnover of the secondary market of NCDs registered RMB 55.94 trillion, accounting for 20.62 percent of the transactions in the cash bond market, ranking second to policy financial bonds. From the perspective of institution types, the top three net buyers of NCDs were funds, policy banks, and wealth management products, with a net purchase of RMB 1,098.286 billion, RMB 667.826 billion and RMB 656.125 billion, accounting for 19.74 percent, 12.00 percent and 11.79 percent of the total respectively. The top three net sellers of NCDs were joint-stock commercial banks, securities companies, and urban commercial banks, with a net sale of RMB 1,914.894 billion, RMB 1,822.967 billion, and RMB 1,534.618 billion, accounting for 34.41 percent, 32.76 percent, and 27.58 percent of the total respectively. The volatility of transaction rates increased compared with that of 2021, with comparatively high daily volatility in January, July, August, and November. In 2022, the average yields on 1-year and 3-month AAA-rated NCDs were 2.32 percent and 2.01 percent respectively, and the variances were 0.06 and 0.11 respectively, higher than 0.02 and 0.02 in 2021.

### 2.3.2.4 One-year NCDs accounted for the highest proportion

In 2022, 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, although the share of one-year NCDs in all NCDs issued decreased by 2.02 percentage points from 2021, it still accounted for 45.19 percent of the total. The shares of NCDs issued with 1-month, 3-month, 6-month and 9-month maturities were 11.01 percent, 18.44 percent, 16.37 percent, and 8.99 percent, up 2.02 percentage points, down 4.77 percentage points, up 2.68 percentage points, and up 2.09 percentage points respectively from the previous year.

### 2.3.2.5 The roadshow of NCDs developed steadily, and the inquiry before issuance became more standardized

In 2022, the CFETS continued to optimize the roadshow process for NCDs, realizing the operations of displaying roadshow quotation and supporting pre-subscription through iDeal, an instant messaging platform launched by the CFETS for the inter-bank market. A total of 75 issuers released roadshow quotations, and nearly 900 investors participated in roadshow pre-subscription. The pre-subscription volume of NCDs registered RMB 1.84 trillion, an increase of 18.40 percent year on year, and the roadshow conversion rate was nearly 10 percent, that is, nearly 10 percent of NCDs issuance and subscription was converted from roadshows.

## 2.4 Outlook of the money market

In 2023, China will continue to implement a

sound monetary policy that is targeted and effective, maintain a reasonable growth of credit aggregates, and keep the growth of money supply and the AFRE basically in line with the GDP growth. In this context, the liquidity of China's banking system will remain adequate at a reasonable level, and the inter-bank lending market, the bond repo market and the NCD market are expected to usher in stable and sound development. First, the liquidity

management functions of the inter-bank lending market will be further enhanced to lower financing costs for financial institutions. Second, the scale of the bond repo market will be further expanded, and its structure will be continuously optimized, so as to maintain the market rates at a reasonable level. Third, the innovation of trading mechanism will be pushed forward to open up the service chain from roadshow to primary issuance of NCDs.

### BOX I iDeal robots facilitate automated inquiry

In 2022, the CFETS launched an intelligent trading robot service based on iDeal, an instant messaging platform in the inter-bank market. Through automated inquiry process and interface protocol specification, the service enables automatic inquiry between quotation providers and investors, enhancing communication efficiency and service quality by significantly reducing the burden of traders in massive inquiry in the traditional OTC market.

iDeal is an instant messaging platform launched by the CFETS for the inter-bank domestic and foreign currency market. Through integration of business advantages and technical characteristics of real-name authentication, monitoring and marking, compliance inquiry, financial

community, open ecology and mobile Internet, the platform provides market participants with professional financial services that are compliant, diversified, efficient, and convenient. Besides, iDeal can comprehensively apply technologies such as machine learning, natural language processing, semantic recognition, and intelligent recommendation, covering the lifecycle management before, during, and after the transaction in an all-round way. The intelligent trading robot service is a deep exploration to advance the supply-side structural reform of the traditional trading mode by the CFETS, and also an effective measure to promote the high-quality development of the inter-bank bond repo market.



In 2022, a number of domestic and foreign currency institutions have fully automated the inquiry and trading processes through intelligent trading robots, which were organically combined with market makers' quotations, thereby providing market members with more efficient and diversified quotation and trading services. By now,

a total of 24 institutions have launched the iDeal intelligent trading robots, fully covering transactions concluded via cash bonds, pledged bond repos, interest rate swaps, foreign currency lending, foreign currency repos, foreign exchange swaps and other trading varieties in the domestic and foreign currency markets.



## Chapter 3 Bill Market

In 2022, the bill market performed generally stable and demonstrated improved quality and efficiency, continuing to play its prominent role in serving main industries, key areas and small- and medium-sized enterprises (SMEs). Solid progress was made in building the information disclosure system for commercial drafts, enhancing the credit awareness of market entities. The new generation bill system was put into service, marking the emergence of a unified and efficient electronic lifecycle business platform for bills. The *Measures for the Administration of Acceptance, Discount and Central Bank Discount of Commercial Drafts* was released to further promote the standardized and healthy development of the bill market.

### 3.1 Performance of the bill market

#### 3.1.1 Bill acceptances and discounts grew year on year in volume, effectively serving the needs of enterprises

As of end-2022, outstanding bill acceptances throughout the market stood at RMB 17.38 trillion, up 16.02 percent year on year, 9.74 percentage points higher than that in 2021. Specifically, outstanding bankers' acceptances totaled RMB 15.42 trillion, up 20.31 percent; and outstanding trade acceptances totaled RMB 1.96 trillion, down 9.34 percent. In 2022, bill acceptances throughout the market amounted to RMB 27.39 trillion, up 13.40 percent year on year, 4.08 percentage points higher than that of the previous year. Specifically, bankers' acceptances totaled RMB 23.96 trillion, up 17.72

percent; and trade acceptances totaled RMB 3.43 trillion, down 9.72 percent. Different types of institutions exhibited divergent growth rates in volumes of bill acceptances. Acceptances of large state-owned commercial banks, joint-stock commercial banks, rural financial institutions and urban commercial banks grew by 46.26 percent, 13.98 percent, 13.53 percent and 10.21 percent year on year, respectively; and acceptances of finance companies decreased by 6.67 percent. In terms of endorsed circulation, bill endorsements throughout the year amounted to RMB 58.59 trillion, up 3.60 percent year on year, 16.24 percentage points lower than that of the previous year. Specifically, endorsements of bankers' acceptances totaled RMB 56.62 trillion, up 5.65 percent; and endorsements of trade acceptances totaled RMB 1.97 trillion, down 33.53 percent.

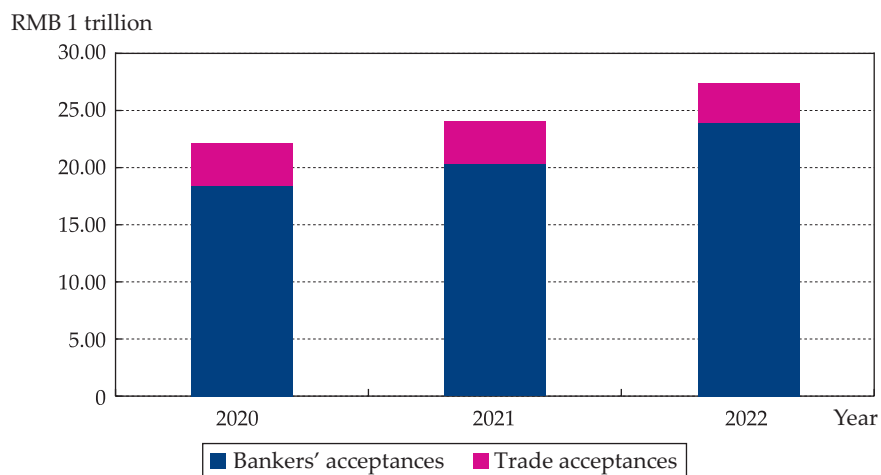


Figure 3.1 Changes in volumes of bill acceptances from 2020 to 2022

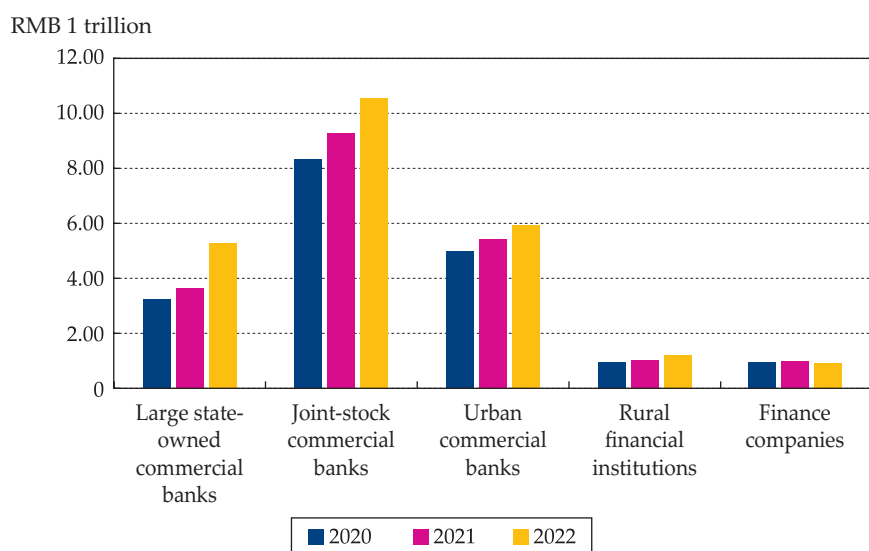


Figure 3.2 Changes in volumes of bankers' acceptances by types of institutions from 2020 to 2022

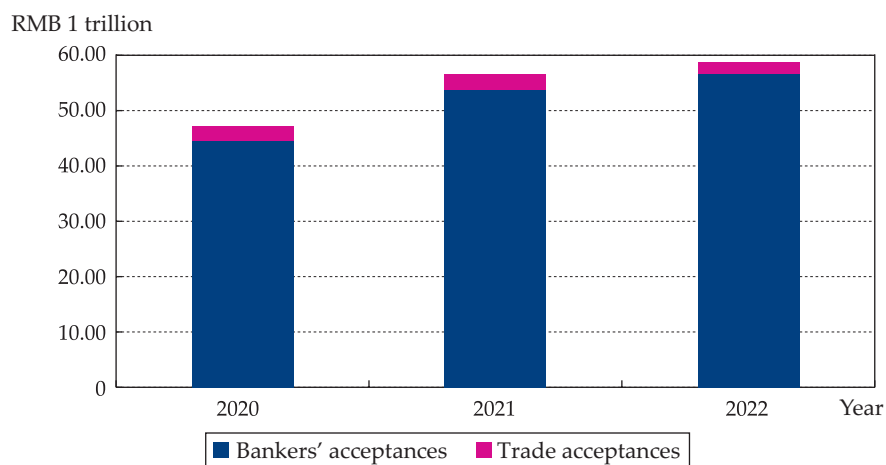


Figure 3.3 Changes in volumes of bill endorsements from 2020 to 2022

As of end-2022, outstanding bill discounts throughout the market registered RMB 12.81 trillion, up 29.70 percent year on year, 17.15 percentage points higher than that in 2021. Specifically, the outstanding volume of discounted bankers' acceptances totaled RMB 11.93 trillion, up 31.84 percent; and the outstanding volume of discounted trade acceptances totaled RMB 0.88 trillion, up 6.26 percent. In 2022, bill discounts throughout the market amounted to RMB 19.46 trillion, up 29.62 percent year on year, 17.69 percentage points higher than that of the previous year. Specifically, discounted bankers' acceptances totaled RMB 18.18 trillion, up 31.81 percent; and discounted trade acceptances totaled RMB 1.28 trillion, up 4.81 percent. In this regard, large state-owned commercial banks played a leading role, with their volumes of bill discounts increasing by 54.63 percent year on year, 25.01 percentage points higher than the total average growth of the market.

The volumes of bill discounts of joint-stock commercial banks, urban commercial banks and rural financial institutions increased by 23.66 percent, 22.21 percent and 20.46 percent respectively, 5.96 percentage points, 7.41 percentage points and 9.16 percentage points lower than the total average growth; and the volumes of bill discounts of finance companies decreased by 2.79 percent. In 2022, the weighted average discount rate throughout the market registered 1.94 percent, down 91 bps from the previous year. Specifically, the discount rates of bankers' acceptances averaged 1.82 percent, down 91 bps; and the discount rates of trade acceptances averaged 3.71 percent, down 49 bps. Compared with the benchmark loan rate, the weighted average discount rate throughout the market in 2022 was 174 bps lower than the average one-year LPR, the spread being 74 bps higher than that of the previous year.

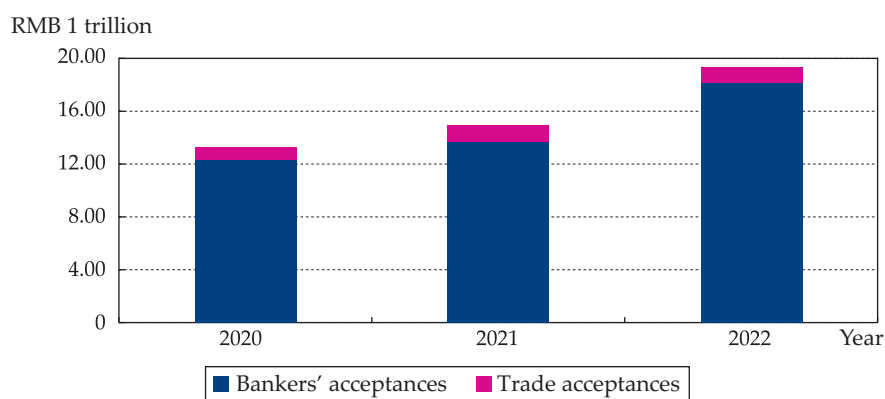


Figure 3.4 Changes in volumes of bill discounts from 2020 to 2022



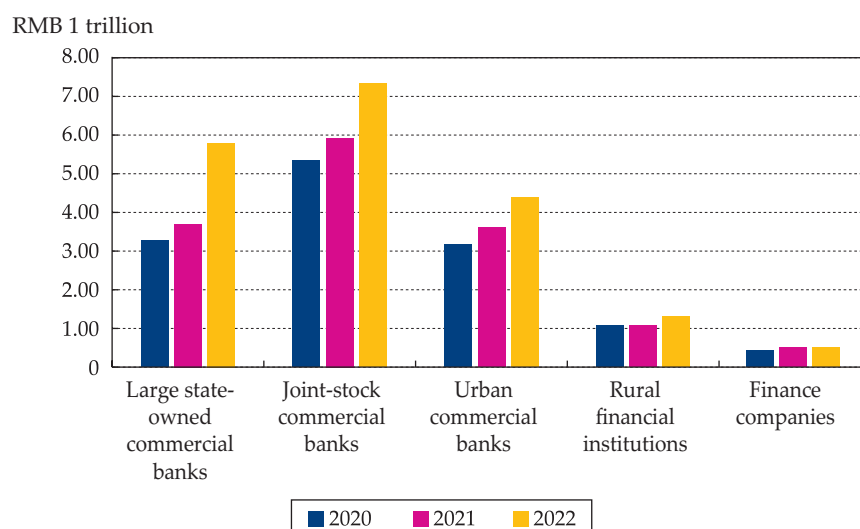


Figure 3.5 Changes in volumes of bill discounts by types of institutions from 2020 to 2022

### 3.1.2 The transaction volume grew significantly and the weighted average interest rate declined year on year

In 2022, inter-bank discounts throughout the market totaled RMB 58.20 trillion, up 24.01 percent year on year, 17.60 percentage points higher than the growth rate in 2021. Specifically, inter-bank discounts of bankers' acceptances totaled RMB 53.04 trillion, up 26.08 percent; and inter-bank discounts of trade acceptances totaled RMB 5.16 trillion, up 6.10 percent. Excluding internal transactions, inter-bank discounts at large state-owned commercial banks, securities companies, rural financial institutions and urban commercial banks increased by 79.80 percent, 78.87 percent, 16.95 percent and 14.44 percent respectively from the previous year, and inter-bank discounts at joint-stock commercial banks decreased by 2.33

percent year on year. Rural financial institutions and large state-owned commercial banks were the main net buyers, and joint-stock commercial banks and urban commercial banks were the main net sellers.

In 2022, the transaction volume of bill repos throughout the market amounted to RMB 29.90 trillion, up 30.14 percent year on year, 15.16 percentage points higher than that of the previous year. Specifically, pledged repos totaled RMB 27.77 trillion, up 27.97 percent; and outright repos totaled RMB 2.13 trillion, up 66.98 percent. By types of institutions, repos at securities companies, large state-owned commercial banks and joint-stock commercial banks increased by 80.28 percent, 60.20 percent and 58.45 percent respectively from 2021, and those at rural financial institutions and urban commercial banks increased by 19.15 percent

and 8.39 percent respectively year on year. From the perspective of capital flow, large state-owned commercial banks and joint-stock commercial banks were the major lenders, and

urban commercial banks, securities companies and rural financial institutions were the major borrowers.

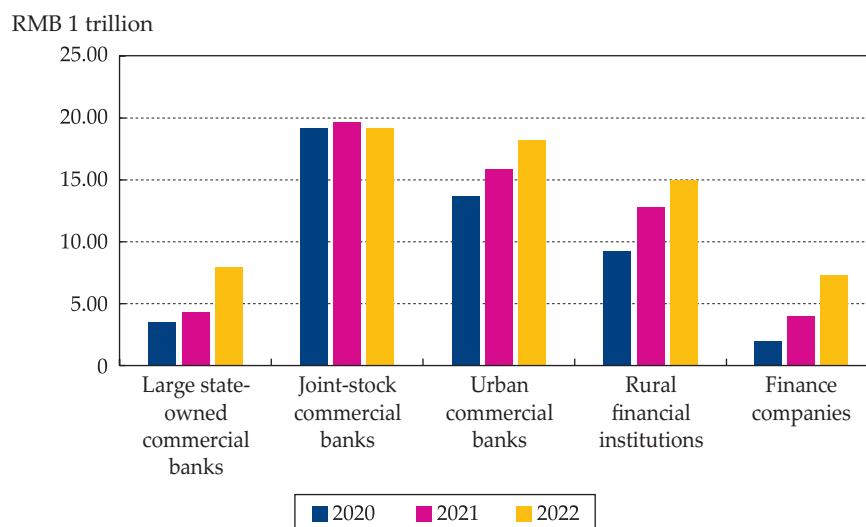


Figure 3.6 Changes in volumes of inter-bank discounts by types of institutions from 2020 to 2022 (excluding internal transactions)

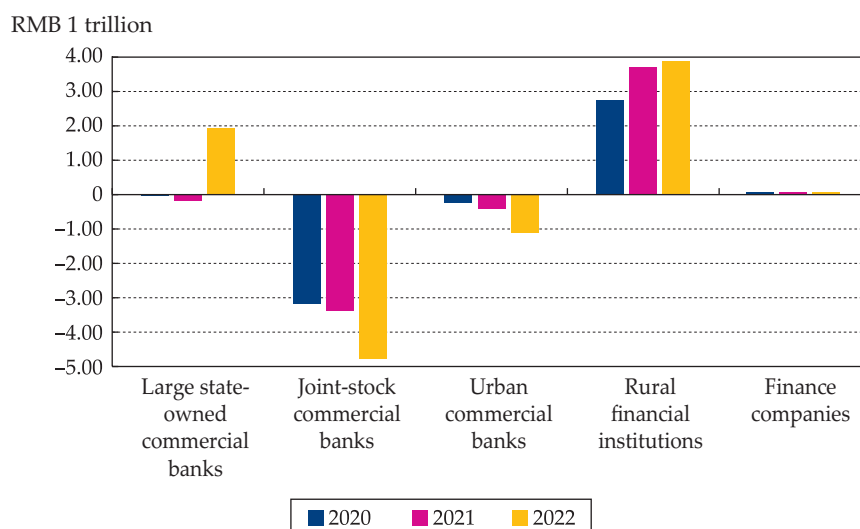


Figure 3.7 Changes in net buying volumes in inter-bank discounts by types of institutions from 2020 to 2022 (excluding internal transactions)

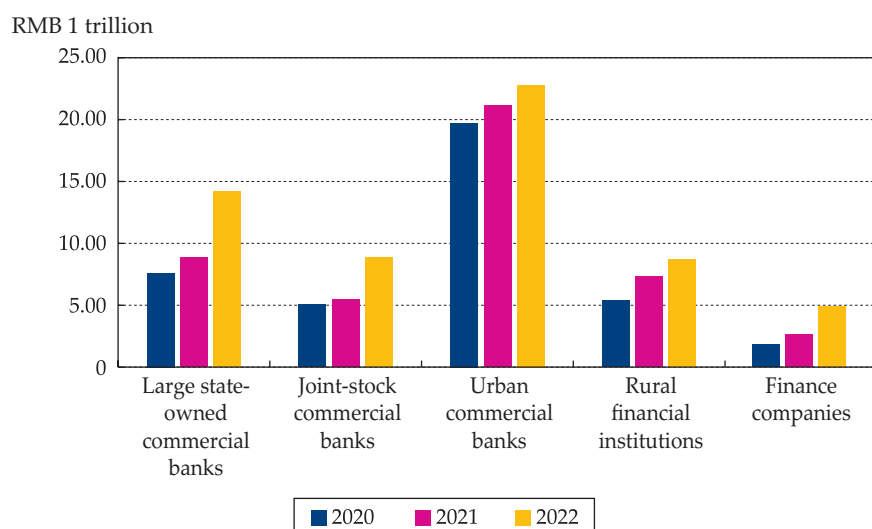


Figure 3.8 Changes in volumes of bill repos by types of institutions from 2020 to 2022

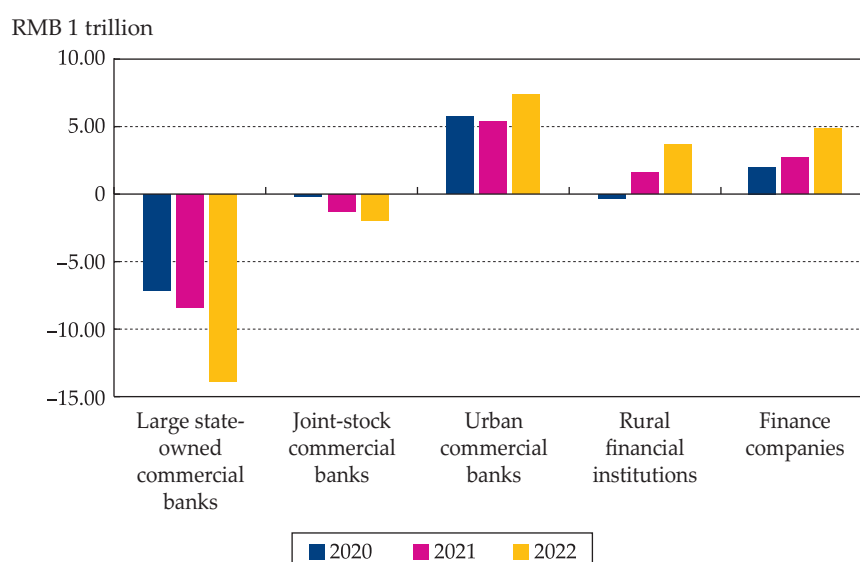


Figure 3.9 Changes in volumes of net borrowing through bill repos by types of institutions from 2020 to 2022

In 2022, the weighted average inter-bank discount rate posted 1.75 percent, down 87 bps year on year. Specifically, the inter-bank discount rates of bankers' acceptances

averaged 1.68 percent, down 88 bps; and the inter-bank discount rates of trade acceptances averaged 2.43 percent, down 73 bps. In 2022, the weighted average interest rate for pledged

repos throughout the market registered 1.60 percent, down 55 bps year on year; and the weighted average interest rate for outright repos was 1.62 percent, down 52 bps year on year.

## 3.2 Main features of the bill market

### 3.2.1 Bills supported the development of Micro, Small- and Medium-sized Enterprises (MSMEs), with a year-on-year increase in bill use by enterprises

In 2022, the total amount of bills used by enterprises reached RMB 105.44 trillion, and the number of enterprise users of bills totaled 3.08 million. Specifically, the amount of bills used by MSMEs hit RMB 75.43 trillion, accounting for 71.53 percent of the total; and the number of MSME users of bills reached 3.03 million, accounting for 98.55 percent of the total. At the same time, as the bill service continued to penetrate the market and cover more industries and its application scenarios became more diversified, bills became more integrated with the development of MSMEs, demonstrating their role in serving inclusive finance. In 2022, the average amount of bills issued by MSMEs increased by 15.38 percent year on year, and the average volume of bill discounts of MSMEs increased by 39.77 percent year on year. The weighted average discount rate of MSMEs

was 2.01 percent, down 90 bps year on year, indicating significantly reduced financing costs.

### 3.2.2 The amount of bills used by key industries increased steadily and the demand for bills in key areas was satisfied

In 2022, the amount of bills used by seven primary bill user industries increased by 10.42 percent year on year, 0.27 percentage points higher than the average growth rate throughout the market. Specifically, the amount of bills used by business services, nonferrous metals and automobile industries increased by 22.65 percent, 14.86 percent and 14.07 percent respectively from 2021, and 12.50 percentage points, 4.71 percentage points and 3.92 percentage points higher than the average growth rate throughout the market, respectively. At the same time, various institutions in the bill market implemented the macro policy to meet the demand for bills in key areas and weak links. In 2022, the amount of bills used by electronic communication, basic scientific research and pharmaceutical & biological industries increased by 29.35 percent, 28.75 percent and 17.77 percent respectively from 2021, 19.20 percentage points, 18.60 percentage points and 7.62 percentage points higher than the average growth rate throughout the market, respectively.

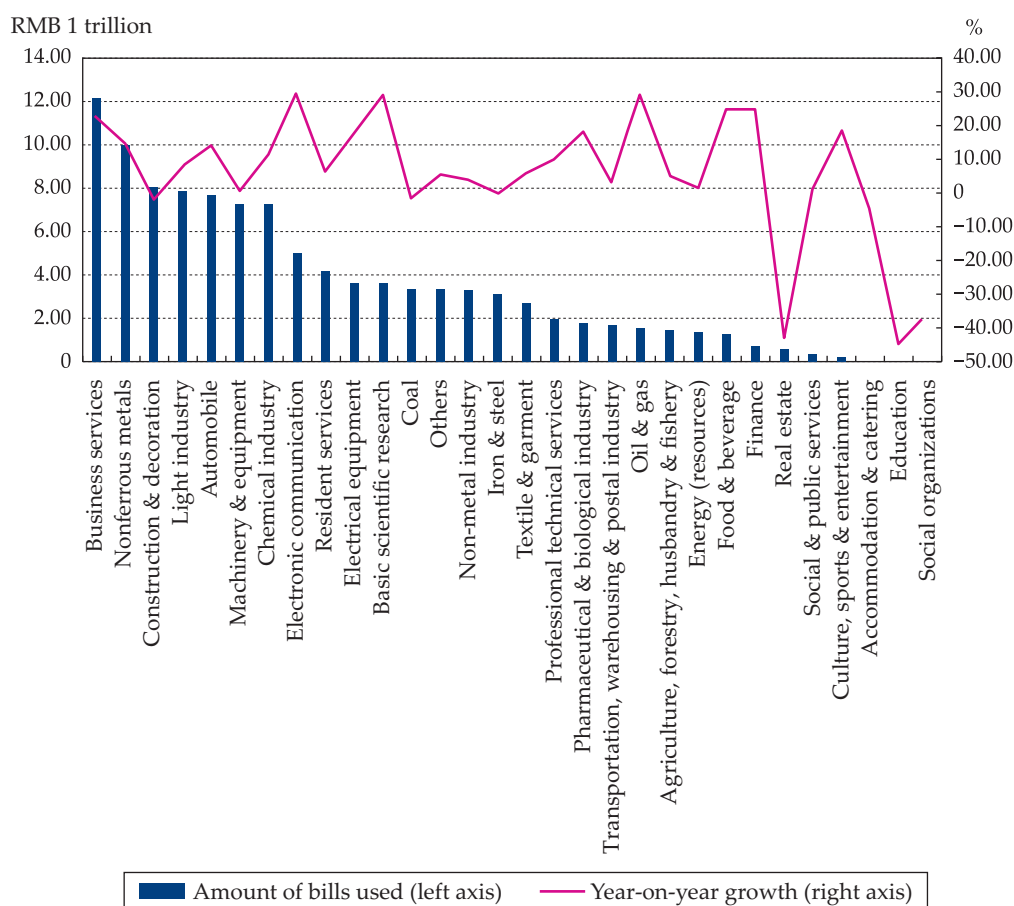


Figure 3.10 Amount of bills used by industries and year-on-year growth rates in 2022

### 3.2.3 The amount of bills used varied by region, with a notable increase of bill uses in key areas

In 2022, bills used in East China and West China amounted to RMB 70.24 trillion and RMB 14.95 trillion respectively, up 12.66 percent and 11.92 percent year on year, 2.51 percentage points and 1.77 percentage points higher than the growth rate throughout the market; bills used in Central China registered RMB 16.49 trillion, up 4.71 percent year on year, 5.44 percentage points lower than the growth rate throughout the market; and bills used in Northeast China

totaled RMB 3.76 trillion, down 11.99 percent year on year. Some key areas saw an evident growth momentum in the amount of bills used. In 2022, the amount of bills used in Fujian and Guangdong in East China increased by 36.31 percent and 23.43 percent respectively, 26.16 percentage points and 13.28 percentage points higher than the national average; and the amount of bills used in Sichuan and Chongqing in West China increased by 21.41 percent year on year, 11.26 percentage points higher than the national average.

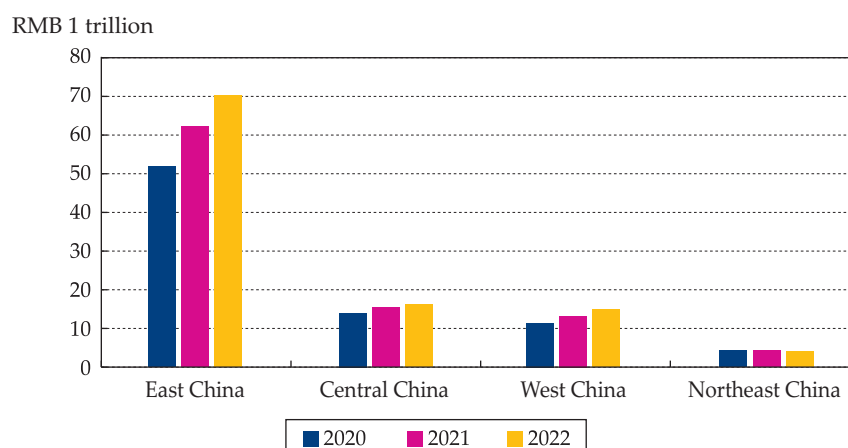


Figure 3.11 Changes in the amount of bills used across regions from 2020 to 2022

### 3.3 Product innovation, institutional arrangements and infrastructure construction

#### 3.3.1 The Measures for the Administration of Acceptance, Discount and Central Bank Discount of Commercial Drafts was released

To standardize the acceptance, discount and central bank discount of commercial drafts and promote the healthy development of the bill market, PBOC and China Banking and Insurance Regulatory Commission (CBIRC) jointly revised and released the *Measures for the Administration of Acceptance, Discount and Central Bank Discount of Commercial Drafts* (Order No.4 [2022] of PBOC and CBIRC, hereinafter referred to as the *Measures*) on November 18, 2022. Based on market development practices and risk prevention requirements, the Measures expanded the scope of information disclosure, strengthened the restraint mechanism, put forward risk prevention and control indicators for bankers' acceptances and finance

companies' acceptances, and set the maximum term of commercial drafts at six months. The Measures is conducive to promoting the standardized use of commercial drafts and reducing MSMEs' pressure of outstanding payments, help to improve the market-oriented restraint mechanism and the credit management framework of the bill market, and guide and restrain acceptors such as banks and finance companies to control the scale of bills at a reasonable level, thus ensuring the long-term and healthy development of the bill market.

#### 3.3.2 The new generation bill business system was put into service

On June 3, 2022, the new generation bill business system of Shanghai Commercial Paper Exchange (SHCPE) was successfully put into service, marking the official establishment of a unified, safe and efficient electronic lifecycle business platform for bills in China. As of end-2022, 404 financial institutions and 18 supply

chain platforms had gained access to the new system. By optimizing and upgrading the functions of the Electronic Commercial Draft System (ECDS) and the Commercial Paper Exchange System (CPES), the new system covers the entire lifecycle of bills and diverse bill product systems, effectively addressing the problems of corporate bill payment and enhancing the risk prevention and control capability of the bill market. As the new system continues to cover more market participants, the technical support for the development of the bill market will be further strengthened, and a growing number of institutions and enterprises will benefit from the functions and performance of the new system.

### 3.3.3 New progress was made in the construction of the bill information disclosure mechanism

In 2022, in response to the release of the *Measures*, SHCPE formulated and issued the *Implementation Rules for Commercial Drafts Information Disclosure* (Announcement No.1 [2022] of SHCPE), further optimized the functions of the bill information disclosure platform and revised the *Instruction of the Bill Information Disclosure Platform*, which gave effective guidance to the market in information disclosure. At end-2022, the bill information disclosure platform had more than 66,000 registered users, with an acceptance information disclosure rate of 98 percent and a credit information disclosure rate of 96.61 percent. Since the implementation of the bill

information disclosure, the overdue rate of newly issued trade acceptances had been 4.64 percent, 6.75 percentage points lower than the average in 2020, indicating that the overall credit level of the market was improved, the credit awareness of market entities was enhanced and the credit restraint mechanism of the market had gradually taken shape.

### 3.3.4 The supply chain bill platform was further upgraded

In June 2022, the supply chain bill platform was upgraded in tandem with the new generation bill business system, with the message interface specifications made consistent with that of ordinary bills and functions such as pledge, repo and recourse added, supporting the business process of supply chain bills throughout their lifecycle, from issuance, circulation, financing and transaction to maturity. In addition, the supply chain bill platform supports additional functions such as agent payment response and transaction background image message query, demonstrating a larger role of the supply chain platform in serving enterprises in payment and financing. In terms of risk prevention and control, in active response to the requirements of PBOC on information disclosure of commercial drafts, overdue monitoring of supply chain bills and spot checks on transaction relationship information were carried out, and supply chain bills were incorporated into the active management system for bill accounts. The multi-pronged



approach comprising information disclosure, monitoring and early warning, system control, etc., further consolidated the risk prevention and control mechanism and kept the risks of supply chain bills in check. As of end-2022, a total of 17 supply chain platforms provided supply chain bill services for enterprises through SHCPE, and more than 7,500 enterprises registered with the platform, with businesses amounting to RMB 221.187 billion. Specifically, trade acceptances issued accounted for 92.60 percent of the total, with the trading volume of acceptances and discounts being 65 percent, about 28 percentage points higher than that of ordinary trade acceptances, the amount of bills used by MSMEs accounted for 70 percent, and the proportion of discounted bills below RMB 500,000 (including RMB 500,000) increased from 23.67 percent in 2021 to 28.35 percent in 2022.

### 3.3.5 “Discount Connect” helped MSMEs raise funds

In 2022, the “Discount Connect” business maintained rapid development and played an active role in broadening the discount channels of enterprises, alleviating discount financing difficulties and helping the real economy combat the COVID-19 pandemic. In 2022, “Discount Connect” served a total of 5,965 enterprises, facilitating the discount of 48,300 bills with a total amount of RMB 167.767 billion, up 115.06 percent year-on-year, and 50.36 percent, or 24,300, of those bills were under RMB 1 million and 62.16 percent, or 30,000, were acceptances of small- and medium-

sized institutions such as urban commercial banks and rural commercial banks. In 2022, the weighted average discount rate through “Discount Connect” was 1.90 percent, 5 bps lower than the average level of the market and 178 bps lower than the average level of one-year LPR. This demonstrated that “Discount Connect” effectively reduced financing costs in the real economy and rendered targeted support for private MSMEs. In terms of system development, in light of the market needs, SHCPE upgraded the “Discount Connect” function in the new generation bill business system, added the function of contract signing between banks and enterprises and one-stop clearing, improved the discount inquiry function, and made the business process more efficient and convenient.

### 3.3.6 “Commercial Paper Payment(CPPAY)” better served the Internet economy

In 2022, relying on the new generation bill business system, SHCPE developed the new “CPPAY” function and put it into service. The new “CPPAY” serves enterprises in a broader range of online payment scenarios and boasts richer business engagement models and improved functions, playing an active role in serving the development of the platform economy, improving the convenience of bill use by enterprises and relieving the liquidity stress of enterprises. As of end-2022, 11 partner financial institutions, 185 institutions that have access to the e-bill system, 44 B2B platforms

and nearly 5,000 platform companies opened the “CPPAY” service, placing 26,000 payment orders with a total amount of RMB 92.607 billion, up 33.91 percent and 51.19 percent respectively. A total of 28,000 bills were paid, with an amount of RMB 67.583 billion, up 40.22 percent and 74.06 percent respectively. In 2022, platform enterprises made an average of 11.76 payments, up 12.46 percent year on year, demonstrating enhanced engagement of enterprises. The volume of trade acceptance payments increased by 122.06 percent year on year, and the discount rate reached 99.67 percent, effectively easing the pressure of cash expenditure on enterprises and boosting the development of the real economy.

### 3.4 Risk prevention and resolution

#### 3.4.1 The capability of monitoring and early warning of the bill market risk was continually improved

In 2022, SHCPE further strengthened front-line monitoring and early warning of bill market risk in key areas, and established a monitoring mechanism for conglomerates and key industries. Furthermore, a complex network model for bill business risk identification was developed, which enhanced the capability of identifying and warning contagion risk early. In addition, more attention was paid to key institutions and enterprises during daily monitoring, which enhanced the timeliness and sensitivity of bill market monitoring.

#### 3.4.2 The efficiency of active management services for corporate bill accounts was steadily improved

In 2022, SHCPE further promoted active management services for bill accounts, which effectively forestalled risks in the processing of bill businesses through fake accounts and improved the quality and efficiency of bill services for the real economy by strengthening the management of bill business authority of enterprises. As of end-2022, 3,178 users activated active management services for their bill accounts, and 10,697 settlement accounts with bill business authority were registered.

#### 3.4.3 Remarkable results were achieved in the daily monitoring of bill business actors

In 2022, through the continuous monitoring of business actors in ECDS, the bill market reinforced the timeliness of daily risk monitoring and resolution, sent risk warnings to 14 financial institutions, heightened the risk investigation requirements for financial institutions and further strengthened system control of the bill market.

### 3.5 Outlook of the bill market

In 2023, it is expected that the entry into force of the *Measures* will promote the standardized and healthy development of the bill market and enable the bill market to extend stronger support for the real economy. First, the credit system of the bill market will continue

to improve, the market-oriented restraint mechanism will play a bigger role, and the bill market will secure more robust development. Second, the new generation bill business system will play an active role. Through system integration and upgrading, services and functions of the infrastructure of the bill market will be effectively enhanced, enabling the bill market to step up support for the real

economy. Third, innovative businesses such as supply chain bills, “Discount Connect” and information service products will have increased capacity and expanded coverage and play a greater role in promoting the steady development and upgrading of industrial and supply chains, enhancing the resilience of the supply chain and serving MSMEs.

### **BOX 2 The new generation bill business system was put into service to underpin the high-quality development of the bill market in the new era**

On June 3, 2022, SHCPE launched the new generation bill business system (hereinafter referred to as the new system). The new system is a national comprehensive processing platform for bill businesses developed by SHCPE. By integrating the ECDS and CPES, the new system has solved many problems that had long hindered the development of the bill market and laid an important foundation for the new development pattern of the bill market in the new era.

#### **1. A unified national lifecycle business platform for bills was established**

In recent years, SHCPE was responsible for operating both the CPES and ECDS, forming a basic pattern that the business after discounting paper and electronic bills

was processed in CPES, and the business before discounting bills was processed in ECDS. To truly realize the integrated processing of paper and electronic bill business throughout the process, SHCPE initiated the development of a new system to unify the technical standards of business processing before and after discount, thus fully integrating the functions of ECDS and CPES.

To ensure the scientific development of the new system, SHCPE conducted in-depth market research and created a feasible business plan. By comprehensively upgrading the functions of CPES and ECDS, the new system supports bill business throughout the entire lifecycle and boasts an innovative function of “Split Payment” of bills. With the guidance and support

of PBOC, SHCPE issued business plans, direct interface specifications, project implementation plans and business arrangements during the promotion period to market participants, and launched the related functions of the supply chain bill platform, phase 1 of the new system. On June 3, 2022, the new system was successfully put into service.

This marks the emergence of a more secure and efficient unified national lifecycle business processing platform for bills and signifies that a modern bill market has taken shape.

## **2. The new system will strongly support the high-quality development of the bill market**

A well-developed infrastructure is the “anchor” and “stabilizer” for the operation and development of the modern financial market. The new system has solved many problems that had long hindered the development of the bill market, and its establishment is a key initiative of SHCPE to build a “first-class financial infrastructure with key influence and systematic importance”. The new system will lay an important foundation for the new development pattern of the bill market in the new era.

First, the new system facilitates the unification of systems and rules and provides new impetus for the development of the bill market. Targeting market participants in all channels such as institutions, enterprises and platforms, the new system has brought with it a unified and efficient business processing platform, realizing the unification of all scenarios, elements, processes and ecosystems of the paper and electronic bill business for the first time in the history of the bill market. This has fundamentally solved the problems caused by the coexistence of two systems that had long existed such as repeated investment and system segregation.

Second, an integrated risk control system has been established to safeguard the steady development of the bill market. The new system provides a new means of maintaining financial security. It introduces functions such as enterprise information filing and active account management, enabling enterprise access control in an earlier stage. The new system also strengthens the requirements for information disclosure and improves automated bill maturity processing, reducing ethical hazards and operational risks in bill payment and effectively enhancing the capability of SHCPE to control and resolve risks in bill business in the new era.

The new system not only serves as an important guarantee for a more standardized and healthier bill market, but also lays a solid foundation and provides new impetus for the better and faster development of the market.

### **3. The new system will make a new platform for the bill market to serve the real economy**

The new system has introduced a series of innovative functions that support bills to serve the real economy, effectively expanding the scenarios for bill use and providing stable, reliable and diverse services for multi-level market participants.

First, the new system has addressed problems of bill payment that had plagued enterprises. The new system has addressed the inconvenience of bill use caused by the mismatch between the amount of bills held by enterprises and the amount of payment, and has optimized and upgraded the issuance and circulation of traditional electronic bills. It allows the drawer to issue bill packages composed of bills of a standard amount. This way, holders can flexibly split the bill package and circulate sub-packages in different business scenarios according to their actual needs. This enhances the payment function of bills.

Second, the new system has better services and a comprehensive multi-level product system. Featuring a multi-level product system, the new system supports traditional businesses such as bill issuance, endorsed circulation and discount financing as well as innovative functions such as online discount and “CPPAY”, breaking down business and product barriers caused by system segregation. In response to the diverse needs of the real economy, the new system has optimized the application scenarios of bills and offers a variety of bill circulation and financing services.

The new system is an upgrade and concentrated breakthrough, which enhances the efficiency of the bill market in serving the real economy and will help expand the application of bills in the real economy.

### **4. The new system will cover all channels and market participants in a steady and orderly manner**

Since the development of the new system kicked off, SHCPE and market participants had worked together to promote its launch. From March to May 2022, the first batch of market participants that piloted the new system made full preparations for its official launch and implementation. At end-2022, 404 financial institutions and 18 supply



chain platforms gained access to the new system, and a total of more than 300,000 enterprises registered their information. As the new system continues to cover more market participants, the technical support for the development of the bill market will

be further strengthened, and a growing number of institutions and enterprises will benefit from the functions and services of the new system. With the new system, the infrastructure of the bill market will play a greater role in serving the real economy.



## Chapter 4 Bond Market

In 2022, China's bond market operated stably, with the volume of bond issuance basically the same as that of the previous year, bond custody increased steadily, cash bond transactions kept active, and investor structure remained generally stable. The rapid development of innovative bonds such as green bonds facilitated the implementation of the national strategy. The market further enhanced coordinated infrastructure management and interconnectivity, and its opening-up was steadily advanced. As a result, the high-quality development of bond market was promoted continuously and its quality and efficiency in serving the real economy was further enhanced.

### 4.1 Performance of the bond market

#### 4.1.1 Primary market

##### 4.1.1.1 Bond issuance was basically on par with that in 2021

In 2022, a total of RMB 61.9 trillion of bonds were issued in China's bond market, basically on par with that in 2021. Specifically, the inter-bank bond market saw an issuance volume of RMB 56.0 trillion, up 5.4 percent year on year,

accounting for 90.6 percent of the total. The exchange-traded bond market reported an issuance volume of RMB 5.8 trillion, accounting for 9.4 percent of the total.

The top three types of bonds in terms of issuance volume were NCDs, corporate credit bonds and financial bonds, amounting to RMB 20.5 trillion, RMB 13.8 trillion and RMB 9.8 trillion, up -5.87 percent, -7.2 percent and 0.66 percent year on year respectively.

Table 4.1 Issuance of major bonds in the bond market in 2022

| Type of bonds          | Issuance (RMB 100 million) | YoY growth (%) | Type of bonds                  | Issuance (RMB 100 million) | YoY growth (%) |
|------------------------|----------------------------|----------------|--------------------------------|----------------------------|----------------|
| Treasury bonds         | 96,322.7                   | 44.29          | Credit asset-backed securities | 3,345.4                    | -62.05         |
| Local government bonds | 73,555.8                   | -1.70          | NCDs                           | 205,120.3                  | -5.87          |
| Financial bonds        | 97,511.2                   | 0.66           | Others                         | 4,972.1                    | -21.09         |
| Corporate credit bonds | 137,698.1                  | -7.20          | Total                          | 618,525.6                  | -0.22          |

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 inter-bank and exchange-traded financial bonds. In particular, inter-bank 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 standardized notes.





#### 4.1.1.2 Custody volume grew steadily

As of end-2022, the outstanding bond in custody was roughly RMB 144.8 trillion, up 8.5 percent year on year, of which RMB 125.3 trillion was in the inter-bank bond market, up

9.2 percent year on year and accounting for 86.5 percent of the total, and RMB 19.5 trillion was in the exchange-traded market, up 3.9 percent year on year and accounting for 13.5 percent of the total.

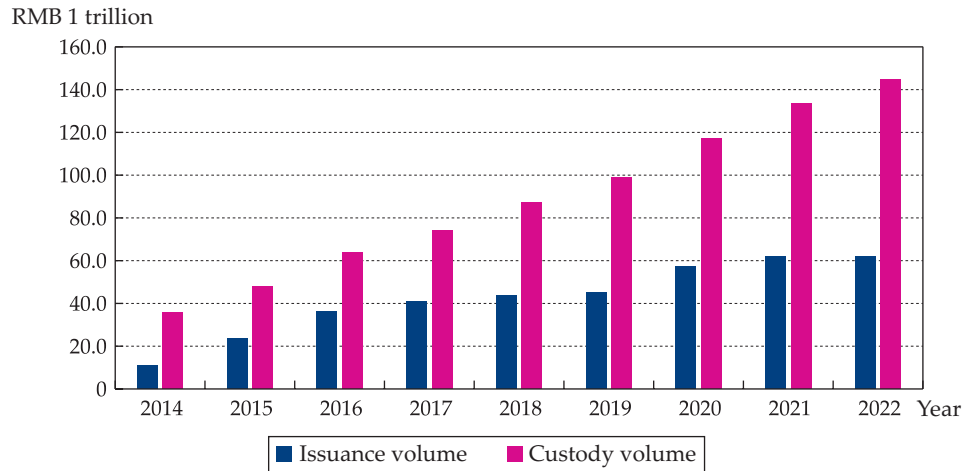


Figure 4.1 Bond issuance and custody volumes in the bond market from 2014 to 2022

(Source: CSRC, CCDC and SHCH)

#### 4.1.2 Secondary market

##### 4.1.2.1 Cash bond transactions saw significant growth

In 2022, cash bond transactions totaled RMB 309.3 trillion, up 27.1 percent year on year, of which RMB 271.2 trillion was cash bond transactions in the inter-bank bond market, up 26.5 percent year on year and accounting for 87.7 percent of the total, and RMB 38.1 trillion was traded at the exchanges, up 31.8 percent year on year and accounting for 12.3 percent of

the total.

In terms of bond types, the top four frequently traded bonds were policy bank bonds, NCDs, treasury bonds and convertible bonds, accounting for 33.2 percent (down 1.1 percentage points year on year), 18.1 percent (up 0.3 percentage points year on year), 17.9 percent (up 0.9 percentage points year on year) and 6.9 percent (up 0.5 percentage points year on year) of the total trading volumes respectively.

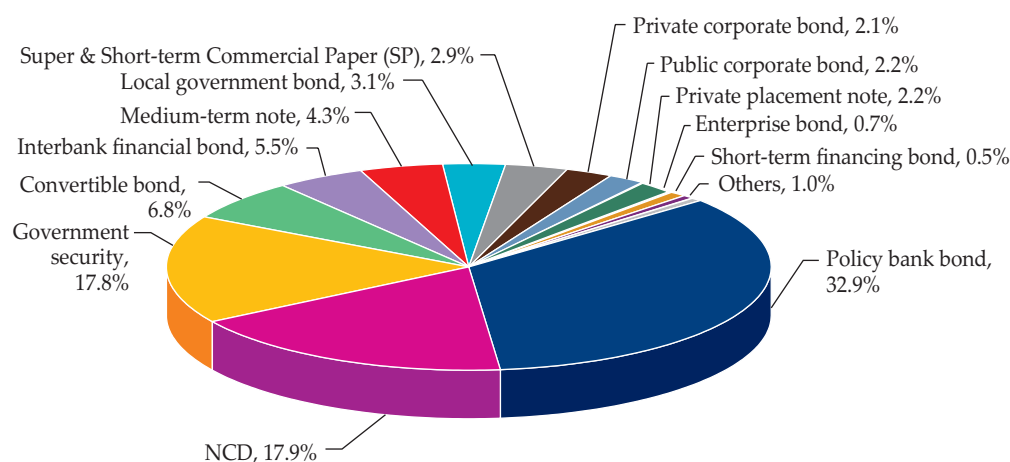


Figure 4.2 Trading structure of cash bond transactions in the inter-bank bond market in 2022

(Source: CFETS, SSE and SZSE)

In terms of maturities of traded bonds in the inter-bank bond market, bonds with a maturity of 0~1 year<sup>①</sup>, 1~3 years, 3~5 years, 5~7 years, 7~10 years and more than 10 years recorded a trading volume of RMB 95.1 trillion, RMB

37.8 trillion, RMB 31.5 trillion, RMB 10.9 trillion, RMB 83.7 trillion and RMB 12.3 trillion, accounting for 35.1 percent, 13.9 percent, 11.6 percent, 4.0 percent, 30.9 percent and 4.5 percent of the total respectively.

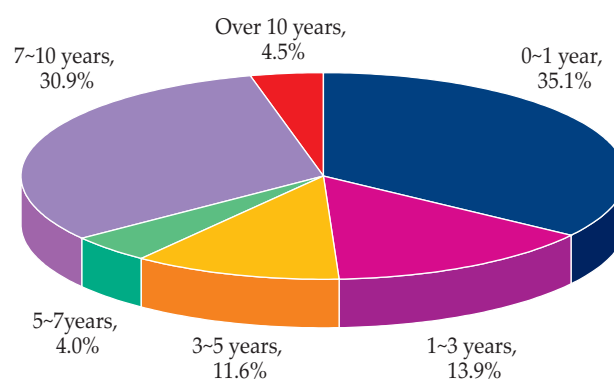


Figure 4.3 Term structure of cash bond transactions in the inter-bank bond market in 2022

(Source: CFETS)

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

#### 4.1.2.2 Bond price indices rose

Bond price indices generally followed an uptick trend. The ChinaBond Aggregate Index rose from 209.3 at end-2021 to 216.3 at end-2022, an increase of 3.3 percent over the year; the SHCH inter-bank Credit Bond Composite Index rose from 136.8 at end-2021 to 140.6 at end-2022, an

increase of 2.8 percent over the year; the SSE Corporate Bond Index rose from 219.3 at end-2021 to 226.5 at end-2022, an increase of 3.3 percent over the year; and the SZSE Corporate Bond Index rose from 192.6 at end-2021 to 197.4 at end-2022, an increase of 2.5 percent over the year.

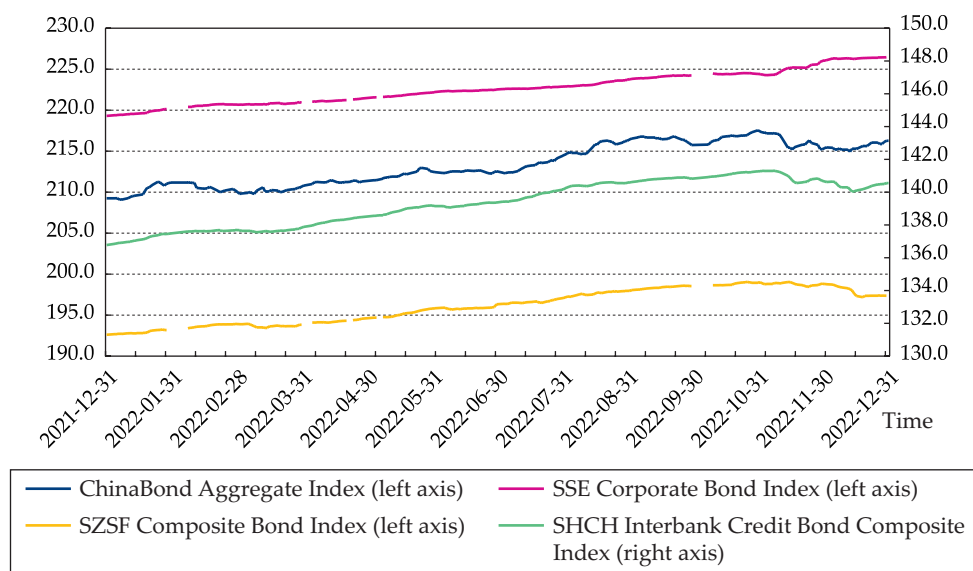


Figure 4.4 Trend of bond indices in 2022

(Source: CCDC, SHCH, SSE and SZSE)

#### 4.1.2.3 Investor structure was generally stable

Investors of the inter-bank bond market mainly consisted of depository financial institutions and non-incorporated products. As of end-2022, they were the two largest bondholders, posting RMB 72.8 trillion (accounting for 58.1 percent and up 2.6 percentage points from end-2021) and RMB 35.1 trillion (accounting for

28.0 percent and down 1.8 percentage points from end-2021) respectively. Local government bonds took up the largest share among the bonds held by depository financial institutions, while corporate credit bonds took up the largest share among those held by non-incorporated products.

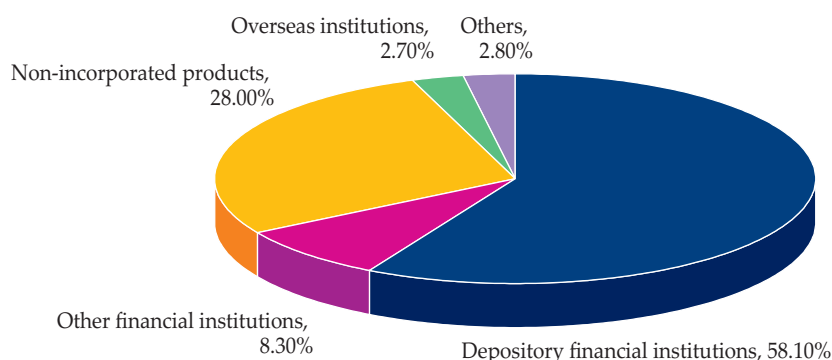


Figure 4.5 Investor structure in the inter-bank bond market at end-2022

(Source: CCDC and SHCH)

The overall investor structure of the exchange-traded bond market was generally unchanged from the previous year. As of end-2022, special asset management account products<sup>①</sup> and banks (proprietary) held the largest amount of bonds on the SSE, posting RMB 6.09 trillion and RMB 1.95 trillion respectively and accounting for 38.3 percent and 12.2 percent of the total. Other professional institutions and general institutions held the largest amount of bonds on the SZSE, posting RMB 0.6 trillion and RMB 0.4 trillion respectively and accounting for 20.3 percent and 14.9 percent of the total.

## 4.2 Main features of the bond market

### 4.2.1 Bond yield was at a low level and the credit spread was widening

In 2022, the overall yield on treasury bonds was

at a low level. From January to mid-February, PBOC signaled to loosen monetary policies, bringing up expectations of loose credit policies, and interest rates went down. From February to March, as economic optimism spread, interest rates rose. From April to October, as economic data showed a weakening performance and the pandemic resurged, adding that the liquidity was adequate, the interest rate continued to go down and fluctuated at a low level. From November to December, policies on optimizing pandemic prevention and control and stabilizing the real estate sector reversed market expectations, and both long-term and short-term interest rates rose sharply. At the same time, the net value of wealth management products saw a retracement, showing a circular feedback effect of “fall—redemption—bond sale—fall”, and interest rates rose significantly. As of end-2022, yields on 3-month, 1-year and

<sup>①</sup> Special asset management account products 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.



3-year treasury bonds were 2.05 percent, 2.10 percent and 2.40 percent, down 2 bps, 16 bps and 4 bps respectively from the beginning of the year, while yields on 5-year and 10-

year treasury bonds were 2.64 percent, 2.82 percent and 2.84 percent, up 3 bps, 3 bps and 5 bps respectively from the beginning of the year.

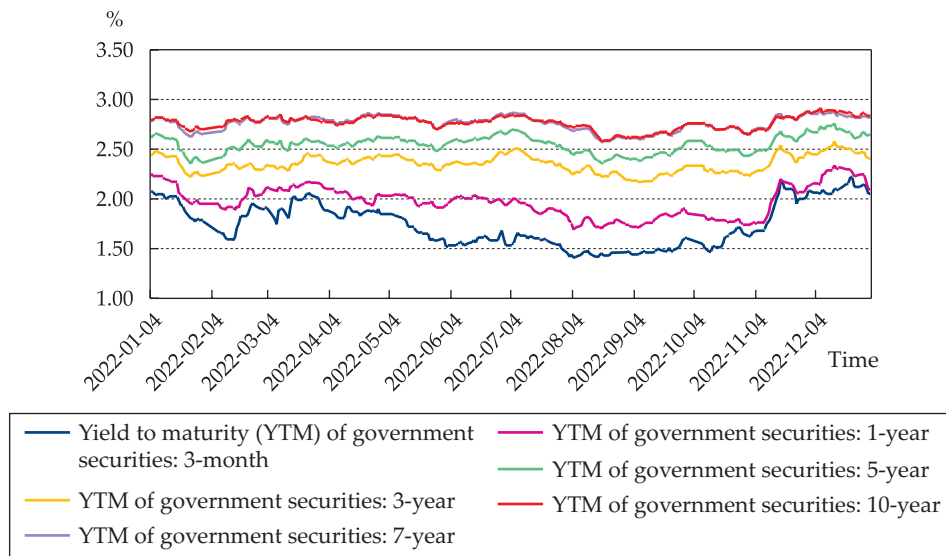


Figure 4.6 Changes in yields on treasury bonds with key maturities in 2022

(Source: CCDC)

Yields on corporate credit bonds showed a similar trend in 2022, with credit spread continuing to expand with fluctuations. As of end-2022, yields on 1-year, 3-year and 5-year medium- and short-term notes (AAA-rated) were 2.71 percent, 3.17 percent and 3.50 percent respectively, up 0.9 bps, 27 bps and 24 bps

from the beginning of 2022. Credit spreads<sup>①</sup> expanded in Q1, contracted in Q2 and Q3, and widened in Q4. As of end-2022, credit spreads on 1-year, 3-year and 5-year medium- and short-term notes (AAA-rated) were 48 bps, 63 bps and 67 bps, up 9 bps, 30 bps and 19 bps from the beginning of 2022.

① The difference between the yield on medium- and short-term notes (AAA-rated) and the yield on bonds issued by CDB with the same maturity.

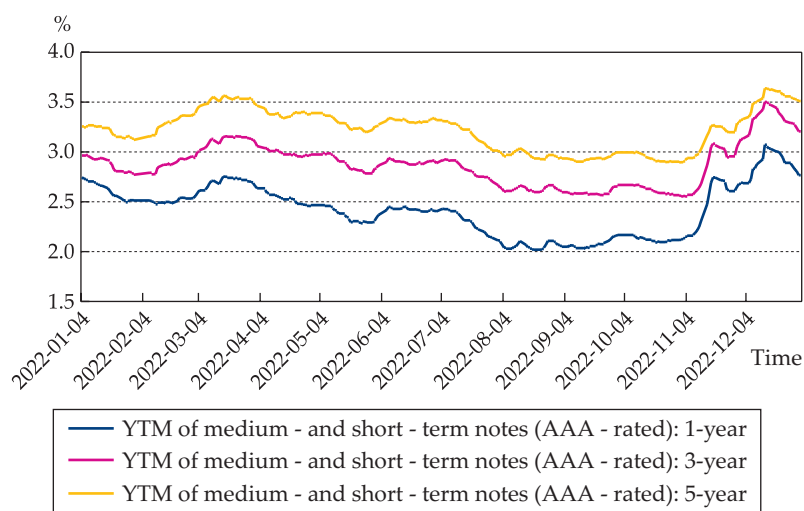


Figure 4.7 Changes in yields on medium- and short-term notes (AAA-rated) in 2022  
(Source: CCDC)

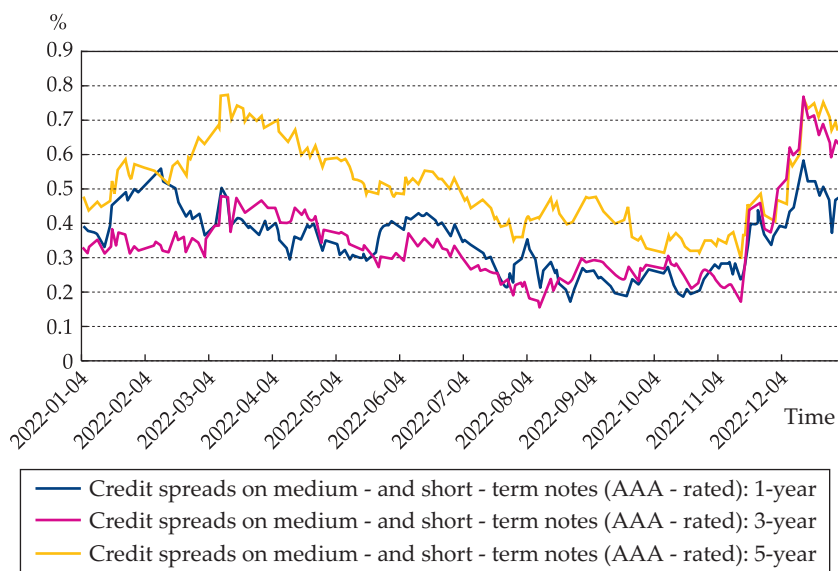


Figure 4.8 Changes in credit spreads on medium- and short-term notes (AAA-rated) in 2022  
(Source: CCDC)

#### 4.2.2 Innovative bond issuance saw rapid growth

Guided by China's goal of peaking carbon

emissions and achieving carbon neutrality ("dual carbon" goals), China witnessed an increasing volume of issuance in the green



bond market, and the stock scale increased steadily. In 2022, 521 green bonds were issued in China with a total volume of RMB 874.658 billion, a year-on-year increase of 44.04 percent. Specifically, the total volume of green debt financing instruments reached RMB 321.491 billion, up 2.54 percent year on year, accounting for 36.8 percent of the total. Most green debt financing instruments have medium and short maturities, such as 3-year and 5-year ones, raising funds mainly for green sectors such as clean energy, clean transportation and hydropower station construction. The issuers were mainly in Beijing, Henan Province and Guangdong Province. As of end-2022, green bond stock in China reached RMB 2.78 trillion, of which the stock of green debt financing instruments was RMB 476.091 billion, an increase of 33.17 percent from end-2021. In 2022, China issued RMB 136.620 billion of carbon-neutral bonds, RMB 25.300 billion of sustainability-linked bonds, RMB 4.930 billion of transition bonds and RMB 1.380 billion of carbon asset debt financing instruments.

The existing volume of financial bonds for MSBs grew steadily, and market funds were guided to provide targeted support for MSBs through credit supply from financial institutions, thus improving the quality and efficiency of financial services for MSBs. In 2022, banking financial institutions across the country issued 45 financial bonds for MSBs, amounting to RMB 321.91 billion, keeping the issuance volume exceeding RMB 300 billion for

three consecutive years. As of end-2022, the net increase of existing outstanding financial bonds for MSBs stood at RMB 123.41 billion compared with that of end-2021, totaling RMB 1,041.99 billion, exceeding RMB 1 trillion for the first time.

In the exchange-traded market, the issuance of innovative bonds on the SSE increased significantly in 2022. Specifically, green corporate bonds and corporate bonds for innovation and entrepreneurship reached RMB 75.2 billion and RMB 112.9 billion respectively, up 9 percent and 360 percent over the previous year. In addition, RMB 8.5 billion of “Belt and Road” bonds were issued. The SZSE launched a series of sub-type green bonds such as blue bonds and corporate bonds for low-carbon transition, enriching the product portfolio of green bonds. In 2022, green bonds increased by 61 percent from the previous year.

### 4.2.3 The issuance volume of book-entry treasury bonds increased significantly

In 2022, the issuance volume of book-entry treasury bonds reached RMB 9.46 trillion, an increase of 46.10 percent over the previous year. The issuance volume increased significantly and reached a record high. Specifically, the issuance volume in July, August, September, November and December all exceeded RMB 900 billion, with the volume in December reaching RMB 1.48 trillion, far exceeding that of the previous months.



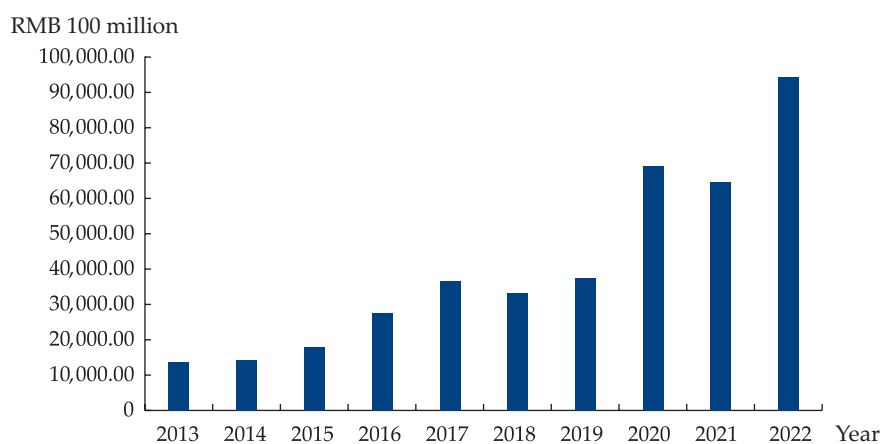


Figure 4.9 Issuance volume of book-entry treasury bonds from 2013 to 2022

(Source: CCDC)

#### 4.2.4 Bond trading remained brisk

In 2022, the cash bond turnover rate<sup>①</sup> in the inter-bank bond market was 216.5 percent, up 29.6 percentage points year on year, with trading activities picking up. Specifically, the three most frequently traded categories were policy bank bonds, NCDs and book-entry treasury bonds, with their turnover rates

reaching 461.5 percent, 395.6 percent and 224.7 percent respectively. Treasury bonds, policy bank bonds, commercial bank bonds, NCDs, and debt-financing instruments of non-financial enterprises were traded more briskly, with a year-on-year increase of 37.4 percentage points, 47.4 percentage points, 24 percentage points, 83.5 percentage points and 23.6 percentage points respectively in terms of the turnover rate.

Table 4.2 Annual turnover rates of major bond types in the inter-bank bond market in 2022

| Type of bonds                  | Cash bond turnover rate (%) | YoY growth (percentage point) | Type of bonds   | Cash bond turnover rate (%) | YoY growth (percentage point) |
|--------------------------------|-----------------------------|-------------------------------|---|-----------------------------|-------------------------------|
| Treasury bonds                 | 224.7                       | 37.4                          | Non-banking institutional bonds                         | 69.0                        | -36.9                         |
| Local government bonds         | 28.6                        | 1.4                           | NCDs  | 395.6                       | 83.5                          |
| Policy bank bonds              | 461.5                       | 47.4                          | Enterprise bonds  | 67.8                        | 0.7                           |
| Government-backed agency bonds | 23.3                        | -3.9                          | Asset-backed securities                                 | 25.5                        | -3.2                          |
| Commercial bank bonds          | 50.2                        | 24.0                          | Debt-financing instruments of non-financial enterprises | 211.2                       | 23.6                          |

(Source: CCDC and SHCH)

① Turnover rate = annual trading volume ÷ custody volume × 100%.



### 4.2.5 The maturity and volume of private enterprise bond financing support instruments were extended and expanded respectively

A number of measures were taken in the inter-bank bond market to facilitate more high-quality real estate enterprises in bond issuance. First, effective steps were taken to implement the extension and expansion policy on private enterprise bond financing support instruments (the “second arrow”) to provide credit enhancement for private developers in financing through bond issuance. Second, programs on pilot mechanisms for shelf registration of real estate enterprises were explored, which allow high-quality real estate enterprises to register through a large amount of shelf registration, and issue their bonds in installments according to their needs within the validity period. Third, the applicable scope of proceeds by real estate enterprises was optimized. These funds were preferentially used for project construction, repayment or repurchase of domestic debt financing instruments or overseas US dollar bonds, and equity acquisition of real estate projects or assets, etc., to meet the reasonable financing needs of real estate enterprises. In 2022, real estate enterprises issued RMB 292.8 billion of debt financing instruments in the inter-bank bond market, an increase of 11 percent year on year. Four high-quality real estate enterprises completed shelf registration, with a total worth of RMB 78 billion. As of

end-2022, 13 bonds were issued by real estate enterprises under the framework of “second arrow”, supporting seven private real estate enterprises in issuing RMB 16.07 billion of debt financing instruments. The exchange-traded bond market also adopted similar measures to maintain stable and smooth financing channels for real estate enterprises. Specifically, the SZSE launched innovative credit enhancement mechanisms such as “special support scheme for bond financing of private enterprises” and “cooperation between the central and local governments” in support of the steady and healthy development of the real estate sector. These mechanisms helped Country Garden, Longfor, Galaxy Industrial and other real estate enterprises raise a total of RMB 3 billion.

### 4.2.6 The participation of securities companies and rural commercial banks increased, and the proportion of professional institutions offering special asset management products rose significantly

Securities companies and rural commercial banks were more active in the inter-bank bond market, and funds and rural commercial banks were net buyers. In 2022, the cash bond trading volumes of securities companies, rural commercial banks and funds took up 34 percent, 11 percent and 9 percent respectively in the inter-bank bond market, up 2 percentage points, 1 percentage point and 1 percentage point from the previous

year. Urban commercial banks, large state-owned commercial banks and foreign banks accounted for 15 percent, 4 percent and 2 percent of the cash bond trading volumes respectively, down 3 percentage points, 1 percentage point and 1 percentage point respectively from the previous year. The main net buyers in the cash bond market were funds, rural commercial banks and wealth management products, with their annual net purchases reaching RMB 6.6 trillion, RMB 1.8 trillion and RMB 1.4 trillion respectively. The main net sellers were joint-stock commercial banks, urban commercial banks and securities companies, with their annual net sales of RMB 6.2 trillion, RMB 5.5 trillion and RMB 4.4 trillion respectively. In terms of the increment, the net purchases of rural commercial banks underwent a significant increase of RMB 1.4 trillion from 2021, and the net sales of securities companies saw a dramatic increase of 0.1 trillion from 2021. The asset management of commercial banks changed from net sales to net purchases, and non-incorporated products of overseas fund management companies and social security funds changed from net purchases to net sales. In terms of the exchange-traded bond market, in 2022, the proportion of professional institutions providing special asset management products in the SSE achieved a significant increase of 9.7 percentage points from 2021, while bonds held by general legal persons increased by 14.2 percent year on

year.

### 4.3 Product innovation in the bond market

#### 4.3.1 Bond products such as low-carbon transition bonds and carbon asset debt financing instruments and index products were introduced to help realize the “dual carbon” goals

##### 4.3.1.1 Bond products such as low-carbon transition bonds and low-carbon transition-linked bonds were introduced

In May 2022, Baoshan Iron & Steel Co., Ltd. issued China's first green corporate bond for low-carbon transition. In June, Huaneng Power International, Datang International Power, Aluminum Corporation of China Limited, Wanhua Chemical Group and Shandong Iron & Steel Group successfully issued the first batch of transition bonds in the inter-bank market. The proceeds were mainly used for low-carbon transition projects including natural gas cogeneration and electrolytic aluminum energy-saving technological transformation and upgrading of kinetic energy conversion. In August, the first carbon asset bond, the 2022 Anhui Energy SCP004 Carbon Asset of Anhui Province Energy Group, was issued in China, realizing the effective combination of production factors and financial instruments. It is a meaningful attempt for environmental financial instruments to help achieve the “dual carbon” goals. In addition, a number of sub-type green bonds, such as green bonds

for clean energy equipment manufacturing, green financial bonds for rural revitalization, sustainability-linked green financial bonds, green financial bonds for carbon neutrality by commercial banks, and special green financial bonds for the “green upgrading” of infrastructure, were successively launched in 2022.

#### **4.3.1.2 The green bond investment indices were enriched**

In 2022, the CFETS successively launched the CFETS 0~3 Year Inter-bank High-Grade Green Bond Index and the CFETS Inter-bank High-Grade Carbon-Neutral Bond Index. The CCDC launched the China Bond-ESG Preferred Credit Bond Index and other green and sustainability-linked bond indices, which provided investors with a wider range of investment performance comparison benchmarks and references for tracking targets.

### **4.3.2 Bonds related to science and technology, energy supply and freight logistics were launched to help implement national key strategies**

#### **4.3.2.1 Sci-tech innovation notes and corporate bonds for sci-tech innovation were launched and upgraded**

In May 2022, the National Association of Financial Market Institutional Investors (NAFMII) launched sci-tech innovation notes on the upgrading of the original sci-tech financing products, which includes issuer-based sci-tech innovation notes issued by sci-

tech innovation enterprises and the purpose-based sci-tech innovation notes raising funds for investment in sci-tech innovation fields, in efforts to enhance the financing service function of the bond market to the whole life cycle of sci-tech innovation enterprises. Meanwhile, various corporate bonds for sci-tech innovation, for “specialized, sophisticated, distinctive and innovative” enterprises, for the digital economy, and for the new infrastructure were launched in the exchange-traded market, which are meant to raise funds specially for sci-tech innovation enterprises that operate in national key support industries. In 2022, a total of RMB 157.874 billion of sci-tech innovation notes and RMB 129.9 billion of corporate bonds for sci-tech innovation were issued, benefiting nearly 1,000 sci-tech innovation enterprises and companies with core technology and market competitiveness, and effectively broadening the financing channels for sci-tech innovation enterprises.

#### **4.3.2.2 Special bonds for energy supply were issued**

To actively implement the important arrangements of “Special Bonds for Energy Supply” raised at the executive meeting of the State Council, PBOC actively supported the issuance of energy supply bonds by China Reform Holdings Corporation, China Datang Corporation, State Power Investment Corporation, China Huaneng, Datang International Power and other central power generation enterprises. As of end-2022, a total

of RMB 118.5 billion of special bonds for energy supply were issued, effectively alleviating the problems of high debt ratio and difficult financing of power generation enterprises, and providing sufficient financial support for energy supply in winter.

#### **4.3.2.3 Innovative financial bond products for rural revitalization were introduced**

To thoroughly implement the rural revitalization strategy proposed by the CPC Central Committee and the State Council, the interbank market actively promoted the issuance of financial bonds related to rural revitalization. In January 2022, the Export-Import Bank of China issued RMB 3 billion of “common prosperity” financial bonds to raise funds for the construction of the Zhejiang Common Prosperity Demonstration Zone. In May, the China Development Bank (CDB) issued RMB 8 billion of green financial bonds for rural revitalization, raising funds for project loans in beautiful countryside construction, rural infrastructure construction and public services. In August, the Agricultural Development Bank of China (ADBC) issued RMB 4.2 billion of financial bonds for “rural road network construction”, which raised funds for the construction of rural road network, including loans to key areas such as the construction of “four good rural roads”, the improvement of transportation infrastructure, the development of “highway derivative economy”, and the construction of expressways for developing agriculture and

benefiting farmers. In addition, policy financial institutions also issued financial bonds for the spring ploughing’s preparation work, “vegetable basket” program to ensure stable production and sufficient supply, etc., directing the social capital to serve rural revitalization in a market-based approach.

#### **4.3.2.4 Innovative freight logistics bonds were launched**

To implement a package of measures for stabilizing the national economy, the strategy of building China into a country with a strong transportation network, and the policy of “supporting the aviation industry in issuing bonds worth RMB 200 billion” to help logistics enterprises bail out, in 2022, the inter-bank market supported financial leasing companies such as SPDB Financial Leasing Co., Ltd. and Jiangsu Financial Leasing Co., Ltd. in issuing innovative financial bonds on freight logistics. Support was given to policy and development financial institutions in issuing green bonds for low-carbon transportation system construction and financial bonds for modern cold-chain logistics system construction, as well as transportation enterprises, aviation and logistics enterprises in issuing debt financing instruments of RMB 948.9 billion, RMB 136.3 billion and RMB 9.8 billion respectively. China’s first corporate bond for smooth freight logistics was launched in the exchange-traded market, effectively guiding funds to support the development of smooth transportation and logistics.

### 4.3.3 Infrastructure real estate investment trusts (REITs)

In August 2022, the CSRC issued “ten measures for accelerating the issuance of infrastructure REITs”, vigorously promoting the regular issuance of REITs. Under the overall guidance of the CSRC, the SSE and SZSE issued guidelines on the expansion of publicly offered REITs and affordable rental housing, and formulated supporting guidelines such as the review procedures of private REITs and publicly offered REITs to standardize and guide them. On August 31, CICC Xiamen Affordable Housing REIT, Huaxia Beijing Affordable Housing REIT and Hongtu Shenzhen Affordable Housing REIT were listed on the SSE and SZSE as the first batch of pilot projects of affordable rental housing infrastructure REITs. The SZSE launched the Jijintong platform, which allows the transfer of the OTC share of infrastructure REITs, and included infrastructure REITs in the bond lending targets. It promoted the smooth ban-lift of the first batch of listed infrastructure REITs, and gave research-based guidance on industrial park projects to deal with the impact of rent reduction. It vigorously promoted the listing of new asset projects such as clean energy power generation and government-subsidized housing, and approved the first batch of expansion projects of China Merchants Shekou Industrial Park and Yantian Port Warehousing and Logistics.

In 2022, the turnover of infrastructure REIT products in the SSE was RMB 43.03 billion, an increase of 236.8 percent over the previous year. As of end-2022, the market value of infrastructure REIT products reached RMB 58.52 billion, an increase of 133.9 percent from end-2021. As of end-2022, nine infrastructure REITs were listed in the SZSE, with four new projects added throughout the year, with a total fundraising of RMB 24.218 billion and a market value of RMB 26.910 billion. The average increase of listed REITs was 16.76 percent, and the average daily turnover rate was 2.72 percent.

### 4.3.4 Various asset securitization products were launched

In 2022, many of the first innovative asset securitization products were launched. In the inter-bank market, the country’s first asset-backed note (ABN)—2022 Zoomlion ABN (Phase 2) for keeping the supply chain stable (sci-tech innovation notes) was issued, actively serving manufacturing enterprises and empowering the high-quality development of the real economy. The first ABN for intellectual property in China—2022 Shenzhen Yirui Investment ABN (Phase 2) was issued, helping eight small and medium-sized sci-tech innovation enterprises with independent intellectual property rights to open up bond financing channels. The inter-bank market also launched the first batch of pilot covered bonds (CBs)—2022 Targeted Affordable Housing Rental Secured Debt Financing Instrument



(Phase 1) of Nanjing Software Park Technology Development Co., Ltd., giving full play to the “double credit enhancement” role of entities and assets, and activating the existing rental housing resources. In the exchange-traded market, China’s first blue asset-backed security (ABS)—Communications Construction Company (CCCC) Receivables No.1 (Phase 11) Green Asset-Backed Special Plan (Blue) was issued, all the basic asset projects of which were offshore wind power projects, in support of the exploration on sustainable utilization of marine resources. The first carbon-neutral hotel Commercial Mortgage Backed Security (CMBS)—Guojun-Hangzhou Huanglong Hotel Green Asset-Backed Special Plan (Carbon Neutrality) was issued to implement the national “dual carbon” policy and activate the stock assets of state-owned enterprises. The first ABS product on red themes, Xinhua Factoring—New Jiangsu Red Inheritance Factoring Debt Asset-Backed Special Plan (Phase 1) (Old Revolutionary Base Area), was launched, aiming to support the construction of counties and the development of county economy in old revolutionary base areas. The first ABS product for intellectual property in Zhuhai—Hengqin Financial Investment Leasing Intellectual Property Asset-Backed Special Plan (Phase 1) was introduced, in support of the comprehensive reform pilot program for the use and protection of intellectual property rights. The first ABS product for smooth freight logistics in Shenzhen—Shiqiao CITIC Securities Asset-Backed Special Plan (Phase 11) was

launched, providing convenient and efficient financial services for the majority of freight drivers. The first ABS that was protected by the jointly created credit protection certificate—CITIC Securities-Linklogis-Sino Group No.1 Supply Chain Financial Asset-Backed Special Plan (Phase 2) was issued, helping private real estate enterprises raise funds through the special support plan for bond financing of private enterprises.

#### 4.3.5 Continuous innovation in the application of bond collaterals

##### 4.3.5.1 Market-oriented products were upgraded

First, the foreign currency repo business model was further enriched. In 2022, the pledged model and outright model of foreign currency repo were launched in the inter-bank market in addition to the original model. Besides, onshore USD denominated bonds were used as collaterals in foreign currency repo for the first time, building a multidimensional foreign currency financing channels for different types of investors and further supporting the liquidity management of foreign currency. Second, the application of general collateral management services was further expanded, which now covers nine business scenarios such as social security fund management and local fiscal fund management, and is accessible in nine local fiscal departments, allowing investors to use bond assets more efficiently. Third, the application of collateral





services in the insurance field was promoted. The SHCH supported CITIC aiBank and Aixin Life Insurance in carrying out insurance fund agreement deposit businesses, a successful application of collateral management services in insurance fund agreement deposit businesses that helps insurance institutions to use funds safely and reduce financing costs of banks.

### 4.3.5.2 In-depth application of green bond collaterals was achieved

First, the first standardized green bond collateral pool was established in China. Based on third-party collateral management, CCDC integrated scattered high-quality green bonds into a unified asset pool, making it easier for small and medium-sized financial institutions to use in investment and financing. As of end-2022, the total amount of green bond collateral management exceeded RMB 45 billion, and cover around 100 institutions. The application scale of the standardized green bond collateral pool increased by about 7 times on a yearly basis. Second, the model of incorporating green bonds into qualified collaterals was pioneered, making the commercial banks to expand their acceptable collaterals, thus improving the popularity of green bonds and the efficiency of using the assets. Third, collateral management services for green bond credit derivatives transactions were provided for the first time, promoting green bond price discovery capability and improving pricing fairness, thus helping financial institutions manage counterparty credit risks. Fourth, the beneficiary

certificate investment and financing businesses of securities companies were supported by introducing green bonds as credit enhancement collaterals. This is the first time that the interbank bond market collateral management service was applied to the financial market issuance and financing businesses in China, which is conducive to implementing the new philosophy of green development, preventing credit risks, and reducing financing costs.

## 4.4 Building of the administration system

### 4.4.1 Administration of the bond issuance market was further enhanced

#### 4.4.1.1 The FIP was actively piloted and promoted in the inter-bank bond market

In April 2022, the NAFMII issued the *Notice on Trial Implementation of the "Frequent Issuer Program" (FIP)*, and introduced an innovative mechanism on the FIP, which simplified the registration and issuance procedures for frequent issuers and optimized the requirements of the information disclosure system in efforts to improve the tiered management mechanism of the debt financing instrument market.

As of end-2022, 38 enterprises successfully issued a total of 217 debt financing instruments of RMB 229.850 billion through the pilot FIP mechanism, marking the official landing of the tiered management mechanism for information disclosure of debt financing instruments. The

mechanism enriched the multi-tiered bond market system, promoted the high-quality development of China's bond market, and improved the quality and efficiency of the inter-bank market in serving the real economy. First, it optimized the tiered management mechanism of the debt financing instrument market and enriched the multi-tiered bond market system. Most of the 38 pilot enterprises were "frequent issuers" in the inter-bank market. The average number of debt financing instruments issued in the period from 2021 to 2022 was no less than three. Under the FIP mechanism, repetitive disclosure was effectively reduced and market players' individualized and differentiated needs were better met. Second, it simplified the disclosure content, reduced the disclosure cost, and improved work efficiency, helping the financial sector to benefit the real economy through mechanism innovation. The materials required for renewed offerings were greatly reduced, and the list points for registration review were correspondingly reduced, which could effectively cut the information disclosure cost, and improve the efficiency of registration, issuance, investment analysis and decision-making. Third, it emphasized a greater role and responsibility of market players, thus contributing to creating a good ecology and boosting the high-quality development of China's bond market. The FIP was conducive to enhancing the awareness of information disclosure of issuers and the awareness of due diligence of intermediaries, and strengthening the ability to protect investors'

rights and interests. As such, all players in the market were better guided to fulfill their responsibilities and build a sound ecology of the bond market, thus promoting the high-quality development of the bond market in China.

#### **4.4.1.2 The basic system of the bond market was further improved**

In the inter-bank bond market, the NAFMII continued to implement the policy guidelines of "improving the legal system of the bond market". First, it kept track of the revision of the *Company Law of the People's Republic of China* and the *Enterprise Bankruptcy Law of the People's Republic of China*, while also giving feedback on the demands of the bond market, thus contributing to the improvement of the superior legislation concerning corporate credit bonds. Second, it continuously optimized the existing self-regulatory rules system according to the legislation and development of the bond market, and completed the revision of the self-regulatory rules such as the *Administrative Measures for Registered Experts of Debt Financing Instruments of Non-financial Enterprises*.

In the exchange-traded bond market, the SSE continuously optimized the bond market system. In April 2022, the SSE issued the *Rules of the Shanghai Stock Exchange for the Review of Issuance and Listing of Corporate Bonds* (Shang Zheng Fa [2022] No.57), the *Rules of the Shanghai Stock Exchange for the Listing of Corporate Bonds* (Shang Zheng Fa [2022] No.58), the *Rules of the*



*Shanghai Stock Exchange for Listing of Non-Publicly Offered Corporate Bonds (Shang Zheng Fa [2022] No.59)* and the *Management Measures of the Shanghai Stock Exchange for the Suitability of Bond Market Investors (Shang Zheng Fa [2022] No.60)*. The launch of these rules marks that a comprehensive and independent rule system covering issuance and listing review, issuance, underwriting, listing, trading and investor protection has taken shape in the SSE bond market. The number of business rules has been significantly reduced, and the rule structure is more concise and friendly, making it more convenient for market participants to inquire and use as needed. The SZSE systematically optimized the registration rules system, and formulated and revised four basic rules, namely, *the Rules for the Review of Issuance and Listing of Corporate Bonds*, *the Rules for the Listing of Corporate Bonds*, *the Rules for the Listing of Non-Publicly Offered Corporate Bonds* and *the Management Measures for the Suitability Bond Market Investors*. Besides, the SZSE released seven review guidelines including key review items, application document preparation, review optimization, review procedures, green bonds and sci-tech innovation bonds, etc., as well as guides for the preparation of prospectuses. A rules system featuring business rules as the core, business guidelines as the mainstay, and business guides as supplements has taken shape, consolidating the institutional basis for the high-quality development of the bond market. In addition, the *Business*

*Rules for Asset-Backed Securities (Exposure Draft)* and three business guidelines on confirmation procedures, classification review and specific varieties were released, aiming to give full play of the function of asset securitization in the market and help activate existing assets.

#### **4.4.1.3 Basic institutional framework of bond registration system was built**

The basic institutional framework of the exchange-traded bond market registration system was basically in place. The SSE optimized the review rules system. Specifically, it formulated and issued the *Rules of the Shanghai Stock Exchange for the Review of Issuance and Listing of Corporate Bonds* (Shang Zheng Fa [2022] No.57); revised and issued No.2-7 guidelines for the issuance and listing review; formulated ABS access rules and guidelines for specific varieties, classification review, confirmation items of listing conditions, application document preparation requirements, etc.; and revised and issued guidelines for bond listing, listing rules and continuous information disclosure to improve the quality of information disclosure.

### **4.4.2 Management on the bond trading market was continuously optimized**

#### **4.4.2.1 Business rules of the bond market were improved**

In the inter-bank bond market, in November 2022, the NAFMII revised and issued the *Self-regulation Guidelines for the Money Brokerage*

*Business in the Inter-bank Market* in efforts to strengthen the self-regulatory management and self-inspection of money brokers against business violations in their operations, thus promoting the high-quality development of the inter-bank market. As for the exchange-traded bond market, in May 2022, the SZSE officially implemented the *Bond Trading Rules of the Shenzhen Stock Exchange* (hereinafter referred to as the *Rules*) and three supporting guidelines for bond trading participants, general repo and bond market-making, which set apart bond-related trading regulations from the current trading rules of the SZSE, and formed a multi-tiered framework of bond trading rules, business guidelines and bond trading business guides. The *Rules* was formulated taking full consideration into the differences between bond trading and stock trading. Upholding a “bond thinking” and following the objective laws of the bond market, the *Rules* optimized the institutional arrangements for bond trading in the SZSE, further adapted to the characteristics of bond trading such as trading institution leading, large value, low frequency, flexibility and efficiency, and better served the market needs, thus improving the direct financing function of the bond market.

#### **4.4.2.2 Implementation of reform measures on the development of OTC bond business was accelerated**

To implement the decisions and arrangements of PBOC on accelerating the development of the OTC bonds, the SHCH promoted

and implemented pilot programs that allow financial institution investors such as small and medium-sized financial institutions and asset management institutions to invest in the inter-bank bond market through OTC channels. In October 2022, the SHCH supported the Shanghai Pudong Development Bank (SPDB) and Bank of China (BOC) in starting their OTC businesses, and the two banks successively launched the first existing bond OTC trading business for financial institution investors in the bond market and among state-owned major banks. Later in November, it supported the CDB in issuing the first batch of OTC bonds for financial institutional investors in the whole market, and supported the Industrial and Commercial Bank of China (ICBC), Agricultural Bank of China (ABC), BOC, China Construction Bank (CCB), China CITIC Bank and SPDB in successfully distributing this batch of bonds to relevant qualified investors. The launch of the businesses mentioned above indicates that institutional investors who meet the requirements of the *Measures for the Administration of the Over-the-Counter Trading Services for the National Interbank Bond Market* have officially been given access to full participation in the inter-bank bond market through OTC channels for issuance and purchase in the primary market and trading in the secondary market. This also marks the successful landing of major reform measures for the development of the OTC bond business, and an important progress in the building of multi-tiered bond markets.



### 4.4.2.3 Central counterparty bond lending and borrowing business was launched to activate existing bond assets

In the inter-bank bond market, in January 2022, PBOC issued the *Measures for the Administration of Bond Lending in the Inter-bank Bond Market (Announcement No.1 [2022] of PBOC)*, which optimized the bond lending system in areas concerning market participants, collaterals, master agreements, central bond lending mechanisms, risk prevention, etc. Later in June, the NAFMII issued the *Master Agreement for Bond Lending Transactions in the Inter-bank Market in China (2022 Edition)*, and about 700 financial institutions and asset management product managers signed the Agreement, injecting new impetus to the bond lending market. The SHCH adopted the “straight-through processing (STP) services jointly delivered by front and back office infrastructures” and “central counterparty (CCP) performance guarantee mode”. After the business participants sign an agreement with the SHCH, the SHCH will establish a borrowable bond pool according to the borrowable bonds designated by the lender and conduct centralized management. Business participants remain anonymous during the CCP bond lending and borrowing period, the SHCH acts as the lender of the borrower and the borrower of the lender to guarantee performance. In the exchange-traded bond market, on July 25, 2022, the SZSE officially launched the bond lending business. As of end-2022, the turnover of the bond lending business in the SZSE totaled RMB 7.634

billion.

### 4.4.2.4 Institutional interconnectivity was strengthened

In January 2022, the financial infrastructures of the inter-bank bond market and the exchange-traded bond market co-issued the *Interim Measures for the Connectivity Business between the Inter-bank Bond Market and the Exchange-traded Bond Market*, which clarified the basic rules of the interconnectivity business. In June 2022, the financial infrastructures of the inter-bank bond market and the exchange-traded bond market completed the technical deployment of the core functions of cross-market transaction settlement according to the regulatory requirements, securing positive progress in the interconnectivity of the two bond markets.

### 4.4.2.5 The bond trading mechanism was continuously enriched and optimized

In the inter-bank bond market, in 2022, bond purchase by the issuer's related parties in the secondary market was piloted. In August, Gemdale announced the acquisition of bonds by its related parties in the market. In November, PBOC and the CBIRC jointly issued the *Notice on Providing Financial Support for the Stable and Healthy Development of the Real Estate Market* in support of bond issuers' repurchase of bonds in domestic and overseas markets. In the same month, Greentown announced that its related parties would purchase existing bonds in the secondary market, marking that the trial



of the inter-bank market issuers or their related parties purchasing the existing bonds in the secondary market would be implemented. The CFETS introduced the bond spread trading mechanism, adding to a wide portfolio that ranged from market-making, quote, and gapping and basis trading of X-Bonds. To further standardize and facilitate the settlement of domestic and foreign cash bond transactions and improve the relevant transaction settlement mechanisms, in June 2022, the SHCH launched the delivery versus payment (DVP) service for foreign cash bond transactions in efforts to improve service quality and smooth foreign currency investment and financing channels in domestic and overseas markets.

In the exchange-traded bond market, the SSE and SZSE launched a new business function on their bond trading systems in May 2022 adhering to the idea of “moderate stock-bond separation”, which was a key step to improve the secondary bond market. To support the launch of the new business function, the SSE and SZSE successively issued the *Guide No.1 of Shanghai Stock Exchange for Bond Trading Business—Trading Business* and *Guide No.4 of Shenzhen Stock Exchange for Bond Trading Business—Bond Trading and Supporting Arrangements*, which further detailed regulations for the bond trading business.

#### **4.4.2.6 Inter-bank bond market information file on trading behaviors were established**

In recent years, with the rapid development

of the bond market, the transaction scale continued to grow, and transaction disputes and defaults, or even random and malicious defaults, increased. There was an increasingly stronger call from the market for strengthening the credit system building of the bond market and maintaining the market order. In July 2022, the NAFMII issued the *Notice on Establishing the Information File on Trading Behaviors in the Inter-bank Bond Market*, which aims at providing inquiry tools for market participants in getting to know the behavior habits of counterparties in bond trading, and the *Implementation Guide for the Information File on Trading Behaviors in the Inter-bank Bond Market (Trial)*, which clarifies the scope, content, exemption and information inquiry requirements of trading behavior information collection and makes it a more convenient reference for market participants.

#### **4.4.3 The building of the green bond system was advanced**

Member units of the China Green Bond Standard Committee (CGBSC) jointly pushed forward the formation of unified standards, as well as assessment and certification of the green bond market, in an effort to facilitate the establishment of the green bond market system. In July 2022, the *China Green Bond Principles* was formulated and issued, marking the formal establishment of a unified green bond standard in China which was basically on par with international standards and demonstrated



the determination and actions of the CGBSC towards the high-quality development of the green bond market. In September, the market-based certification results of the green bond assessment and certification institutions were officially released. A total of 18 institutions got registered through the CGBSC, marking the further optimization of the tiered classification management and the “gatekeeper” role of certification institutions in the green bond market. In November, the CGBSC organized a meeting among assessment and certification institutions, emphasizing the practice requirements and standard procedures of green debt assessment and certification, and strengthening the self-regulatory management on the green debt market in all aspects.

In the inter-bank bond market, in 2022, the SHCH provided carbon-neutral bond issuance registration services, facilitating fundraising for green projects with carbon emission reduction benefits. It also supported the registration

and issuance of sustainability-linked bonds, facilitating the low-carbon transition of high-carbon industries through bond structure design and helping solve the problem of funding in the transition process. In doing so, the fundraising needs of traditional enterprises in green transformation and sustainable development of new energy industry and other industries would be better met. In the exchange-traded bond market, the SZSE, as a member of the CGBSC, continuously optimized the green bond system. In September 2022, it revised the *Guidelines for Green Corporate Bonds according to the China Green Bond Principles*, and released the *Business Guidelines No.1 of the Shenzhen Stock Exchange for Innovative Varieties of Corporate Bonds—Green Corporate Bonds (Revised in 2022)*, which raised the lower limit of the proportion of raised funds used for green projects from 70 percent to 100 percent. Besides, the scope of green projects was clarified, and the disclosure of project assessment and selection process were added.

### COLUMN 2 The Common Ground Taxonomy (CGT) was updated, and the China Green Bond Principles was issued and implemented

In June 2022, the International Platform on Sustainable Finance (IPSF), a platform jointly established by China and the EU, issued the updated version of the CGT. Compared with the first version released during the 26th Conference of the Parties (COP 26),

the CGT adopted a lot of feedback from the market from November 4, 2021 to January 14, 2022 to make further improvements and added 17 economic activities assessed and confirmed by experts in China and the EU. The updated version of the CGT contains



a total of 72 economic activities that are recognized as significant contributors to climate change mitigation by both sides. The new terms include economic activities that are important for the green transition of the construction and manufacturing industries.

In July 2022, under the promotion of the CGBSC, the *China Green Bond Principles*

was launched. This is an important step towards the high-quality development of the green bond market in China, and marks the initial formation of the green bond standard in China that is basically in line with international standards, a showcase of the confidence and actions of China in the pursuit of high-quality development of its green bond market.

#### 4.4.4 The information disclosure system was improved

##### 4.4.4.1 The information disclosure model was upgraded

Information disclosure is an important part of strengthening the regulation on bond markets and improving the market transparency and vitality. In the inter-bank bond market, continuous efforts were made to make the information disclosure rules more standardized and structured. In August 2022, the NAFMII issued the *Model Text of Information Disclosure Documents on Debt Financing Instruments of Non-financial Enterprises in the Inter-bank Bond Market within the Duration (2022 Version)*, which provides model texts for 46 types of announcements within the duration period concerning major issues, interest and principal payment, information change, exercise, etc. This would make it easier for issuers in announcement drafting and improve the standardization and readability of information

disclosure documents.

In the exchange-traded bond market, the first is that announcements on information disclosure and risk management were made in efforts to strengthen market regulation. In January 2022, the SSE issued the *Notice on Promoting Work on Corporate Bond Information Disclosure in 2022* and *Notice on Promoting Credit Risk Management of Corporate Bonds and Asset-backed Securities in 2022*, while the SZSE issued the *Notice on Promoting Management of Bonds and Asset-backed Securities within Duration and Disclosure of Annual Reports in 2021*. These notices, with an aim to hold accountable the main responsibilities of issuers and intermediaries, and urge and guide them to manage the bond credit risks well, were part of the efforts to build a full chain and multi-linked credit risk prevention and control mechanism featuring comprehensive monitoring in advance, active management in the process,



and effective disposal afterward. As such, all market players would be fully mobilized to work on bond credit risk management, and improve the quality and efficiency of risk management and disposal. Second, information disclosure arrangements were improved and implementation standards of self-regulatory measures were clarified to enhance regulatory transparency. In April 2022, the SZSE revised and issued the *Rules for Listing of Corporate Bonds (Revised in 2022)* and the *Rules for Listing of Non-Publicly Offered Corporate Bonds (Revised in 2022)*, which stresses the disclosure of major issues of issuers, clarifies the information disclosure requirements of guarantee institutions and bankruptcy administrators, improves the relevant arrangements for voluntary disclosure, commitment disclosure and suspension of disclosure, and thus further improves the quality of information disclosure and facilitates the establishment of a good market ecology and a more standardized and transparent market. In August, the SSE issued *Guideline No.3 of the Shanghai Stock Exchange for the Application of Self-regulatory Rules for Bonds—Implementation Standards for Self-regulatory Measures for Corporate Bonds and Asset-backed Securities (Trial)* (Shang Zheng Fa [2022] No.128), which regulates the implementation standards for self-regulatory measures on corporate bonds and asset-backed securities, further strengthens the operational and post-operational oversight, clarifies the punishment standards for violations, improves the accountability rules, and guides and standardizes the behaviors of

market players.

#### 4.4.4.2 The digitalization of information disclosure in the bond market was promoted

All parties in the market actively made use of financial infrastructures to advance the digitalization of bond information disclosure and promote the high-quality development of the bond market. First, new cooperation was established in information disclosure, which opened up a new phase in the development of the bond market. In September 2022, the CCDC and the SSE signed the *Memorandum of Cooperation on Sharing Information Disclosure Documents of Corporate Bonds*. According to the memorandum, the two sides expected to achieve the goal of “one editing, one uploading, multi-party sharing and multi-platform disclosure” in corporate bond information disclosure through measures such as phased information disclosure standards unification and data sharing, building of collaborative mechanisms of information disclosure standards, and establishment of bond sharing information disclosure system. Second, exploration was made in developing information disclosure technology on par with international standards. Extensible Business Reporting Language (XBRL), a framework featuring standardized format and supportive to personalized data, was widely used in international capital markets as the technical standard of information disclosure. The CCDC drew lessons from the experience of the stock market and completed the research and

compilation of XBRL information disclosure templates for financial bonds and corporate bonds. Third, digital application was solidly promoted. To standardize the information disclosure standards for the issuer and improve the digital application of information disclosure in the bond market, the CCDC completed the development of the information disclosure platform for regular reports of corporate bonds, effectively promoting the standardization and digitalization of the issuer's information submission with the help of information disclosure reporting tools.

#### 4.4.5 The risk prevention and bond default disposal mechanism was improved

##### 4.4.5.1 The out-of-court debt restructuring mechanism in the inter-bank bond market was further standardized and the disposal process was made easier

In April 2022, the NAFMII issued a revised version of the *Guidelines on Non-financial Enterprise Debt Financing Instrument Defaults and Risks Disposal in Inter-bank Bond Market* (hereinafter referred to as the *Disposal Guidelines*), which simplified the disposal process, added content related to the debt committee mechanism and bankruptcy mechanism, and standardized the supporting texts such as the holder meeting proposal and the model agreement. At present, diversified disposal measures such as bond roll-over, cancellation and sell-back revocation have been widely used by market institutions. In addition,

the new *Disposal Guidelines* clarifies the way of cancellation after bankruptcy, and the application of cancellation after bankruptcy increased. Taking into consideration the new mechanism such as the revised self-regulatory rules of the NAFMII and market business practices, the SHCH revised and issued the *Operational Guidelines for Bond Default and Risk Disposal (Revised in 2022)*, in efforts to expand the applicable scenarios, simplify the form content, continuously promote the market-oriented and rule-based development of the bond market that is in line with international standards, and further facilitate the relevant entities in the inter-bank bond market in actively and prudently using the default and risk disposal mechanism. The SHCH and the NAFMII compiled the *Collection of Questions and Answers and Cases on Default and Risk Disposal of Debt Financing Instruments*, which discusses new risk scenarios based on case studies including the connection between the mechanism of bondholders participating in debt committees in the inter-bank bond market and the current system, the scope of participants and applicable resolutions when some bondholders demand sell-back, and the identification of default disposal scenarios corresponding to the issuer's adjustments to interest repayment methods. In 2022, 69 debt financing instruments of 35 enterprises were disposed through diversified measures, and the debt amount increased by 62.24 percent year on year.



### 4.4.5.2 Application of active debt management tools in the inter-bank market were explored

In recent years, active debt management tools, which refer to tools used by issuers in managing the scale and structure of debts, have been explored in the bond market. Replacing outstanding debts and cash tender offers, for example, were piloted following the idea of “pilot first and system follow-up”. In April 2022, the NAFMII issued the *Guidelines for Exchange Offer of Debt Financing Instruments of Non-financial Enterprises in the inter-bank Bond Market (Trial)*, which clarified the definition, characteristics and main operational procedures of exchange offer. At the same time, the SHCH further promoted the improvement of the business rules of active debt management tools of issuers, and formulated and issued the *Operational Instructions for Cash Tender Offer Business and the Operational Instructions for Exchange Offer*, which further refined the business processes and operational requirements, ensuring steady and orderly landing of active debt management tools, and strengthening the protection of investors’ legitimate rights and interests. In 2022, a total of 22 cash tender offers were made in the inter-bank bond market, involving with a bond face value of RMB 11.389 billion and 263 investors.

## 4.5 Opening-up of the bond market

In 2022, the opening-up policy of the bond market was further perfected and the number

of overseas investors and the scale of their bond holdings increased steadily. As of end-2022, 1,071 overseas institutions entered the inter-bank bond market, an increase of 5 percent year on year. Specifically, 526 entities entered the market through the CIBM Direct channel, 784 entered the market through the Bond Connect channel and 239 through both channels. The bond custody volume of overseas institutions in China’s bond market reached RMB 3.5 trillion, accounting for 2.4 percent of the total, of which RMB 3.4 trillion worth of bonds held by overseas institutions were of the inter-bank bond market, accounting for 2.7 percent of the total outstanding volume of the inter-bank bond market. Crédit Agricole Corporate and Investment Bank was added as an underwriter, marking the expansion of the foreign underwriters of debt financing instruments. As of end-2022, two foreign-funded banks obtained Class A lead underwriter qualification, two foreign-funded banks obtained Class B lead underwriter qualification and five foreign-funded banks obtained underwriter qualification.

### 4.5.1 Opening-up of the inter-bank and exchange-traded bond markets was advanced in a coordinated manner

In May 2022, PBOC, CSRC and the State Administration of Foreign Exchange (SAFE) jointly issued an announcement—Matters Concerning Further Facilitating Investment in China’s Bond Market by Overseas Institutional

Investors, and documents on Answers to Press Questions, further clarifying the overall institutional arrangements for the opening-up of the bond market based on the principle of “one set of rules, one bond market”. The announcement stresses that legal person institutions should be held as market entities and as the subjects of regulation, the rights and responsibilities of all parties should be clarified, overseas institutional investors should be able to invest in the exchange bond market directly or through interconnectivity channels, and the trading place can be chosen of their own volition. Based on years of practices in commercial bank OTC bonds, cross-market transfer of custody and Bond Connect, a sound and inclusive system accommodates multi-tiered custodies was explored to be established while ensuring see-through, data reporting and information collection. In November 2022, PBOC and SAFE issued the *Management Rules on Funds Invested by Overseas Institutional Investors in China’s Bond Market*, which specifies regulatory management rules on fund accounts, fund receipts and payments, currency exchange, statistical monitoring, etc. related to investment by overseas institutional investors in China’s bond market, improves the management on exchange spot trade, optimizes the foreign exchange risk management policy and the management on remittance currencies, and clarifies the foreign exchange management requirements of sovereign institutions.

#### 4.5.2 Procedures of bond market investment for overseas institutions were improved

PBOC Shanghai Head Office further simplified the bond market entry procedures for overseas institutions, allowing them to invest in the market as legal persons, and removed the requirements of filing each invested product. Materials needed are simplified as well and an agency settlement agreement is no longer required. In 2022, the CCDC launched a new version of the Customer Service Agreement, which makes it easier for investors to open accounts in the bond market through direct investment channels, that is, when the settlement agent signs the agreement, its customers do not need to sign the agreement with the CCDC again. In June 2022, the SSE, the SZSE and China Securities Depository and Clearing Co., Ltd. (CSDC) issued detailed rules for overseas institutional investment in the exchange-traded bond market to further promote the opening-up of China’s bond market.

#### 4.5.3 The Southbound Bond Connect business was steadily advanced

In September 2021, the Southbound Bond Connect was officially launched, which provided a convenient channel for Chinese mainland investors to invest in the Hong Kong bond market through the connection between Chinese mainland and Hong Kong financial infrastructure service institutions. In 2022, to



facilitate institutional investors in the domestic bond market in allocating global bonds in an orderly manner, the CFETS, in conjunction with relevant infrastructures and overseas trading platforms, standardized the trading process of newly issued bonds and the revocation of transactions on the Southbound Bond Connect. In October 2022, the Southbound Bond Connect trading access for domestic investors was set up. The SHCH improved the supporting services of the Southbound Bond Connect business, and supported new business scenarios such as corporate action processing for bonds with options and yield handling for interest payment and principal redemption in holidays. It also expanded tax processing value-added services related to bond issuance by US entities, optimized system functions in automated processing, and made arrangements for the continued reduction of transaction fees, including reductions related to Southbound Bond Connect businesses in 2023.

#### 4.5.4 Cross-border subscription service was introduced

In July 2022, under the guidance of PBOC, the CFETS and Bond Connect Company Limited jointly launched a cross-border inter-bank bond subscription service for overseas investors and domestic underwriters—ePrime, a new bond transaction system that is based on the bond issuance, underwriting and distribution services of the CFETS, and provides comprehensive services for overseas bond bookkeeping and issuance. The launch

of ePrime further facilitated overseas investors in investing in the inter-bank bond market in China. Through the ePrime system, overseas investors can issue bonds in the inter-bank bond market online while domestic underwriters and overseas institutions can use electronic distribution confirmation forms instead of offline distribution agreements, which makes the distribution agreement signing process easier. As such, cross-border bond underwriting and distribution business can be conducted completely through online procedures, which improves the efficiency of overseas institutions investing in domestic bond markets and further promotes the interconnection between primary and secondary bond markets. On the launch day of ePrime, a total of 27 overseas institutions made 56 subscriptions through the system, of which 23 won the bid and completed 42 distributions directly online with a total worth of RMB 1.22 billion.

#### 4.5.5 A package of measures to optimize the investment environment of overseas institutions were introduced

The CFETS made continuous efforts to optimize system services for investment transactions of overseas institutions. First, the closing price mechanism was optimized, with the closing price update time adjusted to about 17:30, and international payment was added. Second, the quotation interface for domestic market makers was improved, and the Direct RFQ interface under the settlement agent mode and



the closing price trading interface under the Northbound Bond Connect were introduced to support domestic market-making institutions in providing services for overseas investors more efficiently. Third, the Bond Connect Company Limited lowered the service fee to reduce the investment cost of overseas investors. The SHCH improved the efficiency of approval for International Securities Identification Code (ISIN) applications, providing a high-quality infrastructure guarantee for overseas institutional investors to obtain ISIN bonds in time and invest in China's bond market conveniently.

#### 4.5.6 The high-quality development of the panda bond market was promoted

First, the fund management requirements of panda bonds were unified, and the market scale grew steadily. In December 2022, PBOC and the SAFE jointly issued the *Notice of the People's Bank of China and the State Administration of Foreign Exchange on Matters Concerning the Proceeds Management for Yuan-Denominated Bonds Issued by Overseas Issuers in China* (Yinfa No.272 [2022]), which improved the proceeds management on panda bonds, unified the management rules for the registration and account opening of panda bonds in the inter-bank and exchange-traded markets, and improved the foreign exchange risk management on panda bonds, further facilitating the financing of overseas institutions in China's bond market. Second, the registration and issuance mechanism of

panda bonds in the inter-bank market was improved. In July 2022, the NAFMII issued the *Notice on Launching Pilot Program to Streamline Panda Bond Registration and Issuance Mechanism*, which optimized the registration and issuance mechanism from four aspects. Third, the development of sustainability-linked financing was facilitated. The NAFMII supported the issuance of six green/carbon-neutral panda bonds totaling RMB 6.4 billion in 2022, an amount more than doubled year on year. Of particular notes, the first multinational green panda bond and the first sovereign green panda bond after the issuance of *China Green Bond Principles* were successfully issued. Fourth, the overseas bond listing business was actively promoted. The NAFMII promoted the listing information display of five panda bonds on the Chongwa (Macao) Financial Asset Exchange (MOX), aiming to improve channels for global investors to obtain information in China's bond market. In recent years, the panda bond market has witnessed steady growth. As of end-2022, the stock of panda bonds reached RMB 200.078 billion, and the cumulative issuance of panda bonds registered RMB 626.21 billion.

### 4.6 Outlook of the bond market

In 2023, the Chinese bond market will continue to pursue a new development philosophy, and strengthen the institutional mechanism building and product innovation. The quality and efficiency of the bond market in serving the real economy will be further improved,





and the market will be further opened up and developed based on market principles and the rule of law in an international manner. First, the institutional environment of the bond market will be further improved. Second, the development of the bond market will be better regulated by striking a balance between security and efficiency, and default risk prevention and resolution will be carried out more effectively. Third, innovation-driven development will be deepened. Product, mechanism and service innovation will be a sustained goal and

the role of the bond market in supporting the real economy will be given full play to, especially in areas such as green and low-carbon development, sci-tech innovation and private MSBs. Fourth, the connectivity between domestic and overseas bond markets will be promoted steadily so as to make the bond market more accessible for domestic and overseas investors. Fifth, the bond market management system will be further upgraded to achieve the higher-level opening-up.

### BOX 3 New rules for money brokerage business were revised and released to improve the standardization of the money brokerage industry

In recent years, the money brokerage business in the inter-bank market has seen significant growth, with its business model in continuous change. Bond quotation, match-making trading and other behaviors have deeply affected the market operation. At first, the NAFMII issued the *Notice on Regulating the Use of Instant Messaging Tools for Inter-bank Market Transactions*, which specified the requirements for all parties to use real names in instant messaging tools when participating in money brokerage business. At the same time, to further standardize the money brokerage business and better cater to the needs of current developments, the NAFMII, under the guidance of PBOC, revised the 2013 version

of the *Self-regulation Guidelines for the Brokerage Business in the Inter-bank Market*, and released the updated *Self-regulation Guidelines for the Money Brokerage Business in the Inter-bank Market* (hereinafter referred to as the *Guidelines*) in November 2022.

The *Guidelines* revises 34 articles and adds 19 new ones, in line with the idea of “strengthening internal control, grasping key points and clarifying red lines”. First, qualification and internal control management are stressed. Qualification requirements and corresponding responsibilities of all parties involved in the money brokerage business are further specified, new requirements for internal control and risk management

on money brokerage companies are set, including regulations on record keeping in the whole process of the business, and professional ethics for market players are added. Second, more attention is paid to key links of the brokerage business process. Detailed requirements are set in terms of clarifying the source, time and effectiveness of brokerage quotation, and deal match-making process and the use of trading terms are standardized in efforts to improve the quality of market information. Third, provisions concerning service agreement signing are improved. The necessity and seriousness of signing service agreements are reiterated. The brokerage commission management is further standardized, and requirements are set for money brokerage companies to establish a

commission management system and set clear commission rates. Fourth, prohibited behaviors in the brokerage business are extensively elaborated. In addition, possible non-standard practices at key links such as business scope, service recipients, quotation matching, information transmission, record keeping, and commission fees are clarified, and multi-tiered punishment arrangements are established to improve the quality and efficiency of market discipline.

The *Guidelines* will contribute significantly to strengthening the self-regulatory management and self-inspection on money brokers against business violations in their operations, thus promoting the high-quality development of the inter-bank market.

#### BOX 4 ESG practices in the bond market bolstered the high-quality economic development

ESG integrates the responsibilities of enterprises in three aspects: environment, society and corporate governance, conveying the development concept of pursuing the unity of economic value and social value, which was highly consistent with China's

sustainable development strategy. In recent years, the ESG concept has also gained popularity in China's bond market, which has made new achievements in promoting the high-quality development of the bond market.

### **1. ESG-related bond investment and financing practices injected the capital to the sustainable development fields to support high-quality economic development**

First, the application of the ESG concept in fixed-income investment continued to expand. From the perspective of product scale, ESG-related bond funds showed a growth trend, and related wealth management products were developing rapidly. As of end-2022, more than 240 ESG-related public offering fund products with a total worth of RMB 400 billion were issued, including seven bond funds with a volume of RMB 23.257 billion, about five times the volume of 2021. A total of over 213 ESG-related wealth management products were issued by commercial banks and wealth management subsidiaries, which served as an important channel for fixed-income investment. From the perspective of product strategy, ESG investment strategies were increasingly diversified, which were widely used in bond index investment. As of end-2022, the ChinaBond Pricing Center, a wholly-owned subsidiary of the CCDC, together with financial institutions, released more than 10 ESG-related bond indices, which enriched the performance benchmarks and tracking targets for domestic and foreign investors in green and sustainable

development finance.

Second, ESG-related financing scale saw fast growth and increasingly diversified categories of product supply. In addition to green bonds, carbon-neutral bonds, sustainability-linked bonds and other ESG-related bonds emerging at an accelerated pace, transition bonds were also explored in 2022 to support the transition and upgrading of traditional industries.

### **2. Third-party evaluation and data services provided key support for the landing of ESG-related products**

First, the financial infrastructures took the lead in providing ESG market evaluation services in China's bond market. In 2020, the CCDC, relying on the R&D experience and data advantages accumulated from the market over the years, independently developed and launched a credit evaluation system and a database covering public offering bond issuers in China. Later in 2021, the system was further expanded to include all A-share companies, and thus nearly 9,000 issuers and listed companies in the domestic bond market were all included.

Second, there were increasingly diversified third-party ESG services in the market. Based on ESG evaluation, the CCDC launched a mix of products and services,

such as ESG databases, ESG indices, and ESG reports, providing comprehensive solutions to the market from multiple dimensions such as data, evaluation system and methodology. In addition to financial infrastructures, professional ESG

data providers, comprehensive financial information service providers, credit rating agencies, and academic research institutions also begun to provide third-party ESG services, such as evaluation results and relevant data about listed companies.



## Chapter 5 Stock Market

In 2022, the stock market experienced bouts of turbulence and adjustments, and the reform and opening-up of the capital market was further deepened. The volumes of financing and trading generally declined, and major indices fell with increased volatility. Market resilience was significantly enhanced, trading activities thrived, and the financing structure was optimized and upgraded. The registration-based IPO system was fully implemented, basically ensuring delisting as a normal practice. Capital market opening-up and cooperation were further advanced and risks in key areas were effectively resolved. Measures to enhance the quality of listed companies and help them resume production achieved remarkable results, and the capability of the market to serve the real economy was further improved.

### 5.1 Performance of the stock market

#### 5.1.1 Share issuance and financing

In 2022, the number of companies raising funds on the stock market and their total financing volume declined<sup>①</sup>. A total of 980 companies raised funds through IPOs, additional shares issuance, share allotment, convertible bond issuance and exchangeable bond issuance, down 19.14 percent year on year, with a total financing volume of RMB 1,688.188 billion, down 7.13 percent from RMB 1,817.806 billion in 2021. The number of companies that raised funds through IPOs decreased to 425, down 11.64 percent year on year, and the total financing volume of IPO stood at RMB 586.886 billion, up 9.67 percent year on year. A total of 355 listed companies issued additional shares,

down 31.73 percent year on year, and the volume was RMB 722.924 billion, down 20.41 percent year on year.

In 2022, no preferred stock was issued, share allotment and the issuance of convertible bonds increased, and exchangeable bonds decreased. In 2022, none of the listed companies issued preferred stocks. A total of nine companies completed share allotment, a slight increase from seven in 2021, involving a volume of RMB 61.526 billion, an increase of 24.71 percent from the previous year. A total of 153 listed companies issued convertible bonds, up 20.47 percent year on year, with a volume of RMB 273.558 billion, up 10.58 percent year on year. A total of 38 listed companies issued exchangeable bonds, up 11.76 percent year on year, with a volume of RMB 43.294 billion, up 0.33 percent.

<sup>①</sup> The data in Chapter 5 comes from Wind Info.

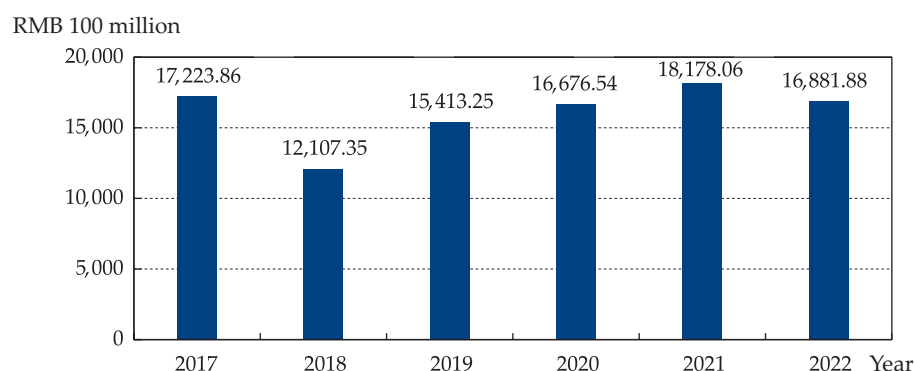


Figure 5.1 Total financing volume in the stock market from 2017 to 2022

(Source: Wind)

### 5.1.2 Stock trading and holding

Throughout the year, the turnover of A-shares in the market totaled RMB 224.32 trillion, down 13.04 percent year on year, including RMB 84.27 trillion from the SSE Main Board, down 18.55 percent year on year, RMB 11.99 trillion from the SSE STAR Market, up 13.76 percent year on year, RMB 82.94 trillion from the SZSE Main Board, down 7.47 percent year on year, RMB 44.92 trillion from the SZSE ChiNext Board, down 17.32 percent year on year, and RMB 0.20 trillion from the Beijing Stock Exchange (BSE), up 26.05 percent year on year. In 2022, the proportion of trading volume by institutional investors on both the SSE and SZSE increased,

reaching 42.64 percent and 36.40 percent respectively, an increase of 6.17 percentage points and 2.85 percentage points from 2021.

As of end-2022, the percentage of market value held<sup>①</sup> by foreign investors<sup>②</sup> on the SSE dropped slightly from 4.55 percent at end-2021 to 4.37 percent, the market value held by domestic institutions<sup>③</sup> accounted for 18.05 percent, up from 17.87 percent, and the market value held by individual investors accounted for 23.65 percent, down from 24.48 percent. The market value held by foreign investors on the SZSE dropped slightly from 3.37 percent at end-2021 to 3.08 percent, the market value held by domestic institutions accounted for

① The market value in this paragraph refers to the total market capitalization. Percentage of the total market capitalization held = total market value of the shares held by institutional investors ÷ total market value of the shares held by investors = (capital stock held by institutional investors × market price per share) ÷ (total capital stock held by investors × market price per share).

② The shares held by foreign investors in this paragraph are stocks for northbound trading under the Shanghai/Shenzhen-Hong Kong Stock Connect programs. The shares held by foreign investors on the SSE are stocks for northbound trading under the Shanghai-Hong Kong Stock Connect and those on the SZSE are stocks for northbound trading under the Shenzhen-Hong Kong Stock Connect.

③ Domestic institutions in this paragraph refer to professional institutions other than QFII and general legal persons.

18.28 percent, down from 18.36 percent, and the market value held by individual investors accounted for 40.53 percent, up from 39.87 percent.

### 5.1.3 Stock indices and market fluctuations

In 2022, due to the impact of multiple factors beyond expectations, the stock market fluctuated downwards, and major stock indices were under pressure and exhibited greater volatility. In particular, the SSE Composite Index, the STAR 50 Index, the SZSE Component Index, and the ChiNext Index fell by 15.13 percent, 31.35 percent, 25.85 percent and 29.37 percent respectively.

In 2022, the SSE and SZSE markets were highly volatile. In particular, the yearly change of the

SSE Composite Index reached 27.53 percent, up 14.88 percentage points from the previous year. The SSE Composite Index experienced a change of above 1 percent for as many as 69 days, 12 days more than the previous year. The yearly change of the STAR 50 Index reached 39.50 percent, and the index experienced a change of above 1 percent for as many as 129 days. The yearly change of the SZSE Component Index reached 32.67 percent, up 9.72 percentage points from the previous year. The SZSE Component Index experienced a change of above 1 percent for as many as 107 days, 17 days more than the previous year. The yearly change of the ChiNext Index reached 36.93 percent, and the index experienced a change of above 1 percent for as many as 137 days, 14 days more than the previous year.

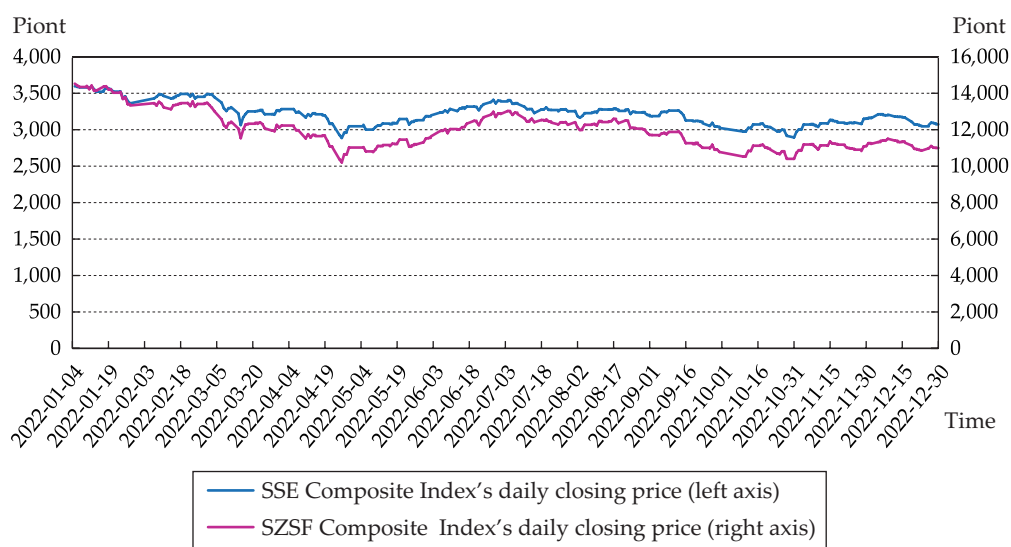


Figure 5.2 Movements of SSE and SZSE main board indices in 2022

(Source: Wind)



## 5.2 Main features of the stock market

### 5.2.1 Market resilience was significantly enhanced

In 2022, the A-share market was much more resilient amid fluctuations and adjustments. First, the SSE Composite Index rebounded sharply after bottoming out twice. From the beginning of 2022 to end-April, the market saw a continued drawdown. The SSE Composite Index fell as much as 776 points and rebounded since April 27 for two consecutive months, rising as much as 561 points, or 72.29 percent. From July to end-October, the market fell again, as the SSE Composite Index lost as much as 540 points. On October 31, the index bottomed out and rebounded continuously for one month, with a maximum rise of 341 points, or 63.15 percent. Second, institutions fully played their role in stabilizing the market. According to the SZSE trading data, passive equity funds and long-term funds increased their holdings when the market was tracking downwards, playing an active role in maintaining market stability.

### 5.2.2 Trading activities remained buoyant in general

In 2022, the total stock market turnover stood at RMB 224.32 trillion, exceeding RMB 200 trillion for the third consecutive year. The turnover of A-shares on the SSE, SZSE and BSE totaled RMB 96.26 trillion, RMB 127.86 trillion and RMB 0.20 trillion, down 15.56 percent, down 11.19 percent and up 26.05 percent respectively from 2021. Despite a decline in turnover, the

trading activities on the SSE and SZSE remained buoyant, with compound growth rates of turnover in three years reaching 21.0 percent and 20.7 percent respectively, a high level in recent years. The turnover rate was generally at a high level, with the annual turnover rate of Wind All China Index at 289.55 percent, 1.16 times the average of the previous three years.

### 5.2.3 The financing structure and functions were continuously optimized and improved

In 2022, a total of 154 enterprises made IPOs on the SSE, 95 fewer than the previous year, and raised RMB 358.890 billion, down 1.78 percent year on year. Among these enterprises, 123 were listed on the SSE STAR Market and raised RMB 252 billion, accounting for 70 percent of the total fund raised through IPOs. A total of 188 enterprises made IPOs on the SZSE, 44 fewer than the previous year, and raised RMB 211.517 billion, up 24.64 percent year on year. 170, or 90 percent, of these enterprises were in strategic emerging industries and raised RMB 193.3 billion in total. Among them, there were 11 enterprises dedicated to solving “stranglehold” problems, 17 enterprises dedicated to shoring up weak links and 19 frontier technological enterprises.

### 5.2.4 The engagement of institutional investors was enhanced

In 2022, the share of domestic institutional investors in trading volume and their shareholding ratio on the SSE were 31.47



percent and 18.05 percent respectively, up 4.78 percentage points and 0.18 percentage points from the previous year. In particular, the shareholding ratio of medium- and long-term funds such as public funds, social security funds, insurance funds and corporate annuities and their share in the trading volume continued to increase, reaching 12.00 percent and 8.80 percent respectively, up 0.99 percentage points and 1.20 percentage points from end-2021. The trading volume of institutional investors on the SZSE stood at RMB 96.57 trillion, accounting for 36.40 percent of the total, up 2.85 percentage points year on year. In particular, the trading volume of public funds accounted for 4.51 percent, down 0.19 percentage points year on year; the trading volume of long-term funds (including social security funds, insurance funds and corporate annuities) accounted for 1.86 percent, up 0.21 percentage points year on year; the trading volume of private equity funds accounted for 17.28 percent, the highest among professional institutions, up 1.67 percentage points year on year; and the trading volume of overseas funds accounted for 8.84 percent, up 1.24 percentage points year on year, reaching a record high, with the share on some trading days exceeding 12 percent.

### 5.2.5 Indexing investment took a leap forward

As of end-2022, the share of domestic index

funds reached 2.36 trillion, with a total volume of RMB 2.26 trillion, up 39.5 percent and 8.2 percent respectively year on year, both hitting record highs. Specifically, the volume of SSE and CSI index products exceeded RMB 1.7 trillion, accounting for 75 percent of the total. In 2022, the share of ETFs listed on the SSE continued to grow from 547.2 billion at the beginning of the year to 830.5 billion in mid-December, an increase of more than 50 percent. Assets held in ETFs listed on the SSE totaled over RMB 120 billion, and the net capital inflow of a number of major broad-based index products such as CSI 300 and CSI 500 exceeded RMB 20 billion. The ChiNext Board ETF options, CSI 500 ETF options and SZSE 100 ETF options were successfully listed for trading on the SZSE, representing the first three single-market ETF options on the SZSE. The listing of these ETF options marked a leap from a single variety to a comprehensive product system covering large-cap blue-chip, innovative blue-chip, innovative growth, and small- and mid-cap ETFs, fully unleashing the risk hedging function of options. In 2022, passive equity funds on the SZSE<sup>①</sup> increased their holdings against the market trend and became the main buyer, with a net purchase of RMB 161.9 billion, exceeding the total net purchase of public funds. Index funds demonstrated their role as a “stabilizer” and “anchor” during market fluctuations by continuously attracting capital

<sup>①</sup> The SZSE divides public funds into equity funds, mixed funds and bond funds, and equity funds are further divided into passive and active ones.

inflows, which effectively dampened short-term market fluctuations and maintained market stability.

### 5.3 Reform and innovation of the stock market

#### 5.3.1 Steady progress was made in promoting the registration-based IPO system

Following the arrangements and requirements for the comprehensive implementation of the registration-based IPO system, the SSE and SZSE sought progress while ensuring stability, and made full preparations. First, board positioning was upheld. The SSE and SZSE Main Boards were positioned to highlight the large-cap blue-chip characteristics of the market, focusing on supporting high-quality large industry-representative enterprises with mature business models and stable operating performance. The SSE STAR Market was positioned to support the development of “key and core technology” enterprises and serve growth enterprises with the capability to develop domestic solutions for import substitution but whose technology has a long application cycle. The SZSE ChiNext Board, in response to the strategy of innovation-driven development and the general trend of embracing innovation, creativity and originality, mainly offered services to growth enterprises engaging in innovation and entrepreneurship, and supported the deep integration of traditional industries with new technologies, industries,

business forms and models. Second, the mechanisms and rules for fully implementing the registration-based IPO system were revised and improved. On the basis of comprehensively summarizing and evaluating the experience of piloting the registration-based IPO reform on the SSE STAR Market and SZSE ChiNext Board, effective practices that withstood the market test, such as strengthening the checks and balances of approval power and conducting on-site supervision to ensure that sponsors assume their responsibilities, were promoted to the main boards. The rules of issuance and listing review, underwriting, continuous regulation and trading of the SSE Main Board, SSE STAR Market, SZSE Main Board and SZSE ChiNext Board were integrated, and supporting mechanisms of the registration-based system were kept generally consistent among the boards, which was conducive to the establishment of a more coordinated, concise and friendly business rule system across the market. Third, the registration review mechanism was optimized. To meet the needs of fully implementing the registration-based IPO system, the main boards were made consistent with the STAR Market and ChiNext Board in terms of the concept, content, methods, procedures and self-regulation of issuance and listing review. Take the IPO review as an example. The review process by the stock exchange was better coordinated with the registration process at the CSRC, and it was made clear that such review is subject to the supervision and inspection of the CSRC.



During the review process, the stock exchange is responsible for examining and determining whether enterprises meet the issuance and listing conditions and information disclosure requirements after accepting their application for public offering of shares, and promptly reporting to the CSRC for further instructions if it discovers critical sensitive matters, critical situations without any precedent, critical public affairs and clues that lead to critical illegal activities.

### 5.3.2 Market maker mechanism was introduced on the STAR Market

To implement the requirements of policy documents such as the *Implementation Opinions on Establishing the Science and Technology Innovation Board and Piloting the Registration-based IPO System on the Shanghai Stock Exchange* (CSRC Announcement No.2 [2019]) and the *Opinions on Supporting High-level Reform and Opening-up of Pudong New Area and Building Pudong into a Pioneer Area for Socialist Modernization*, following the arrangements of the CSRC, the SSE officially launched the market-making trading business of stocks on its STAR Market on October 31, 2022. Since the launch of the business, the number of stocks for market making grew steadily, the market-making trading ran smoothly, market-making quotations were actively made, and market-making obligations were adequately fulfilled, with no risk events and positive

market response. The order book structure of market-making stocks was significantly optimized, effectively enhancing the liquidity, pricing efficiency, market resilience and market activeness.

### 5.3.3 The scope of underlying stocks for margin trading and short selling was expanded

To promote the healthy and orderly development of margin trading and short selling, with the approval of the CSRC, the SZSE further expanded the scope of underlying stocks for margin trading and short selling, with the number of underlying stocks other than those listed on the SZSE under the registration-based IPO system increasing from 800 to 1,200. After the expansion, the SZSE-listed underlying stocks took up nearly 90 percent of all A-share stocks on the SZSE in terms of negotiable market capitalization. In addition, the underlying stocks cover all the SZSE-listed constituent stocks of the ChiNext Index and CSI 300 Index, 97 percent of the SZSE-listed constituent stocks of the CSI 500 Index and 83 percent of the SZSE-listed constituent stocks of the CSI 1000 Index. Among the 400 newly added stocks, the stocks with a negotiable market capitalization below RMB 10 billion accounted for over 70 percent, and the stocks in key areas such as advanced manufacturing, digital economy, and green and low-carbon development took up nearly 60 percent. With more small- and mid-cap stocks covered, the underlying stocks for margin trading and

short selling were more representative of industries and the market, helping channel more market resources into key areas with national support.

#### 5.3.4 The delisting mechanism was continuously improved

The SSE and SZSE strictly implemented the new delisting rules, basically ensuring delisting as a normal practice. The responsibilities of listed companies and the “critical few” were strengthened, and substantive judgments were made according to the rules to identify companies that maliciously evade delisting. Regulatory cooperation among the CSRC, its relevant regional office and the stock exchange was leveraged to improve regulatory exchanges and information sharing and strengthen joint efforts in delisting supervision. Companies having delisting risks were supervised in a centralized manner by the regulator in their jurisdiction, and a mechanism of notification and collaboration with local governments was developed. Supporting documents were introduced and supervision of both information disclosure and transaction was strengthened to guard against irrational speculation. In 2022, 24 companies were delisted from the SSE for various reasons, up about 70 percent from 2021. Among them, 18 companies were subject to compulsory delisting, up 125 percent from 2021. Among the companies that received a delisting risk warning, 45 percent were delisted, which was

a significant increase. The SZSE made targeted efforts to crack down on “shell companies” and “zombie enterprises”, and terminated the listing of 24 companies according to the rules, close to the aggregate number recorded in the previous three years.

#### 5.3.5 Multiple measures were adopted to reduce the burden on market entities

The SSE pressed ahead with service reform and established a clear, concise, easy-to-use and easy-to-understand self-regulatory rules system to make information disclosure more effective, which effectively reduced the burden on market entities. It reduced the self-regulatory rules for listed companies from 152 to 15 by formulating new rules and modifying, abolishing and combining existing ones, streamlined and optimized the announcement format system to reduce the information disclosure cost of listed companies, and advocated concise information disclosure by promoting practical announcement disclosure, introducing visual annual report procedures and adding an overview module of listed companies’ operating performance on its official website to help companies realize tabular disclosure. The SZSE issued the *Notice on Further Supporting Enterprises in Development and Serving the Real Economy*, which introduces 16 practical measures such as stepping up support for direct financing and optimizing self-regulatory services to help enterprises tide over difficulties. In addition, it waived fees for





listed companies as well as fees related to bond and fund trading, with the fees reduced in 2022

amounting to RMB 120 million, 241 percent of that in the previous year.

### COLUMN 3 Fully serve listed companies in production resumption despite pandemic disruptions

To implement General Secretary Xi Jinping's instructions on "carrying out COVID-19 prevention and control and pursuing economic and social development in a coordinated way", the SSE and SZSE, based on their responsibilities of beefing up self-regulation of information disclosure, strengthened systemic thinking, gave full play to their role as the center of the capital market, and launched a number of regulatory service measures in terms of listing review and front-line regulation to support listing companies affected by the COVID-19 pandemic in production resumption and minimize the impact of the pandemic on the economy and society.

First, research and meetings were conducted to strengthen communication. The SSE conducted research on nearly 100 leading enterprises in 15 key industries such as infrastructure construction, consumption and real estate, and organized special meetings with companies in nine industries facing difficulties. These moves allowed the SSE to collect more information about listed companies and inform the local government in time. Moreover, it investigated key SSE-

listed companies, over 290 in Shanghai and over 500 outside of Shanghai, for their progress in the resumption of work and production, increased communication with listed companies, with more than 1,200 phone calls made, and intensified efforts to enhance the confidence of listed companies and stabilize their expectations by introducing to them supportive policies issued by the CPC Central Committee and the State Council.

Second, support for direct financing was scaled up. On March 22, 2022, the first tranche of local government bonds of Shenzhen in 2022 was successfully issued via the government bond issuance system of the Ministry of Finance (MOF) at the SZSE. This was a practical measure of the SZSE to actively play its role as a core platform of the capital market to support pandemic prevention and control as well as the development of the real economy with pandemic prevention measures well-implemented. On June 24, the SZSE issued the *Notice on Further Supporting Enterprises in Development and Serving the Real Economy*, aiming to ramp up support for direct financing, optimize self-regulatory services and support the healthy development of the real economy.

Third, self-regulatory services were optimized and a flexible approach was taken to implement regulatory measures. The SZSE waived relevant fees of market entities as part of the efforts to implement the national policies to cut taxes and fees. Specifically, SZSE-listed companies in regions hit hard by the COVID-19 pandemic were exempted from initial and annual listing fees and online voting service fees of shareholders' meetings throughout 2022. The SZSE put various measures in place to ensure uninterrupted market services, which included strengthening online communication and consultation for listing review, supporting listed companies in holding online meetings, allowing the use of

electronic signature for business, extending the service hours for information disclosure business, and launching a 24-hour hotline for business consultation. In addition, the SZSE served listed companies to ensure their smooth refinancing, coordinated to tackle the most urgent needs of listed companies and helped lessen the impact of the pandemic by appropriately extending the time for responding to inquiries on issuance review, relaxing the requirements for the format of information disclosure documents, enhancing the flexibility of regulation of information disclosure in mergers and acquisitions (M&As) and encouraging securities companies to adopt a flexible approach in handling defaults of clients.

### 5.3.6 Joint efforts were made to improve the quality of listed companies

First, communication was strengthened among various institutions to gather efforts to improve the quality of listed companies. The SSE and SZSE strengthened information exchange, communication and cooperation with local governments, the State-owned Assets Supervision and Administration Commission of the State Council and financial bureaus, and delivered targeted policy services to promote risk reduction and quality improvement of related listed companies. They continuously

promoted exchanges and interactions of listed companies with investors, intermediaries and media outlets, aiming to establish smooth communication channels between listed companies and the market and to strengthen social regulation. They established a special working mechanism for improving the quality of listed companies in five provinces and one city, organized and held regional experience exchange meetings focusing on quality improvement of listed companies in five provinces and one city, meetings for listed companies controlled by centrally administered state-owned enterprises and





private listed companies as well as meetings for serving local economy and capital market development, and strengthened daily contact and regular information reporting with relevant local government departments to learn about the difficulties and challenges facing listed companies and their specific demands. In addition, they put in place targeted measures and separate file management for enterprises and worked to ensure that local governments fulfill their responsibilities to help create a new pattern for improving the quality of listed companies. Second, regulatory efforts were gathered to help enhance corporate governance of listed companies. Based on its main duty of information disclosure supervision, the SSE continuously strengthened collaboration with the CSRC and its regional office, implemented the “headquarters-to-headquarters” reporting mechanism for clues, focused on early identification, reporting and verification of critical clues and strengthened joint on-site inspection with the CSRC’s Shanghai office. With joint regulatory efforts, the efficiency of regulation was greatly enhanced. The SZSE, with a focus on enhancing the regulation of existing leading listed companies from the source, formulated and implemented the *Three-year Action Plan for Improving the Quality of Listed Companies (2022-2025)* to resolve existing risks and strengthen regulation of leading companies. It carried out special actions on corporate governance to help address prominent issues such as competition for control rights and non-performance of commitments and enhance the

sense of responsibility of the “critical few”. It organized special training on corporate governance, with about 70,000 participants from more than 16,000 companies. It also investigated the risks of listed companies on a regular basis and strengthened the regulation of stocks, bonds and funds to promote the early resolution of risks.

### 5.4 Risk prevention and resolution

#### 5.4.1 Multiple exit mechanisms were introduced to clear risks

The SSE and SZSE actively adopted the multi-pronged approach to risk resolution comprising delisting, restructuring and acquisition to smooth multiple exit channels. They summarized the regulatory practices of bankruptcy and restructuring of listed companies in a timely manner, cooperated with the formulation of bankruptcy and restructuring guidelines, and supported listed companies in their efforts to exit the market in an orderly manner and resolve risks through multiple channels such as market-oriented debt-to-equity swap, bankruptcy and restructuring, active delisting, M&As and replacement of principal business.

#### 5.4.2 Efforts were directed towards resolving the risks of listed companies and of share pledging

The SSE and SZSE actively promoted the resolution of risks associated with listed

companies by adopting the working mechanism of assigning dedicated personnel to be responsible for the task and dividing the tasks between different institutions as well as through interviews and on-the-spot visits. As of end-2022, there were 109 risky companies on the SSE, 101 on the Main Board and 8 on the Star Market, down 201 from the peak in early 2020, with the proportion in the total dropping to 5.01 percent. A total of 59 SSE-listed companies had their risks resolved, a net increase of 31 from the beginning of 2022. There were 44 companies with a high percentage of shares pledged as collateral for loans on the SSE Main Board, down 162 from the high in 2018. A total of 35 such companies had their risk mitigated, a net increase of 16 from the beginning of 2022. Throughout the year, illegal guarantees with a total amount of RMB 5.005 billion were released, occupied funds were reduced by RMB 18.077 billion, and the amount involved in new cases of illegal occupation of funds and guarantees decreased by nearly 80 percent year on year. The number of risky companies listed on the SZSE decreased by 71 compared with that of the beginning of 2022, with the proportion dropping to 9 percent. The risk of share pledging was effectively resolved, with the balance of share pledge on the exchange decreasing by RMB 79.3 billion compared with that of the beginning of 2022 and the volume of new stock pledged repo transactions decreasing by 13 percent. The achievements in resolving the risks of fund occupation and illegal guarantee were reinforced, with occupied funds

totaling RMB 34.7 billion repaid and illegal guarantees amounting to RMB 19.3 billion released.

## 5.5 Opening-up of the stock market

### 5.5.1 The connectivity mechanism between domestic and overseas stock exchanges was optimized

#### 5.5.1.1 Mechanism for the depository receipt business under the Stock Connect scheme was improved

On March 25, 2022, the supporting rules for the depository receipt business under the Stock Connect scheme between the SSE and overseas stock exchanges and between the SZSE and overseas stock exchanges were officially released. The SSE and SZSE, in conjunction with overseas stock exchanges and market institutions, held a number of business briefings and promotion conferences. On July 28, 2022, the depository receipt business under the China-Switzerland Stock Connect was officially launched. As of end-December, 2022, 21 SSE-listed companies made announcements on issuing global depository receipts (GDRs) in Switzerland, the UK and Germany, covering all overseas markets to which the new rules apply. Four of them successfully issued GDRs and raised USD 1.29 billion in total. Among them were the first Chinese company to announce the issuance of GDRs, the first company to get approved by the CSRC to issue GDRs and the first company to announce the issuance of GDRs in Germany. 22 SZSE-listed companies

announced the issuance of GDRs in Switzerland and the UK, among which six successfully issued GDRs, raising more than USD 2.6 billion.

#### **5.5.1.2 The Stock Connect scheme between the Chinese mainland and Hong Kong was optimized**

On June 24, 2022, the SSE and SZSE officially issued the *Implementation Measures of the Shanghai Stock Exchange for the Shanghai-Hong Kong Stock Connect Business (Revised in 2022)* and the *Implementation Measures of the Shenzhen Stock Exchange for the Shenzhen-Hong Kong Stock Connect Business (Revised in 2022)* respectively. On July 4, ETFs were officially included in the Stock Connect scheme. As of end-2022, a total of 53 SSE-listed ETFs, 30 SZSE-listed ETFs and 5 ETFs listed on the Hong Kong Stock Exchange (HKEX) were included for trading under the Stock Connect scheme, providing more investment convenience and opportunities for investors. On July 25, 2022, the relevant provisions regulating the reverse trading of the underlying securities for Northbound Trading under Stock Connect came into effect, stipulating that HKEX participants should not activate the function of Stock Connect Northbound Trading for Chinese mainland-based investors.

#### **5.5.1.3 The scope of ETF connectivity scheme between domestic and overseas markets was expanded**

In 2022, according to the arrangements of the CSRC, the SZSE expanded the scope of ETF

connectivity scheme between domestic and overseas markets, providing diverse options for cross-border investment. On December 30, 2022, the ETF link between the SZSE and the Singapore Exchange (SGX) was established. Under the ETF link, China Southern CSOP CGS-CIMB FTSE Asia Pacific Low Carbon Index ETF was listed on the SZSE, and UOBAM Ping An ChiNext ETF and CSOP CSI STAR and CHINEXT 50 Index ETF were listed on the SGX. By investing in ETF products with the characteristics of each other's market, various resource elements were effectively channeled to key areas such as sci-tech innovation, and green and low-carbon development.

### **5.5.2 Capital market opening-up and cooperation were deepened**

#### **5.5.2.1 Services offered to overseas investors were enhanced in quality and efficiency**

In 2022, the SSE and SZSE, with a focus on attracting overseas MLT funds, enriched the content and form of international promotion services, expanded the mechanism of two-way information exchange with overseas institutions and actively played their role in international promotion to enhance the quality and efficiency of services offered to overseas investors. During the fifth China International Import Expo (CIIE), the SSE held a parallel session of the Fifth Hongqiao International Economic Forum jointly with the Hongqiao International Economic Forum Secretariat for the first time. The event attracted nearly 1,400 investors

from over 800 institutions and was covered by about 30 domestic and foreign media outlets, actively displaying the achievements in the development and opening-up of China's capital market and conveying the message of pursuing openness and cooperation for win-win results. Throughout the year, the SSE organized seven international roadshows and training sessions with a focus on its key tasks and the four major markets (markets for stocks, bonds, funds and derivatives). Both the number of events held and the number of international investors participating in the events have hit record highs in recent years. The SSE held nearly 120 activities with the theme of "international investors visiting SSE-listed companies online", with a significant increase in the number of participating international investors and the number of SSE-listed companies. In addition, it conducted eight special surveys of international investors to gain an understanding of their demands and respond to their concerns. The SZSE held the 2022 Global Investor Conference from May 24 to 27, where a joint promotion session of the SZSE, SSE and BSE was included to highlight the achievements in the reform and opening-up of China's capital market. About 200 representatives from domestic and foreign mainstream investment institutions attended the conference online. Throughout the year, the SZSE organized 56 one-on-one exchange activities and 11 one-to-many roadshows for overseas institutional investors and intermediaries and held 3 activities on the topics of carbon neutrality and green economy

jointly with overseas investment banks, where overseas investors were invited to visit listed companies. It also continued its efforts to deepen the long-term mechanism of market development services between the SZSE and HKEX by organizing 4 two-way cross-border investment promotion conferences jointly with the HKEX to introduce the development of the Shenzhen and Hong Kong markets to domestic and overseas investors.

#### **5.5.2.2 High-quality development of BRI projects was advanced**

In 2022, with the support of overseas shareholding institutions and cross-border service platforms, the SSE and SZSE made efforts to help Chinese-funded enterprises go global, promote cross-border investment and financing matchmaking among the BRI countries and support the capacity building of capital markets of BRI countries. Relying on the China Europe International Exchange (CEINEX), the SSE helped Chinese-funded enterprises such as Beijing State-owned Capital Operation and Management Company Limited and BOC Frankfurt Branch to list senior unsecured Eurobonds and green bonds in Europe. It assisted overseas financial institutions in listing dozens of exchange-traded products (ETPs) on the Frankfurt Stock Exchange and CEINEX. It also supported Astana International Exchange (AIX) in its efforts to launch the first RMB denominated ETNs, and held a virtual roadshow "SSE International Cooperation Forum—New Opportunities in



Kazakhstan” and the Belt and Road Initiative Session of the Astana Finance Days 2022. The SZSE provided one-stop services, including roadshow promotion, information display, and training, for domestic and foreign sci-tech innovation enterprises and promoted cross-border investment and financing matchmaking among BRI countries via the V-Next platform. Throughout the year, the SZSE held 17 matchmaking roadshows for BRI countries, serving a total of 544 BRI projects. It supported the capacity building of capital markets of BRI countries through cross-border equity cooperation. In addition, it leveraged its advantages in technology, experience and network to implement the cooperative planning projects of exchanges in which the SZSE has a strategic stake such as the Dhaka Stock Exchange (DSE) in Bangladesh and Pakistan Stock Exchange (PSX), provided multiple rounds of online training and consultation for them on market development and relevant technical issues and businesses, and supported the upgrading of technology systems and the building of characteristic market segments in these exchanges.

### **5.5.2.3 Efforts were made to actively participate in the affairs of international organizations**

In 2022, the SSE once again served as a member of the World Federation of Exchanges (WFE), earnestly performed its duties and held activities such as “Ring the Bell for Gender Equality” and “Ring the Bell for Financial Literacy”. It joined the Steering

Committee of the UK-China Green Finance Taskforce, which enhanced its international influence in the field of green finance. It also participated in the 2022 Global Sovereign Wealth Fund Forum during the China International Fair for Trade in Services (CIFTIS), the BOC asset management salon and other activities to actively publicize its green finance policies and practices. The SZSE introduced its experience and practices in promoting sustainable development and interconnectivity between domestic and foreign markets, serving sci-tech innovation and enhancing investor protection through seminars, publications, videos and standards based on the platforms of multilateral organizations, including the WFE, the Asian and Oceanian Stock Exchanges Federation (AOSEF) and the United Nations Sustainable Stock Exchanges (UN SSE) initiative, to supplement for institutional building of global capital market governance.

### **5.5.2.4 New models of international cooperation were explored**

On December 22, 2022, China-South Korea Semiconductor ETF, the first China-South Korea co-compiled index product in China, was listed on the SSE. The product, based on the index jointly compiled by the SSE and Korea Exchange (KRX) in 2021, represented a useful attempt at cross-border product cooperation between the SSE and overseas exchanges through joint development of indices.



## 5.6 Outlook of the stock market

In 2023, reform and opening-up of the capital market will be further deepened in a comprehensive way, economic vitality will be released at an accelerated pace, the sound momentum of economic recovery will be maintained, and the stock market as a whole is expected to continue with the trend of stable growth. First, the registration-based IPO system will be fully implemented across the board. With the smooth implementation of supporting systems, the capital market will be better capable of serving high-quality economic development. Second, the capability of the capital market to serve sci-tech self-reliance and self-strengthening at higher levels will

be enhanced. As the rules and mechanisms continue to be improved, the high-quality development of key and core technology enterprises will be further promoted. Third, the quality of listed companies will be improved. With optimized institutional guarantee, market ecosystem as well as regulatory quality and efficiency, the governance level and standardized development capability of listed companies will be further enhanced. Fourth, the high-level institutional opening-up of the capital market will be pushed forward. The existing interconnection mechanisms will be optimized, international exchanges and cooperation will be expanded and deepened, and services for international investors will be improved.

### BOX 5 Market-making trading of stocks was launched on the STAR Market and the offering and underwriting of new shares on the ChiNext Board were smooth and orderly

#### 1. Market-making trading of stocks was launched on the STAR Market

##### 1.1 Background and significance

The market-making mechanism introduces market makers to the STAR Market to provide continuous buy and sell quotes, which, coupled with the existing auction trading, creates a hybrid trading model. The mechanism is an important part of the top-level design of the STAR Market. *The*

*Implementation Opinions on Establishing the Science and Technology Innovation Board and Piloting the Registration-based IPO System on the Shanghai Stock Exchange (CSRC Announcement No.2 [2019])* proposes to introduce the market-making mechanism when conditions permit on the basis of auction trading. *The Opinions on Supporting High-level Reform and Opening-up of Pudong New Area and Building Pudong into a Pioneer Area for Socialist Modernization* issued by

the CPC Central Committee and the State Council in 2021 calls for the introduction of the market-making mechanism on the STAR Market. The launch of the mechanism on the STAR Market is of great significance to the high-quality development of the STAR Market and serves as an important measure to give full play to the role of the STAR Market as a “test field” for reform and to further deepen the reform of the basic system of the capital market.

### 1.2 Overall situation

On October 31, 2022, following the arrangements of the CSRC, the market-making business was officially launched on the STAR Market. As of end-2022, 14 market makers completed the registration of 116 market-making stocks, among which 92 were stocks listed on the STAR Market, covering six major industries and accounting for 18 percent of all the stocks listed on the STAR Market. Market-making trading ran smoothly, with no risk events and positive market response. Market-making quotations were actively made, the technical system functioned stably, and market-making obligations were adequately fulfilled.

### 1.3 Role and achievements

By comparing the performance of market-making stocks in the month before the business was launched (September 26 to

October 28, 2022) and the first two months after the launch (October 31 to December 30, 2022), it was found that market makers played an active role in improving the liquidity of stocks, unleashing market vitality and enhancing market resilience, and effectively improved the market quality of market-making stocks.

First, the bid-ask spread of market-making stocks was reduced, which helped lower the transaction costs of investors. The average bid-ask spread rate of market-making stocks at level 1 was 0.14 percent, 12.1 percent lower than it was before the business was launched. The bid-ask spread rate of non-market-making stocks decreased by 4.5 percent in the same period.

Second, the depth of the order book increased and the market resilience improved. The quoted prices for market-making stocks across the 10 price levels averaged RMB 151,000, an average increase of RMB 20,000 or 15.3 percent. In comparison, the quoted prices for non-market-making stocks averaged RMB 93,000 in the same period, an average increase of RMB 4,000, or 4.5 percent. As the depth of the order book of market-making stocks increased, the market-making stocks would have more orders, and their impact cost dropped significantly. The average impact



cost for transactions of market-making stocks worth RMB 100,000, RMB 300,000 and RMB 500,000 decreased by 26.8 percent while that for transactions of non-market-making stocks decreased by 18.2 percent over the same period.

Third, the volatility of market-making stocks was reduced and the efficiency of market pricing was improved. In terms of the intraday amplitude, the average daily amplitude of market-making stocks was 4.33 percent, a decrease of 1.31 percentage points, or 23.2 percent, while the decrease for non-market-making stocks over the same period was 16.4 percent. In terms of 5-minute intraday volatility, the average intraday volatility of market-making stocks was 0.51 percent, a decrease of 0.15 percentage points, or 22.7 percent, from the previous period, outperforming the 13.1 percent decrease for non-market-making stocks over the same period.

Fourth, trading volume and turnover rate increased and market activities became brisker. In terms of trading volume, the volume of market-making stocks rose to 210 million shares after the business was launched, an increase of 20 million shares, or 6.82 percent, compared with the period prior to the launch, while the volume of non-market-making stocks decreased by 0.13

percent over the same period. In terms of turnover rate, the figure for market-making stocks was 0.53 percent, an increase of 0.03 percentage points, or 6.37 percent, compared with the period prior to the launch.

## **2. The offering and underwriting of new shares on the ChiNext Board were smooth and orderly**

In 2022, a total of 141 IPO registrations on the ChiNext Board became effective and 148 companies made IPOs, of which 122 adopted the price inquiry method and 26 set prices directly. Since the launch of the registration-based IPO system on the ChiNext Board, as of December 31, a total of 420 IPO registrations became effective and 410 companies completed their IPOs, of which 317 adopted the price inquiry method.

### **2.1 IPO**

#### **2.1.1 IPO P/E ratio**

The average IPO P/E ratio of the 148 companies was 43.78 (excluding the extremes, and the median was 39.78), significantly higher than that in 2021 (the average P/E ratio excluding the extremes was 29.21 and the median P/E was 26.19). The IPO P/E ratio ranged from 18.93 (Union Chemical) to 333.39 (Empyrean Technology), with a ratio of 1.49 over



industry P/E and 1.05 over the P/E of comparable companies.

### 2.1.2 Fund raised

The 148 companies raised a total of RMB 179.636 billion, up 22 percent over the same period in 2021. The amount of fund raised ranged from RMB 299 million to RMB 5.828 billion, with a median of RMB 948 million and an average of RMB 1.214 billion. The ratio of the actual fund raised to the fund-raising target ranged from 0.47 to 8.62, with a median of 1.65 and an average of 1.83. 137 companies, or 93 percent, raised no less than the amount required for their investment projects.

In terms of trend movements, the offering prices and fund-raising metrics fluctuated downwards from January to April before reaching a yearly low in May and then fluctuated upwards.

## 2.2 Post-listing performance

### 2.2.1 Price change and turnover rate

The median first-day change in the share price of the 148 companies listed throughout 2022 was 29.73 percent and the average was 44.47 percent. The average first-day turnover rate was 61.70 percent. Both the first-day change in share price and the turnover rate dropped in 2022 from the previous year, when the average

first-day change in the share price of listed companies was 218.7 percent and the average first-day turnover rate was 65.94 percent. As of December 31, 2022, the median change in the stock closing price of the 148 companies over the IPO price was -5.92 percent and the average was 6.51 percent.

### 2.2.2 Broken IPOs

Of the 148 companies listed in 2022, 30, or 20.27 percent, fell on their first day of trading (excluding intraday drop), and their closing price on the first day was 10.58 percent lower than the IPO price. As of December 31, the shares of 81 companies fell below the IPO price, accounting for 54.73 percent.

In terms of trend movements, the first-day change in share price declined steadily since December 2021, with a slight increase in May 2022, a significant decline in September and another slight increase in October, followed by a month-on-month decline. The first-day turnover rate remained relatively stable between 50 and 70 percent. In 2022, the first-day IPO flop was characterized by an M-shaped pattern, with broken IPOs concentrated in April and September and picking up month on month in December.

## 2.3 Price inquiry

### 2.3.1 Concentration of bids

Among the 122 companies that used the price inquiry method to issue their shares in 2022, allottees corresponding to the three prices where bids were most concentrated (before excluding the highest bids) accounted for 12.88 percent of all the allottees that participated in the price inquiry process. Since the implementation of the new rules on issuance and underwriting in September 2021, the overall concentration of bids was maintained at a low level of 10 to 15 percent, indicating that the investors “collusion” to submit low bids was effectively mitigated.

### 2.3.2 Ratios of IPO price to the upper and lower limits of the valuation range

In 2022, the average ratios of IPO price to the lower and upper limits of the valuation range in the investment value research report for the 122 companies that adopted price inquiry were 108.90 percent and 92.58

percent respectively, significantly higher than the ratio of 30 to 40 percent prior to the implementation of the new rules on issuance and underwriting.

In terms of trend movements, with many broken IPOs in March and April 2022, the ratios of IPO price to the lower and upper limits of the valuation range dropped to their lows (65 percent and 52 percent, respectively) in May after the implementation of the new rules, and then rebounded rapidly, reaching the yearly highs of 125 percent and 105 percent.

### 2.3.3 Ratio of IPO price to the lowest of the “four values”<sup>①</sup>

Among the 122 companies that adopted price inquiry for IPO pricing, 4 companies priced their shares above the lowest of the “four values” and 15 priced their shares at more than 5 percent lower than the lowest of the “four values”.

<sup>①</sup> The lowest of the “four values” means whichever is the lowest of the median and the weighted average price of the remaining bids from investors under the placing tranche after excluding the highest bids, and the median and the weighted average price of the remaining bids from public funds, social security funds, pension funds, annuity funds, insurance funds, and qualified overseas investors after excluding the highest bids.



## Chapter 6 Foreign Exchange Market

In 2022, the RMB exchange rate moved in both directions with enhanced flexibility. Despite its slide against the USD, the RMB remained relatively stable against a basket of currencies. The trading volume of the inter-bank foreign exchange market declined overall, with the trading and investment activity in the foreign currency money market dropping noticeably. Overseas institutional market members continued to grow in number and remained active in transactions, exerting a greater impact on the market.

### 6.1 Performance of the foreign exchange market

#### 6.1.1 RMB depreciated against the USD but remained stable against a basket of currencies

In 2022, due to factors such as divergent monetary policies between China and the US, global geopolitical risk events and changes in the COVID-19 situation, the RMB experienced several rounds of rapid appreciation and depreciation against the USD. From August to November, in particular, the rising expectations for USD interest rate hikes brought the RMB/USD exchange rate under pressure and the RMB exchange rate against the USD "topped seven", reaching the lowest since December

2007. In this context, PBOC and SAFE launched multiple measures to effectively manage market expectations. These measures, coupled with the cooling of expectations for USD interest rate hikes and improved COVID-19 policies in China after November, led to the strengthening of the RMB to 6.9514 against the USD at end-2022, a depreciation of 8.32 percent from end-2021. At end-2022, the CFETS RMB Index, the RMB indices based on the BIS and SDR currency baskets were 98.67, 103.67 and 96.08 respectively, representing a slight decline of 3.71 percent, 2.80 percent, and 4.25 percent from end-2021. Overall, the RMB exchange rate remained basically stable at an adaptive and equilibrium level and its resilience stood the test.

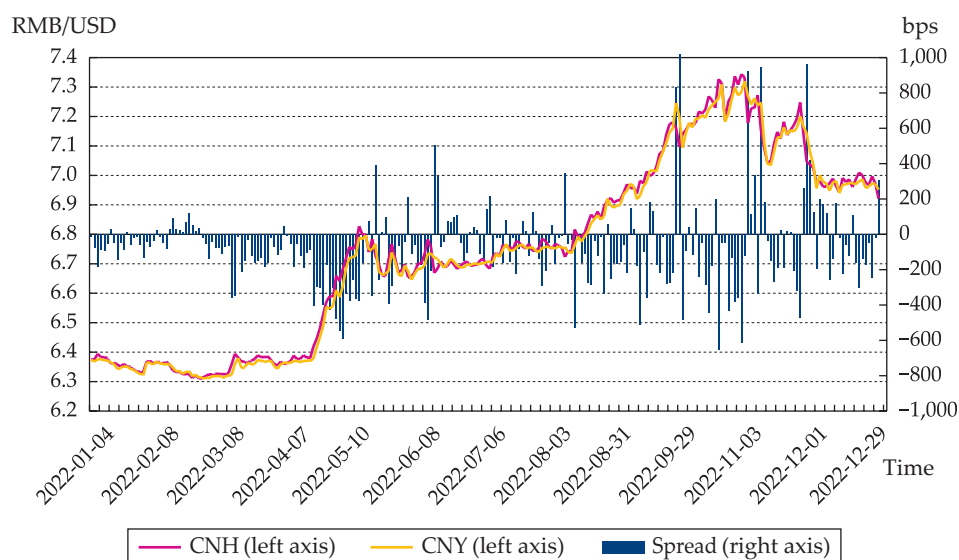


Figure 6.1 Onshore and offshore RMB exchange rate against the USD in 2022

(Source: CFETS, Bloomberg)

### 6.1.2 The trading volume of the inter-bank foreign exchange market declined

In 2022, the turnover of the inter-bank foreign exchange market (including the foreign currency money market) totaled USD 40.6 trillion, down 11.1 percent from 2021. Specifically, the turnover of the RMB foreign exchange market throughout the year registered USD 28.7 trillion, down 8.3 percent from 2021; the foreign currency money market witnessed much fewer trading and investment activities, with a trading volume of USD 10.3 trillion, down 18.7 percent year on year; and the domestic interbank G10 currency pairs market saw a relatively stable liquidity, with a trading volume of USD 1.5 trillion, a slight decrease of

3.3 percent year on year.

## 6.2 Main features of the foreign exchange market

### 6.2.1 Market liquidity declined due to the COVID-19 pandemic and market makers actively made markets to ensure smooth operation

In 2022, due to COVID-19 outbreaks in Shanghai and Beijing, the trading efficiency of many market members declined, liquidity tightened, and trading and investment were inactive, resulting in a decline in trading volume. In April and May, when Shanghai was under COVID-19 lockdown, important institutions<sup>①</sup> in the city saw a decline of 25.01

① According to the CFETS data, there were 69 important institutions in Shanghai and 12 important institutions in Beijing, whose trading volumes accounted for 26 percent and 45 percent of the total in 2021 respectively.



percent in the average daily turnover of spot RMB/foreign exchange transactions and a decline of 8.09 percent in the average daily turnover of derivatives compared with those of the same period in 2021. From mid-November to end-December, as important institutions in Beijing had fewer traders due to the COVID-19 pandemic, they saw a decline of 40.16 percent in the average daily turnover of spot RMB/foreign exchange transactions and a decline of 37.36 percent in the average daily turnover of derivatives compared with those of the same period in the previous year. However, in the market environment with significant exchange rate fluctuations and tight liquidity, market makers earnestly fulfilled their obligations and prioritized market-making for ordinary members throughout the year. Their market-making volume to ordinary members accounted for 38.64 percent and 22.83 percent of total spot trading volume and total swap trading volume respectively, up 2.91 percentage points and 2.67 percentage points year on year. In terms of swap trading, the market-making volume to ordinary members stood at USD 18.2 billion, up 8.12 percent year on year against the trend.

### 6.2.2 RMB exchange rate moved in both directions with enhanced flexibility

In 2022, the RMB exchange rate was more flexible and its two-way fluctuation became the norm. It managed to restore equilibrium quickly after external shocks, effectively playing its role in macroeconomic management and as an

auto stabilizer for the balance of payments. In 2022, the annualized volatility rate of the RMB against the USD closed at 6.40 percent, up 3.4 percentage points from 2021 and 1.9 percentage points from 2020, the highest since the RMB exchange rate reform in 2015. The fluctuation range between the highest and lowest exchange rates of RMB against the USD was 10,232 bps, up 7,833 bps from 2021.

### 6.2.3 The liquidity of the domestic foreign currency interest rate market was tightened

In 2022, the spread between USD inter-bank lending rates in the Chinese mainland and international market turned from negative to positive and domestic USD liquidity was tightened in H2. Due to continuous interest rate hikes by the Fed, the Secured Overnight Financing Rate (SOFR) rose throughout the year, from 0.05 percent at the beginning of the year to 4.30 percent at the year-end, and the trajectory of the domestic overnight USD lending rate was basically consistent with the SOFR. In terms of the interest rate spread between China and the US, in H1 2022, the overnight USD interest rate spread between the onshore and offshore markets (onshore-offshore) basically remained in the negative territory, and the overall market liquidity was adequate. In H2, with the Fed raising interest rates several times, the interest rate spread between China and the US changed from negative to positive, and the highest stood at 10 bps. The domestic USD liquidity was tightened.

At end-2022, as the Fed slowed down its pace of rate hikes, the interest rate spread gradually narrowed again and fluctuated between -2 bps and 1 bp.

#### 6.2.4 Overseas institutions exerted a greater impact on the market

Overseas institutional market members continued to grow in number and remained active in transactions. As of end-2022, there were 197 overseas institutions participating in the inter-bank foreign exchange market, up 21 from end-2021. Specifically, the RMB foreign exchange market had 143 overseas member institutions, up 13 from the end of the previous year. Over the year, trading by overseas institutions in the inter-bank RMB foreign exchange market amounted to RMB 1,127.098 billion, with the daily average standing at RMB 4.657 billion (up 22.6 percent year on year). The trading volume of overseas institutions accounted for 2 percent of the total, up 0.49 percentage points from the previous year. By institution types, RMB clearing banks saw their average daily trading volume growing significantly by 92 percent year on year, accounting for 16 percent of the total (up 6 percentage points), taking the lead in trading volume growth and market share growth. Overseas participating banks maintained the first place in trading volume, and their

average daily trading volume maintained a sound growth momentum as it increased by 18 percent year on year. The average daily trading volume of overseas central banks edged up 9 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 16.88 percent year on year and accounting for 82.30 percent of the total turnover of overseas institutions, down 4 percentage points year on year.

#### 6.2.5 The scale of central clearing business steadily increased and the coverage of clearing business was expanded

In 2022, the foreign exchange clearing business in the inter-bank foreign exchange market operated smoothly overall and the scale of the clearing business increased steadily. The volume of CCP clearing of foreign exchange transactions amounted to RMB 126.06 trillion, up 0.9 percent year on year, and continued to maintain high-quality development. The netting rate remained above 90 percent and the share of cleared transactions exceeded 65 percent<sup>①</sup>, up about 4 percentage points year on year. In addition, the clearing volume of foreign currency repos reached RMB 1.43 trillion, and the centralized bilateral clearing volume of foreign exchange transactions reached RMB

<sup>①</sup> The share of cleared transactions refers to the ratio of the volume of CCP clearing of foreign exchange transactions to the trading volume of the inter-bank foreign exchange market.



709.279 billion<sup>①</sup>.

In 2022, participants in the foreign exchange clearing business continued to grow in number. The CCP clearing business of foreign exchange transactions saw 1 new member and 2 new clients, making the total number of participants 76 at the year-end. The foreign currency repo clearing business saw 10 new participants, making the total number of participants 58 at end-2022. The centralized bilateral clearing business of foreign exchange transactions saw 3 new participants, making the total number of participants 8 at end-2022.

### 6.3 Innovation and institutional construction

#### 6.3.1 The scope of collateral for foreign currency repos was expanded

In 2022, the CFETS launched bilateral repo trading with bonds under the CCDC's custody as collateral, foreign currency repo trading with domestic USD bonds as collateral, and triparty repo trading with a basket of ESG bonds under Clearstream's custody as collateral. It matters to mention that, the launch of triparty repo collateralized by ESG bonds, or green bonds that raise funds for green projects in line with international standards, was a useful attempt to practice the development philosophy of

green finance and promote product innovation in the foreign currency money market. The expansion of the scope of collateral in foreign currency repos brought the foreign currency repo business further in line with international market transaction standards, enhanced the efficiency of the foreign currency repo business and promoted the development of the foreign currency money market.

#### 6.3.2 The Transaction Performance Analysis (TPA) function went live

The Transaction Performance Analysis (TPA) business officially went live, incorporating the TPA concept into the foreign exchange market monitoring system. It supports multi-dimensional analysis of market institutions' transactions one by one, provides multi-perspective and fine-grained analysis tools for studying and monitoring market transactions, and provides support for serving regulation and preventing market risks. The TPA function was launched simultaneously in the foreign exchange trading system, allowing participating institutions to view the results of metrics evaluating their performance, which is conducive to fostering the concept of market transaction analysis and promoting market institutions in improving the efficiency of market making and trading.

<sup>①</sup> The centralized bilateral clearing business of foreign exchange transactions was launched in August 2021, and the annual business volume in 2021 was RMB 184.181 billion.

### 6.3.3 A number of measures were introduced to promote opening-up

First, the function of negotiated transaction for market members of the same institution was launched. To further facilitate the transactions of overseas institutions in the inter-bank foreign exchange market, the CFETS launched the negotiated transaction function for inter-bank foreign exchange market members of the same institution on March 28, 2022. The function enables market members belonging to the same financial institution to enter into RMB foreign exchange transactions through negotiation on a transaction-by-transaction basis, batch uploading and negotiated interface. The launch of the function helped optimize the transaction process and enhance the transaction efficiency of overseas institutions.

Second, agency trading services were launched for overseas institutions. On July 25, 2022, the CFETS officially launched the RMB foreign exchange market agency trading services for overseas institutions in the foreign exchange trading system, allowing members of the inter-bank foreign exchange market to conduct spot, forward and swap RMB/foreign exchange transactions on behalf of overseas central banks. This further facilitated overseas institutions in investing in China's foreign exchange market.

Third, the trading band of the RMB against the RUB was widened. From March 11, 2022, the

floating band of the RMB's daily spot trading price against the RUB in the inter-bank foreign exchange market was expanded from 5 percent to 10 percent (the spot trading price could float within 10 percent of the central parity of the RMB against the RUB on that day). The expansion helped meet the trading needs of market members and enhance the resilience of the foreign exchange market in the face of unexpected geopolitical events.

### 6.3.4 The settlement function of centralized bilateral clearing services for foreign exchange transactions was expanded

To better meet the clearing needs of market institutions, the SHCH expanded the settlement function of centralized bilateral clearing services for foreign exchange transactions in July 2022. The participating institutions could select relevant settlement instructions and apply for adjustments to the corresponding settlement method during a specific period each day according to the actual operational situation. The expansion optimized and upgraded the centralized bilateral clearing services for foreign exchange transactions and promoted the healthy development of the foreign exchange market.

### 6.3.5 Delivery-versus-payment (DVP) settlement for foreign currency cash bond transactions was launched

To better coordinate businesses across products, the SHCH launched the DVP settlement service

for foreign currency cash bond transactions in June 2022, and optimized the fund management on DVP accounts for foreign currency repo transactions to facilitate market institutions in allocating liquidity for funds in foreign currencies and managing foreign currency fund accounts in a unified way, and to improve China's foreign currency money market system.

### 6.3.6 Trading hours of the inter-bank foreign exchange market were extended

To promote the development of China's foreign exchange market, on December 30, 2022, PBOC and SAFE issued Announcement No.17 [2022] concerning the extension of trading hours of the inter-bank foreign exchange market, which specified that as of January 3, 2023, the trading hours of the inter-bank RMB foreign exchange market would be changed from 9:30–23:30 to the period of 9:30 a.m. until 3:00 a.m. the next day. The extension would apply to all products of trading including RMB/foreign exchange spot, forward, swap, currency swap and option. The applicable period for market management schemes, such as RMB central parity rate and trading band as well as market maker quotations, would be extended accordingly. The operating hours of the Post-Trade Processing Platform (PTPP) would be changed from 8:30–24:00 to the period of 8:30 a.m. until 3:00 a.m. the next day. The transaction confirmation deadline, clearing method and clearing path would remain unchanged.

## 6.4 Outlook of the foreign exchange market

### 6.4.1 Continued efforts will be made to serve the real economy

First, functions of the bank-enterprise foreign exchange trading platform will be expanded to improve the security and convenience of the platform. Second, exchange rate hedging tools in the domestic market will be enriched, and preparations for the pilot trading of RMB foreign exchange futures will be advanced. Third, more minor currencies will be listed for trading to meet the diverse trading needs of market members. Fourth, the market-making services and motivation of market makers will be strengthened, the market liquidity will be enhanced, and the exchange risk management costs in the market will be lowered.

### 6.4.2 Business innovation in the foreign currency market will be accelerated

With respect to the interbank G10 currency pairs market, first, the introduction of liquidity solutions to the international foreign exchange trading platform will be studied and promoted so as to increase the trading share of the G10 currency pairs market and help build a new development paradigm featuring “dual circulation”. Second, efforts will be stepped up to launch net settlement for G10 currency pairs forward trading, so as to improve trading and clearing mechanisms and promote continued market development. Third, CCP clearing for

G10 currency pair transactions will be launched to lower clearing and settlement costs, reduce operational risks, enhance settlement efficiency and resolve credit constraints and clearing problems facing small institutions and non-bank financial institutions.

With respect to the foreign currency money market, first, business scenarios of foreign currency repos will be further expanded and the market trading mechanism will be optimized. Second, collateral for foreign currency repos will be enriched to meet the trading needs of various participating institutions, and the efficiency of foreign currency asset and liability management of market institutions will be enhanced.

#### 6.4.3 FinTech empowerment will be strengthened

In terms of market products, first, the launch

of the “One-Click-Order” function for foreign exchange options will be promoted to enrich trading models and enhance trading efficiency. Second, functions such as transaction assistance and quota management will be further optimized. Third, accelerated efforts will be made to build an inter-bank foreign exchange market ecosystem based on iDeal, an instant messaging platform launched by the CFETS for the inter-bank RMB and foreign exchange markets to boost collaboration. In terms of market monitoring, multi-dimensional risk analysis and early warning mechanisms of the foreign exchange market will be explored, and the launch of functions such as exchange rate risk event and public opinion monitoring, monitoring of transactions between banks and enterprises, and monitoring of transactions of overseas institutions will be promoted.

#### COLUMN 4 Transaction Performance Analysis (TPA) service

To improve the monitoring and service quality of the inter-bank foreign exchange market and meet the market demand for transaction cost analysis, the CFETS launched the TPA service in November 2022. Empowered by technology, the service boasts enhanced data mining capability and is capable of efficiently integrating and processing massive data in the foreign

exchange market as well as providing the calculation results of a dozen data analysis metrics of different dimensions and various segments.

The TPA service supports three main functions: trade execution quality evaluation, trade execution assistance and market benchmark analysis. As for trade execution quality evaluation, the metrics include



the institution's trading capacity, market-making capacity, comprehensive analysis of the institution's liquidity provision capacity, etc. The slippage analysis metric for trade execution quality evaluation, for example, allows institutions to view the slippage of each order executed against the benchmark [ the best market price, volume-weighted average price (VWAP) or time-weighted average price (TWAP) ] and the changes. The transaction cost analysis metric for trade execution assistance uses the I-Star market impact model for parameter fitting to project potential market impact and timing risk based on market conditions as well as user-specified variables such as trading volume, order rate and risk appetite to assist users in evaluating the sensitivity of transactions costs to different trading elements.

The TPA service helps market institutions expand transaction management tools, improve their trading capacity and promote the establishment of a comprehensive

transaction analysis knowledge system in the market. For instance, multiple quantitative metrics help institutions save resources and time in building their own transaction analysis tools, improve their market-making efficiency and lower transaction costs, playing a positive role in providing better liquidity in the market and boosting the high-quality development of the inter-bank foreign exchange market. Meanwhile, the reduced transaction costs of market-making institutions in the inter-bank market will in turn benefit transactions with clients, reducing the cost of foreign exchange transactions for the real economy and effectively improving the ability of the market to serve the real economy. The service also extends the dimension and depth of market monitoring, presents the trading behavior of institutions in an all-round manner, and provides multi-perspective, fine-grained and highly visualized analysis tools for market monitoring, supporting timely prevention of potential market risks.



## Chapter 7 Gold Market

In 2022, the domestic gold price rose amid fluctuations, and the spread between domestic and overseas gold prices remained generally stable. The gold market, including the SGE, the Shanghai Futures Exchange (SHFE), and the OTC market, saw a slight decline in trading volume, continuous improvement in participant structure, and an increasing number of innovative products launched. The *Interim Measures for the Administration of Gold Leasing Business* was officially introduced. The institutional construction of the market was further improved, and the market operation and business development became more standardized.

### 7.1 Performance of the gold market

#### 7.1.1 Gold trading on the SGE<sup>①</sup>

##### 7.1.1.1 Spot gold price rose amid fluctuations, up 9.8 percent from end-2021

In 2022, gold price at the SGE showed an

N-shaped fluctuation trend. The most traded spot Au99.99 contract opened at RMB 373.00 per gram at the beginning of 2022, registering a yearly high of RMB 418.00 per gram and a yearly low of RMB 275.05 per gram, and closed at RMB 410.49 per gram at the year-end, representing an increase of 9.80 percent year on year.

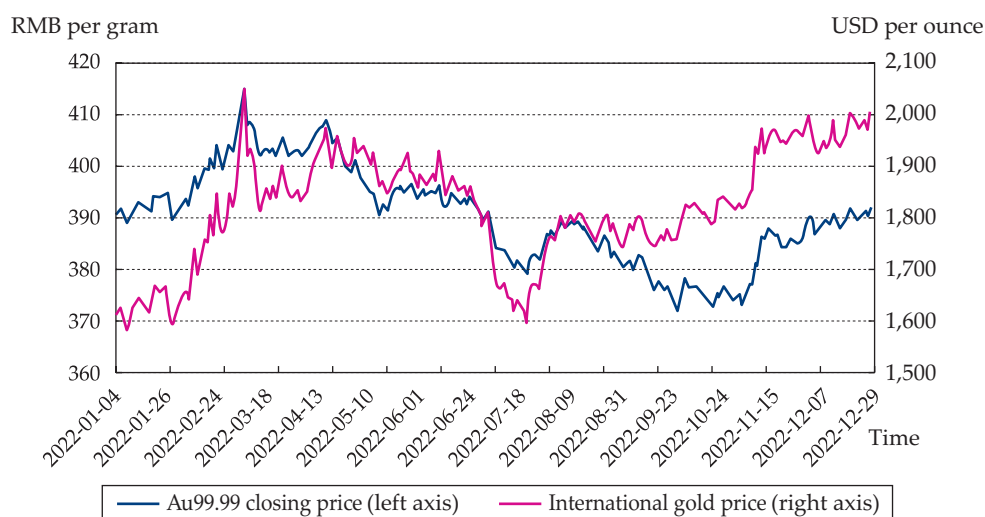


Figure 7.1 Gold price movements in domestic and overseas markets in 2022

(Source: SGE)

<sup>①</sup> The data of the SGE used in this Chapter are calculated bilaterally.



### 7.1.1.2 The volume of gold trading rose, and the proportion increased from 2021

In 2022, the turnover of gold trading on the SGE totaled RMB 17.04 trillion. The volume of gold trading witnessed an increase. Specifically, a total of 38,800 tons of gold was traded in 2022, a year-on-year increase of 11.31 percent. The turnover of gold trading totaled RMB 15.18 trillion, a year-on-year increase of 16.04 percent. The proportion of gold trading was 89.11 percent, up 25.38 percentage points from 2021. On the whole, gold inquiry and pricing transactions showed recovery growth. The trading volume of the gold inquiry business was 28,300 tons, a year-on-year increase of 33.42 percent, while the figure for the gold pricing business was 1,453.63 tons, up 22.74 percent year on year.

### 7.1.1.3 Funds clearing and settlement were safe and sound, and delivery, storage and transportation remained stable and orderly

In 2022, the SGE cleared RMB 27.83 trillion of funds on a gross basis, representing a daily average of RMB 115.015 billion. The SGE cleared RMB 4.54 trillion of funds on a net basis, reporting a daily average of RMB 18.777 billion. Physical gold withdrawal and deposit amounted to 1,571.60 tons and 1,513.61 tons respectively.

### 7.1.2 Gold futures and options trading on the SHFE<sup>①</sup>

#### 7.1.2.1 Gold futures prices experienced ups and downs overall

In 2022, the dominant contract for gold futures on the SHFE opened at RMB 374.02 per gram at early this year, reaching RMB 420.74 per gram at its highest and RMB 368.48 per gram at its lowest, with the largest spread registering RMB 52.26 per gram. The contract closed at RMB 411.46 per gram at end-2022, an increase of RMB 35.04 per gram (9.31 percent) from RMB 376.42 per gram at end-2021.

#### 7.1.2.2 Gold futures turnover and deliveries shrank slightly, with positions rising slightly

In 2022, the trading volume of gold futures on the SHFE totaled 39.0168 million lots (39,000 tons), reporting a year-on-year decrease of 14.08 percent and a daily average of 161,200 lots, and their turnover registered RMB 15.35 trillion, representing a year-on-year decrease of 10.16 percent and a daily average of RMB 63.422 billion. Daily average position and delivery stood at 252,400 lots and 5,133 lots (5.13 tons) respectively, up 20.77 percent and -0.70 percent year on year. At end-2022, there were seven designated gold delivery warehouses, including the ICBC, the ABC, the BOC, the CCB, the Bank

<sup>①</sup> The data of the SHFE used in this Chapter are calculated unilaterally.



of Communications (BOCOM), the SPDB, and the Shenzhen Vpower Finance Security Co.,

Ltd., with 40 depository locations in total.

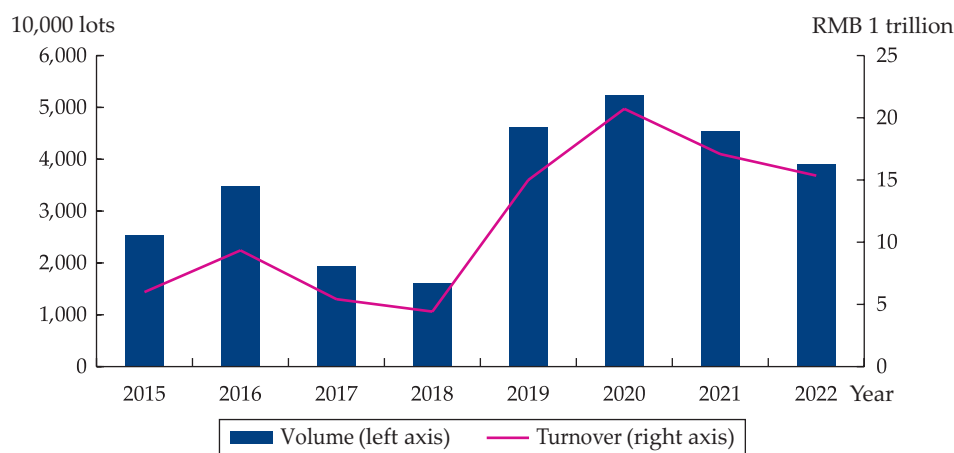


Figure 7.2 Gold futures trading on the SHFE from 2015 to 2022

(Source: SHFE)

### 7.1.2.3 The trading of gold futures and options was smooth

In 2022, a total 4.1471 million lots (4,100 tons) of gold futures and options were traded on the SHFE, with a turnover of RMB 14.286 billion. The daily average trading volume, turnover and position of gold options registered 17,100 lots, RMB 59.0312 million, and 36,900 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 10.61 percent, and the ratio of the daily position of gold options to that of underlying gold futures reached 14.62 percent. With regard to option exercise, gold options experienced 12 maturity dates, during which period 622 contracts exercised the option and were delisted successfully, totaling 15,260

lots, basically in the money.

### 7.1.3 OTC gold business of commercial banks

In 2022, commercial banks traded 4,965.23 tons of gold in the domestic OTC market, down 9.5 percent year on year. Specifically, an increase was seen in gold leasing, physical gold, and gold-based wealth management product sales, and a decline was posted in account gold and gold derivatives trading.

#### 7.1.3.1 Account gold trading volume declined

In 2022, the bilateral trading volume of account gold by commercial banks was 528.28 tons, and the turnover was RMB 207.624 billion, down 58.4 percent and 56.2 percent year on year respectively. In particular, the trading volume



and turnover of USD-denominated account gold added up to 35.35 tons and RMB 15.21 billion respectively, down 63.5 percent and 58.1 percent year on year respectively, while those of RMB-denominated account gold were 492.93

tons and RMB 192.414 billion respectively, down 57.9 percent and 56.0 percent year on year. As of end-2022, clients of account gold businesses held a net long position of 39.61 tons, down 34.9 percent year on year.

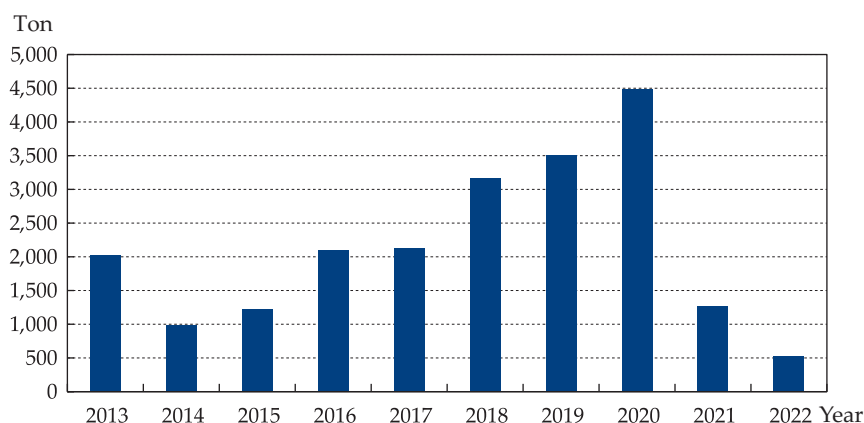


Figure 7.3 Account gold trading volume of commercial banks from 2013 to 2022

### 7.1.3.2 Physical gold sales of commercial banks saw significant growth

Physical gold businesses of commercial banks include sales and repos of proprietary physical gold, agent physical gold, and gold accumulation (including regular investment). In 2022, the sales and repos of physical gold by commercial banks totaled 567.91 tons. The total annual sales volume of physical gold was 336.93 tons, a year-on-year increase of 44.5 percent, with a cumulative turnover of RMB 134.50 billion, up 45.5 percent year on year. Specifically, proprietary trading, agent trading and gold accumulation (including regular investment) trading posted 99.07 tons, 22.57 tons and 215.29 tons respectively, up 1.5 percent, -8.0 percent and 93.7 percent from the

previous year.

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

In 2022, the notional principal amount of gold-based wealth management and asset management products sold by commercial banks totaled RMB 2,983.615 billion, and RMB 3,054.957 billion of such products were redeemed, up 18.9 percent and 17.6 percent year on year respectively. At end-2022, the outstanding balance of gold-based wealth management and asset management products reported RMB 354.383 billion, down 12.5 percent from end-2021.

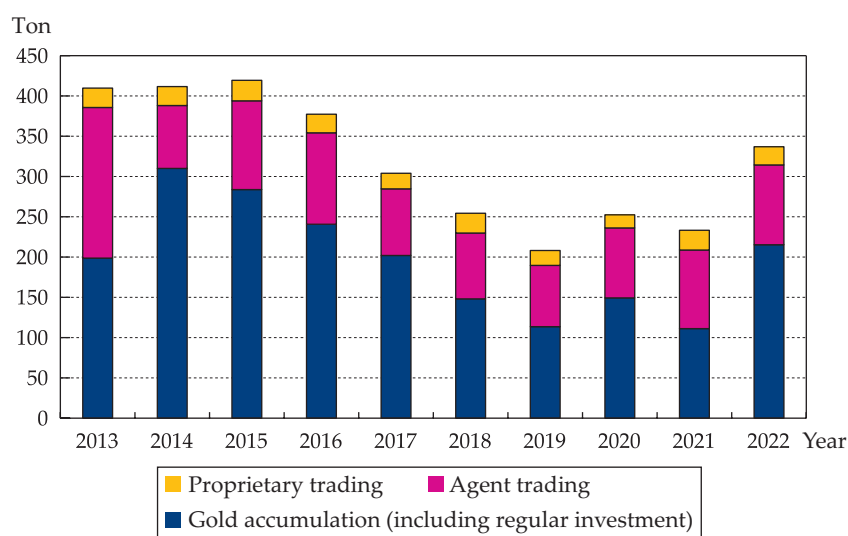


Figure 7.4 Sales of physical gold by commercial banks from 2013 to 2022

#### 7.1.3.4 Gold leasing business experienced ups and downs

Gold leasing business consists of inter-bank gold lending/borrowing, and gold leasing of commercial banks to corporate clients. In 2022, the turnover of the gold leasing business of commercial banks totaled 2,135.63 tons, up 5.2 percent year on year. Specifically, commercial

banks leased 519.83 tons of gold to clients, down 9.2 percent year on year, and leased 1,615.80 tons of gold to inter-bank clients, up 10.8 percent year on year. At end-2022, the outstanding leasing balance of the gold business stood at 1,306.26 tons, a year-on-year decrease of 3.8 percent.

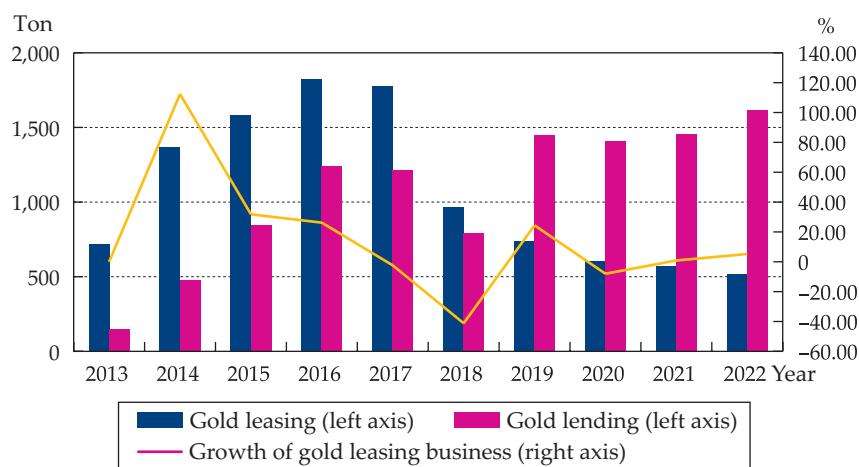


Figure 7.5 Gold leasing business of commercial banks from 2013 to 2022



### 7.1.3.5 Domestic gold derivatives trading generally registered a lower volume

In 2022, the trading volume of domestic OTC gold derivatives by commercial banks was 1,733.41 tons, down 6.8 percent year on year. In terms of product structure, gold forward trading, gold swaps trading and gold options trading reached 444.63 tons, 1,260.71 tons, and 28.07 tons, accounting for 25.7 percent (a year-on-year increase of 21.5 percent), 72.7 percent (a year-on-year decrease of 13.4 percent) and 1.6 percent (a year-on-year decrease of 28.0 percent) respectively. In terms of currencies, the trading volume of RMB-denominated OTC gold derivatives and USD-denominated ones amounted to 325.34 tons and 1,408.07 tons, accounting for 18.8 percent (down 24.5 percent year on year) and 81.2 percent (down 1.5 percent year on year) respectively.

## 7.2 Main features of the gold market

### 7.2.1 The domestic gold market saw a price increase and volume decrease

In 2022, the domestic gold price went up amid fluctuations. The dominant spot contract of Au 99.99 on the SGE increased by 9.8 percent over the year, which generally remained at a price above RMB 380 per gram and reached the highest in early March at RMB 415.11 per gram. In terms of trading volume, the investment

demand of gold was suppressed to some extent, as affected by the COVID-19 pandemic and the high price in the first quarter, and the trading volume declined. The total trading volume of gold on the SGE, the SHFE, and the OTC market was 86,900 tons<sup>①</sup>, down 2.2 percent from 2021.

### 7.2.2 Spread between domestic and overseas gold prices remained generally stable

In 2022, international spot gold prices fell by 0.35 percent, while the spread between domestic and overseas gold prices remained generally stable amid fluctuations. The annual average spread between domestic and overseas gold prices was RMB 2.51 per gram. Specifically, in late August, the gold imports of commercial banks reduced, which caused the price spread to grow, with the highest reaching RMB 10 per gram in September and October. As of end-2022, the spread gradually narrowed to RMB 3-4 per gram.

### 7.2.3 The structure of participants in the gold market was continuously optimized

In 2022, the market participants on the SGE were more diversified, making the market structure more stable. Institutional business experienced continuous growth, accounting for 99.4 percent of the total volume of the

<sup>①</sup> The trading volume of gold futures and options on the SHFE is calculated unilaterally.

SGE, up 2.6 percentage points year on year. Legal person participants of gold futures were more active in the market, holding more than 80 percent of positions. Hedging delivery volume increased, and industrial players and institutional investors actively used the futures market to manage risks. Overall, the participant structure was continuously optimized, and the market operation quality continued to improve.

### 7.3 Product innovation, institutional development and infrastructure construction

#### 7.3.1 Innovative products and services were launched

In September 2022, the performance-guarantee inquiry contract was successfully listed on the SGE, as part of the efforts to expand the application scenarios of Shanghai gold trading in derivatives settlement and pricing and guide offline transactions to move online. The second batch of four Shanghai gold ETFs were successfully launched, further enriching the gold ETF market product portfolio. The emergency memorandum of gold ETFs was revised to improve the emergency response capability.

#### 7.3.2 Gold market institutions were improved and standardized

In July 2022, PBOC officially issued the *Interim Measures for the Administration of Gold Leasing Business* (hereinafter referred to as the

*Measures*), which stipulated the definition, scope and management of gold leasing business. The *Measures* clarifies that financial institutions should include the gold leasing business in the balance sheet management, urges financial institutions to strengthen the whole-process risk management of the gold leasing business, and puts forward regulatory requirements such as filing and data submission procedures for financial institutions carrying out gold leasing business. The *Measures* further strengthened the management of the gold market, and effectively promoted the standardized development of the gold leasing business, thus better serving the real economy. The SGE also formulated the *Detailed Rules for Physical Product Leasing Business and the Internal Operation Process of Leasing Business*, providing safe and efficient registration, custody and transfer services for institutions participating in the leasing business.

#### 7.3.3 Infrastructure development was further strengthened

First, PBOC further advanced the building of the China Gold Market Trade Report Database, upgrading the database system, and exploring and promoting the establishment of the report database system. Second, the SGE strengthened the international board infrastructure construction. Business plans were made to include the non-resident account (NRA), which refers to an account opened by an institution that was legally incorporated and registered



outside the Chinese mainland and can conduct RMB settlement, in the special account system for international board settlement. Third, the SGE increased the frequency of pre-clearing. It issued the *SGE CCP Clearing Business Information Disclosure on the Principles of Financial Market Infrastructure (PFMI)* in both Chinese and English versions.

### 7.4 Opening-up of the gold market

#### 7.4.1 Development of the international business

##### 7.4.1.1 The market structure was further optimized and market participation increased continuously

In 2022, the turnover of the international business of the SGE was RMB 2.09 trillion, of which RMB 0.84 trillion was from price matching and RMB 1.25 trillion was from price inquiry. As of end-2022, the SGE opened 9 FT accounts and 1 special account for overseas settlement in 10 margin custodian banks, and its international members opened 201 FT accounts and 37 special accounts for overseas settlement. Despite the challenges posed by the pandemic, the international business of the SGE recruited 5 new international members over the year. As of end-2022, the SGE had nearly 100 international members and 76 international customers from 16 countries and regions, ranging from commercial banks, refining enterprises, trading companies to securities companies and investment institutions.

##### 7.4.1.2 Market development momentum was further unleashed to improve the quality and efficiency of financial services

A number of fee reduction measures were implemented starting from the idea of “reducing rates and promoting trading”, aiming to realize “stable operation and guaranteed income”. First, preferential measures for price inquiry and swap transaction fees were introduced for international members to build an inter-agency market with adequate liquidity. Second, measures were taken to help enterprises out of difficulties and support them in recovering from the pandemic and resuming normal operations. Third, in response to the requirements of the BRI, more explorations related to the “Gold Road” project were made to promote the sharing of gold resources, capital and technology in the BRI market. Market players successfully carried out businesses under the “Gold Road” project for the first time relying on the international board warehouse in Shanghai, which enriched the application scenarios and provided an exemplary case for innovative business exploration under the “Gold Road” project.

#### 7.4.2 Interaction with overseas players

The promotion of new business models of the international board was advanced. Online training meetings were held for international members from 80 different countries and regions to introduce businesses of the SGE and improve their understanding of China’s

gold market, thus attracting more overseas investment in the international board businesses.

## 7.5 Outlook of the gold market

In 2023, the gold market will continue to usher in its high-quality development and effectively play its role in serving the real economy. The

construction of the gold market system will be strengthened to promote the development of the market in a coordinated manner. The breadth and depth of the market will be further expanded. The bottom-line thinking will be strictly held to strengthen the security and robustness of the market infrastructure, thus improving the management and monitoring on the gold market.

### BOX 6 Performance-guarantee price inquiry contract was listed on the SGE

To duly perform its responsibilities as a qualified CCP, improve the functions of gold infrastructures, and provide targeted services for market participants, in accordance with the overall arrangements of the PBOC, the performance-guarantee price inquiry contract was listed on the SGE to carry out CCP clearing for gold price inquiry transactions on September 22, 2022.

The performance-guarantee price inquiry business is of standardized contract design, and supports spot, forward, swap and other mainstream trading types. The corresponding delivery variety is Au99.99. The contract listed on the SGE is available for the CCP clearing business of price inquiry trading. After the trade is processed and confirmed by the SGE, the SGE will, under the CCP clearing business system, carry out mark-to-market monitoring, manage

the transaction maturity, and undertake performance-guarantee responsibilities. As such, a product scheme integrating transaction, registration, clearing, delivery, risk control and management was formed.

The listing of the performance-guarantee price inquiry contract will deliver results in the following aspects. First, it helps the SGE to better perform its duties as a qualified CCP. Second, it is conducive to promoting the high-quality development of Shanghai Gold MLT price benchmarks. Third, it contributes to further expanding the application scenarios of Shanghai Gold trading in derivatives settlement and pricing. Fourth, it improves infrastructure functions and transparency of OTC market transactions. Fifth, it makes it more convenient for financial institutions to serve the hedging needs of market players.



Since the performance-guarantee price inquiry contract business was listed, the market has been operating smoothly, with the cumulative turnover reaching RMB 20 billion and participating institutions ranging from market makers, commercial banks, and securities companies, to refining enterprises and licensed money brokers. The SGE carried out daily mark-to-market settlement based on the Shanghai Gold Benchmark Price PM and the SGE gold forward price

curve. All these works have delivered good policy and market effects as expected.

Looking forward, the SGE will, for one thing, strengthen the market risk management to ensure the smooth operation of the new business, and for another, keep expanding the scope of business services and improving the CCP clearing service of price inquiry business.

CAu99.99 Contract Parameter Table

|  |   |
|--|---|
| Contract code                            | CAu 99.99   |
| Trading mode                             | Margin price inquiry trading  |
| Trading type                             | Spot, forward and swap  |
| Trading unit                             | 1,000 g/lot   |
| Quotation unit                           | yuan/g  |
| Minimum price change                     | 0.001 yuan/g  |
| Minimum trading volume                   | 1 lot   |
| Maximum trading volume                   | 5,000 lots  |
| Registration time                        | 9:00~15:30 (Trading day)  |
| Final registration date                  | The date of maturity  |
| Daily settlement method                  | Daily mark-to-market system   |
| Delivery date                            | The date of maturity  |
| Settlement method upon the maturity date | Physical delivery   |
| Deliverable variety                      | Gold ingots with a standard weight of 1 kg and a fineness of no lower than 99.99%   |
| Quality standards                        | Physical gold produced by the SGE-certified enterprises providing standard gold ingots in compliance with the SGE's quality standard Gold Ingots, and standard physical gold produced by qualified suppliers accredited by the London Bullion Market Association (LBMA) |
| Delivery location                        | Exchange-designated warehouse   |



## Chapter 8 Insurance Market

In 2022, committed to high-quality development, the insurance industry actively participated in the top-level institutional design of China's national strategies to build a Healthy China and to address population aging, effectively promoted common prosperity and served the development of the real economy. In addition, the insurance industry endeavored to drive digital transformation and foster a reasonably structured and fully functioning insurance supply system that covers various risks and features orderly competition.

### 8.1 Performance of the insurance market

#### 8.1.1 Original insurance premium income

In 2022, China's insurance industry realized an original insurance premium income of RMB 4,695.72 billion, up 4.58 percent<sup>①</sup> year-on-year (YoY) on a comparable basis. Property insurance and personal insurance accounted for 27.07 percent and 72.93 percent respectively. The original insurance premium income of property insurance companies and personal insurance companies registered RMB 1,486.65 billion and RMB 3,209.06 billion respectively, up 8.70 percent<sup>②</sup> and 2.78 percent<sup>③</sup> year-on-

year on a comparable basis. From 2018 to 2021, the original insurance premium income of insurance companies recorded RMB 3,801.66 billion (up 3.92 percent year on year), RMB 4,264.48 billion (up 12.17 percent year on year), RMB 4,525.73 billion (up 6.13 percent year on year), and RMB 4,490.02 billion (up 4.05 percent year on year) respectively. In particular, on a year-on-year basis, the original insurance premium income of property insurance companies increased by 11.52 percent, 10.72 percent, 4.36 percent, and 1.92 percent respectively, and that of personal insurance companies rose by 0.85 percent, 12.82 percent, 6.90 percent, and 5.01 percent<sup>④</sup> respectively.

① From June 2021 on, insurance companies undergoing risk resolution are not included in the industry summary data. <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1093175&itemId=954>, accessed on: March 15, 2023. The same below.

② From June 2021 on, insurance companies undergoing risk resolution are not included in the summary data of property insurance companies. <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1093177&itemId=954>, accessed on: March 15, 2023. The same below.

③ From June 2021 on, insurance companies undergoing risk resolution are not included in the summary data of personal insurance companies. <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1093180&itemId=954>, accessed on: March 15, 2023. The same below.

④ The growth rates in 2021 are the year-on-year growth rates calculated on a comparable basis, the same below.

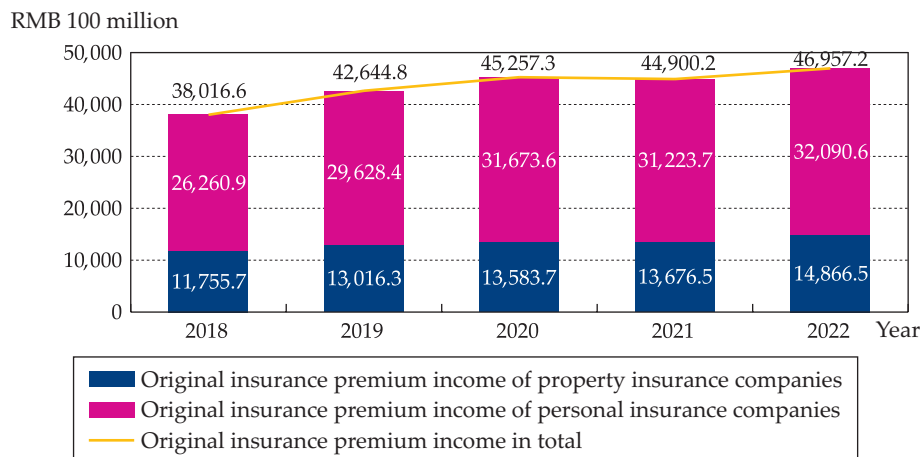


Figure 8.1 Original insurance premium income from 2018 to 2022

(Source: CBIRC)

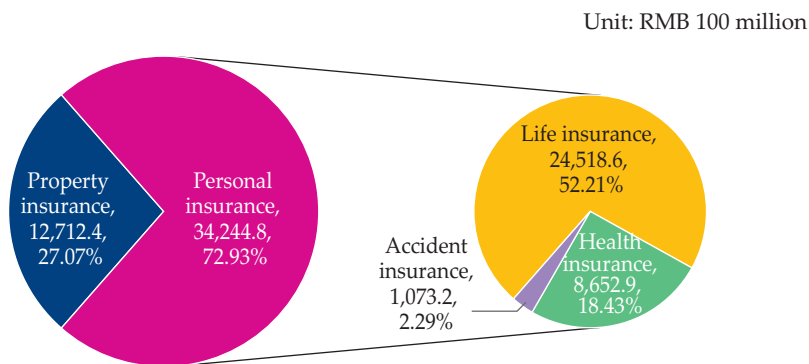


Figure 8.2 Original insurance premium income and insurance structure in 2022

(Source: CBIRC)

### 8.1.2 Claims payment of original insurance

In 2022, insurance companies paid RMB 1,548.52 billion in claims payment of original insurance, down 0.79 percent year on year on a comparable basis. In particular, the claims payment of property insurance and personal insurance accounted for 50.09 percent and 49.91 percent respectively. The claims payment by

property insurance companies and personal insurance companies came in at RMB 907.82 billion and RMB 640.67 billion respectively, up 2.6 percent and down 5.23 percent year on year on a comparable basis. From 2018 to 2021, claims payment of the insurance industry recorded RMB 1,229.79 billion (up 9.99 percent year on year), RMB 1,289.39 billion (up 4.85 percent year on year), RMB 1,390.71 billion

(up 7.86 percent year on year), and RMB 1,560.86 billion (up 14.12 percent year on year) respectively. In particular, on a year-on-year basis, claims payment of original insurance by property insurance companies increased by

17.43 percent, 12.76 percent, 8.27 percent, and 13.55 percent respectively, and that by personal insurance companies rose by 2.81 percent, -3.88 percent, 7.33 percent, and 14.87 percent respectively.

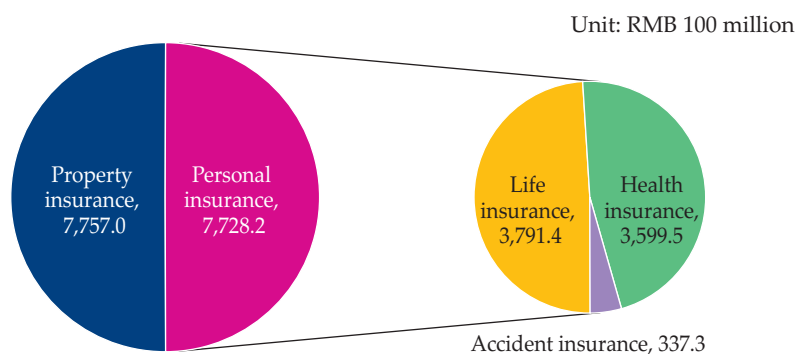


Figure 8.3 Structure of claims payment in 2022

(Source: CBIRC)

### 8.1.3 Insurance assets

By the end of 2022, total assets of insurance companies amounted to about RMB 27.1 trillion, an increase of RMB 2.3 trillion, or 9.3 percent, on a comparable 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 2.7 trillion (up 9.0 percent from the beginning of the year), RMB 23.4 trillion

(up 9.3 percent from the beginning of the year), RMB 671.95 billion (up 10.9 percent from the beginning of the year), RMB 103.60 billion (up 0.60 percent<sup>①</sup> from the beginning of the year), and RMB 325.92 billion respectively. From 2018 to 2021, total assets of the insurance industry registered RMB 18.3 trillion (up 9.45 percent year on year), RMB 20.6 trillion (up 12.18 percent year on year), RMB 23.3 trillion (up 13.29 percent year on year), and RMB 24.9 trillion (up 11.50 percent year on year) respectively.

<sup>①</sup> Source: <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1096018&itemId=915&generaltype=0>, accessed on: March 15, 2023.

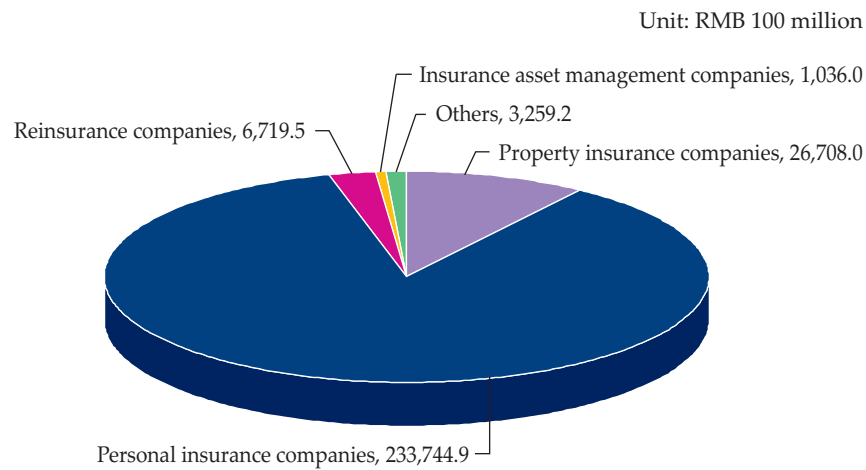


Figure 8.4 Structure of total assets in the insurance industry in 2022

(Source: CBIRC)

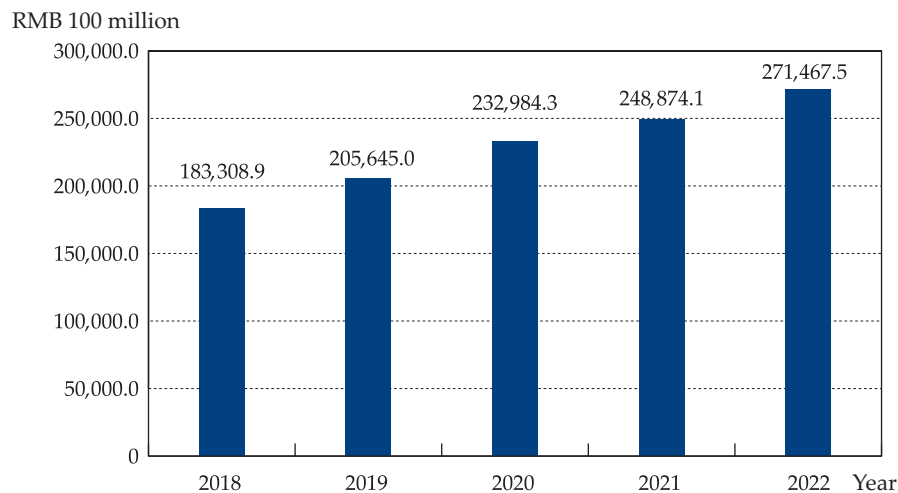


Figure 8.5 Total assets in the insurance industry from 2018 to 2022

(Source: CBIRC)

## 8.2 Main features of the insurance market

### 8.2.1 The insurance guarantee capacity steadily increased

In 2022, the insurance industry registered

RMB 13,678.7 trillion in the total amount insured, realizing a year-on-year increase of 12.63 percent on a comparable basis. In particular, the amount insured by property insurance companies and personal insurance companies was RMB 12,457.4 trillion (up

14.71 percent year on year on a comparable basis) and RMB 1,221.2 trillion (down 5.03 percent year on year on a comparable basis) respectively. By types, the amount insured registered RMB 684.76 trillion for automobile insurance, RMB 5,915.42 trillion for liability insurance, RMB 4.57 trillion for agricultural insurance, RMB 2,234.75 trillion for health insurance, RMB 4,148.94 trillion for accident insurance, RMB 24.05 trillion for newly sold life insurance, and RMB 666.18 trillion for other types of insurance.

### 8.2.2 The coverage of insurance continued to expand

In 2022, the number of newly sold insurance policies was 55.383 billion, including 54.478 billion by property insurance companies and 905 million by personal insurance companies. By types, the accumulated number of new policies stood at 592 million for automobile insurance, 15.252 billion for liability insurance, 4.123 billion for cargo transportation insurance, 2.374 billion for guarantee insurance, 7.558 billion for health insurance, and 3.708 billion for accident insurance. New life insurance sold stood at 69 million, among which 61 million were attributed to general life insurance. The accumulated number of other types of

insurance was 21.707 billion.

### 8.2.3 The operation of the insurance industry was sound

In 2022, the insurance industry maintained sound operation and risks remained under control. In terms of solvency, at the end of the fourth quarter of 2022, the average comprehensive solvency ratio and average core solvency ratio of 181 insurance companies, which were reviewed by the CBIRC's Solvency Supervisory Committee at its meetings, stood at 196 percent and 128.4 percent respectively. Their actual capital and minimum capital stood at RMB 4.6 trillion and RMB 2.35 trillion respectively. In particular, the average comprehensive solvency ratios of property insurance companies, personal insurance companies, and reinsurance companies were 237.7 percent, 185.8 percent, and 300.1 percent respectively, and their core solvency ratios were 206.8 percent, 111.1 percent, and 268.5 percent respectively. In terms of risk management, at the end of the fourth quarter of 2022, 49 of those insurance companies were rated A in the Integrated Risk Rating (IRR), 105 rated B, 16 rated C, and 11 rated D<sup>①</sup>.

<sup>①</sup> Source: <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1097402&itemId=915&generaltype=0>, accessed on: March 15, 2023.

### 8.2.4 The investment of insurance funds was diversified

As of end-2022, outstanding insurance funds stood at RMB 25.05 trillion, a year-on-year increase of 9 percent on a comparable basis. Specifically, investment in bank deposits totaled RMB 2.83 trillion and accounted for 11.32 percent of the total; investment in bonds amounted to RMB 10.25 trillion and made up a share of 40.93 percent in the total; investment in stocks and securities investment funds amounted to RMB 3.18 trillion and accounted for 12.71 percent of the total; other investment registered RMB 8.78 trillion and represented 35.05 percent of the total.

## 8.3 Reform and innovation in the insurance market

### 8.3.1 Efforts were made to promote the development of the third pillar of pension insurance

Commercial pension insurance enjoyed accelerated development. First, the pilot program for exclusive commercial pension insurance was expanded. In February 2022, the *Notice of the General Office of CBIRC on Exclusive*

*Commercial Pension Insurance Pilot Programs* (Yinbaojianbanfa No.13 [2022]) was released to expand the pilot area of exclusive commercial pension insurance<sup>①</sup>. Second, efforts were made to standardize and support the personal pension business of insurance companies. In November 2022, the *Notice of China Banking and Insurance Regulatory Commission on Matters Related to Personal Pension Business of Insurance Companies* (Yinbaojianfa No.17 [2022]) was issued to clarify the basic requirements for insurance companies to conduct personal pension business and to standardize the business<sup>②</sup>. Third, the pilot program of commercial pension business of pension insurance companies was officially launched. In December 2022, the *Notice of CBIRC General Office on Launching the Pilots of Commercial Pension Business of Pension Insurance Companies* (Yinbaojianbanfa No.108 [2022]) was released, which announced that commercial pension trials would be launched in 10 provinces and cities from January 1, 2023<sup>③</sup>.

### 8.3.2 Insurance funds served the real economy

The regulators actively guided the insurance industry to increase and improve financial supply. First, the regulators brought the

① CBIRC issues the *Notice on Expanding the Pilot Program for Exclusive Commercial Endowment Insurance*, <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1039066&itemId=915&generaltype=0>, accessed on: March 15, 2023.

② CBIRC Issues the *Circular on Matters Concerning the Private Pension Business Conducted by Insurance Companies*, <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1082638&itemId=915>, accessed on: March 15, 2023.

③ CBIRC Launches the Pilot Program of Commercial Pension Business of Pension Insurance Companies, <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1083824&itemId=915&generaltype=0>, accessed on March 14, 2023.



advantages of insurance funds in long-term investment into full play to address short-term use of long-term funds and further reduce the proportion of non-standard assets in total assets that insurers invest in, created a long-cycle evaluation mechanism for insurance funds, enriched channels for insurance funds to participate in investment in capital markets, and encouraged insurance asset management companies to increase efforts to issue portfolio products and allocate more funds to equity assets. Second, the regulators guided and urged insurance institutions to actively provide insurance claims services for industries hit hard by the COVID-19 pandemic, such as catering, accommodation, retail, tourism, culture and transportation, in accordance with market-based principles<sup>①</sup>. Third, the regulators promoted the innovation of capital replenishment instruments to better serve the real economy. The *Notice on Issues Concerning the Issuance of Undated Capital Bonds by Insurance Companies* (Yinfa No.175 [2022]) took effect on September 9, 2022, which clarifies the core elements and administration of undated capital bonds issued by insurance companies. Promoting the issuance of undated capital bonds broadened the capital replenishment channels of insurance companies, served as an important measure to improve the core

solvency adequacy of insurance companies and was conducive to enhancing the capability of insurance companies to prevent and resolve risks and serve the real economy, enriching the products in the financial market and optimizing the structure of the financial system. Fourth, the regulators gave further play to the role of the insurance security fund. In November 2022, the *Measures for the Administration of the Insurance Security Fund* was revised. Specifically, the regulators revised the provisions for fundraising of the insurance security fund, clarified the relevant financial requirements, optimized the use and administration of the fund, improved the relief provisions, and strengthened the supervision of the fund to safeguard the legitimate rights and interests of policyholders.

### 8.3.3 The supervision of insurance asset management companies was strengthened

The *Rules on Insurance Asset Management Companies* came into force on September 1, 2022. A new chapter on corporate governance was included in the regulations to enhance the independence of insurance asset management companies and comprehensively strengthen the institutional constraints on corporate governance regulation. Risk management

<sup>①</sup> Backing Real Economy and Keeping Economic Fundamentals Stable by Supporting Enterprises in Difficulties—Interview with Vice Chairman Liang Tao of the CBIRC, <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1074871&itemId=4225&generaltype=0>, accessed on March 16, 2023.



was included as a separate chapter to enhance the risk management capability of insurance asset management companies and safeguard insurance funds and other long-term funds. The *Regulations* optimized the shareholding structure design and operating principles of insurance asset management companies and other related requirements, and enriched regulatory measures and constraints on violations. The *Regulations* created space for the market-oriented operation and differentiated development of insurance asset management companies, which was conducive to guiding and promoting their standardized operation and high-quality development, better meeting the needs of value preservation and appreciation of insurance funds and other long-term funds, and fostering more moderate institutional investors for the stable and sound operation of the capital market and the high-quality development of the real economy.

### 8.3.4 The high-quality development of inclusive insurance was advanced

The development of inclusive insurance achieved inspiring results. First, basic insurance services were offered to people in a wide range of regions. Insurance services covered most towns and villages, and serious illness insurance covered 1.22 billion urban and rural residents.

Second, the efficiency of digital services was enhanced. Insurance institutions actively used the Internet, big data and other technologies to expand their business scope, reduce service costs and innovate service models, contributing to the rapid development of the digital insurance business. Third, the infrastructure for the development of inclusive insurance continued to improve<sup>①</sup>. The Shanghai Insurance Exchange (SHIE), in collaboration with many governments, promoted the development of a number of comprehensive insurance service platforms, such as the digital health insurance trading platform, Zheliyong E-Insurance and Insurance QR Code, to serve the high-quality development of inclusive insurance. Relying on the big data in the health sector, the digital health insurance trading platform integrated commercial insurance, medical and health services and other resources, and enabled insurance institutions to develop differentiated commercial insurance products that were supplemental to basic medical insurance and with affordable prices. Based on Zheliyong E-Insurance, an inclusive insurance platform launched in Zhejiang province, Ningbo Student Insurance (a safety insurance initiative targeting students in Ningbo) was developed thanks to the joint efforts of insurance institutions. In its first pilot phase, the coverage rate reached 91 percent. Insurance QR Code is a unified

<sup>①</sup> Developing Inclusive Finance to Drive Chinese Modernization, <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1088752&itemId=4228&generaltype=0>, accessed on March 12, 2023.

insurance service portal launched in December 2022 with the guidance of the former Shanghai Banking and Insurance Regulatory Bureau.

## 8.4 Opening-up of the insurance market

### 8.4.1 Institutional opening-up was further deepened

The regulators actively enabled pilot free trade zones to play a greater leading role in reform, opening-up and high-quality development. First, they constantly improved the working mechanism and actively implemented the pilot programs. Second, they studied the reform and empowerment of the pilot free trade zones, responded to the demands for reform and development of the banking and insurance industry in a timely manner, and delegated more power to lower levels. Third, they stepped up efforts to explore practices of financial innovation and encouraged institutions to drive financial innovation with a focus on the needs of market entities and to improve their financial services. Fourth, they urged pilot free trade zones to open up wider and improve their business environment to attract quality foreign-funded institutions with professional characteristics to settle and operate. Fifth, they strictly guarded against financial risks

in an open environment by strengthening information sharing and joint prevention of financial risks and improving risk prevention and resolution mechanisms compatible with deeper reform and opening-up<sup>①</sup>.

### 8.4.2 Active support was extended to the Belt and Road

In 2022, a number of policies clearly stated the requirements for promoting the Belt and Road, including the *Notice of CBIRC on Releasing the Green Finance Guidelines for Banking and Insurance Sectors* (Yinbaojianfa No.15 [2022]), the *Opinions on Banking and Insurance Industries Supporting High-quality Development of Highway Transportation* (Yinbaojianfa No.8 [2022]), and the *Notice on Issuing the 14th Five-Year Plan for the Standardization of the Insurance Industry* (Yinbaojianfa No.11 [2022])<sup>②</sup>.

### 8.4.3 The development of the industry was deeply integrated into the efforts to develop the Guangdong-Hong Kong-Macao Greater Bay Area

First, market access procedures were simplified. To deepen the reform for separating operating permits from business licenses and stimulate the vitality of market entities in banking and

① CBIRC Holds a Meeting on Promoting the Development of Pilot Free Trade Zones, <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1061359&itemId=915&generaltype=0>, accessed on March 21, 2023.

② Promoting the High-quality Development of Property Insurance Industry to Help Build a Great Modern Socialist Country, <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1078559&itemId=915&generaltype=0>, accessed on March 21, 2023.



insurance industries in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA), the *Implementation Rules on Simplifying the Access of Banking and Insurance Institutions and Senior Executives in the GBA* (Yueyinbaojiangui No.1 [2022]) was revised to further simplify market access. Second, measures were adopted to promote the circulation of insurance products in the GBA. In December 2022, the *Notice on the Implementation of Unilateral Recognition of Compulsory Traffic Accident Liability Insurance for Macao Vehicles Entering and Exiting the Chinese Mainland via the Zhuhai Highway Port of the Hong Kong-Zhuhai-Macao Bridge* (Yueyinbaojianfa No.66 [2022]) was released<sup>①</sup>. Third, efforts were stepped up to promote the establishment of the GBA Insurance Service Center. In December 2022, the *Implementation Opinions on Further Promoting the High-quality Development of Personal Insurance Industry in Guangdong province* (Yueyinbaojianfa No.62 [2022]) was released, stating that it is necessary to accelerate the establishment of the GBA Insurance Service Center, explore the compilation of an exclusive life table of the GBA, and conduct in-depth research on the “Insurance Connect” scheme to promote the integrated development of insurance markets in Guangdong, Hong Kong

and Macao<sup>②</sup>.

### 8.5 Outlook of the insurance market

In 2023, the insurance industry will fully implement the guiding principles of the 20th CPC National Congress, urge insurance companies to focus on their main duties and major businesses, strengthen the function of risk prevention, and continue to enhance the quality and efficiency of their services for the real economy and people’s livelihood, thus making more contributions to high-quality economic development. First, adhering to the people-centered development philosophy, the industry will develop the third pillar of the pension insurance in a well-regulated way, vigorously develop inclusive finance, urge insurance companies to develop more insurance products that meet the needs of new urban residents, and provide insurance protection for new forms of consumption and service consumption. Second, technology empowerment will be strengthened to enable the insurance industry to better serve the real economy. Third, institutional opening-up of the insurance industry will be expanded to better serve the Belt and Road Initiative and help push forward high-level opening-up.

① Initial Results Achieved in the Development of the Guangdong-Macao In-Depth Cooperation Zone in Hengqin with the Financial Assistance of Guangdong Banking and Insurance Regulatory Bureau, <http://www.cbirc.gov.cn/branch/guangdong/view/pages/common/ItemDetail.html?docId=1081884&itemId=1543&generaltype=0>, accessed on March 21, 2023.

② *Implementation Opinions of Guangdong Banking and Insurance Regulatory Bureau on Further Promoting the High-quality Development of Personal Insurance Industry in Guangdong*, <http://www.cbirc.gov.cn/branch/guangdong/view/pages/common/ItemDetail.html?docId=1090507&itemId=1546&generaltype=0>, accessed on March 21, 2023.

## BOX 7 Shanghai International Reinsurance Exchange will be launched to facilitate two-way opening-up of the reinsurance market

### 1. The construction plan for Shanghai International Reinsurance Exchange was released

In August 2022, with the guidance of the regulators, Shanghai Banking and Insurance Regulatory Bureau, Shanghai Municipal Financial Regulatory Bureau, Shanghai Insurance Exchange (SHIE), the Lin-Gang Special Area Administration and major market institutions formed a project team for the construction of the international reinsurance trading market, or Shanghai International Reinsurance Exchange. The construction plan for Shanghai International Reinsurance Exchange was determined and several working groups were set up to steadily promote the development of the platform, registration system, trading rules, trading tools, resource integration mechanisms, favorable cross-border capital policies as well as other supportive local policies. In November 2022, the construction plan for the reinsurance international board was released at the 4th Lujiazui International Reinsurance Conference.

### 2. An advanced system for international reinsurance trading was built

The platform for international reinsurance

trading, or international board, was developed and ran by the SHIE. Powered by self-developed blockchain technology and the standards for blockchain-based reinsurance data interchanges, the platform supports encrypted transmission and real-time interchange of standardized data, promoting centralized reinsurance registration, clearing and settlement as well as centralized storage of data. 46 insurance institutions had access to the platform, and a total of 41,600 blockchain storage operations were carried out. The future target is to make over 700 overseas institutions engaged in the reinsurance business get access to the platform.

### 3. Policy synergy was forged

A mechanism was established to promote the development of Shanghai into an international reinsurance center and the drafts of the *Implementation Rules on Further Promoting the Development of Shanghai into an International Reinsurance Center* and supporting rules were formulated. Going forward, based on Shanghai International Reinsurance Exchange, the institutional advantages of the Lin-gang Special Area will be brought into play and world-



class regulatory system, tax system and foreign exchange management mechanism will be implemented to attract domestic and overseas reinsurance institutions to settle, which will drive the gathering of reinsurance businesses, funds and talents

and thus facilitate the establishment of an international reinsurance functional zone integrating the functions of reinsurance registration, trading, clearing, investment, innovation, information exchange and credit evaluation.



## Chapter 9 Derivatives Market

In 2022, China's derivatives market saw a slight decline in trading volume, more investors in both numbers and categories, and steady innovation of products and trading mechanisms. With a continuously improved market mechanism, it gained greater clout internationally and further highlighted its role in serving the real economy and supporting the financial sector in preventing risks.

### 9.1 Commodity futures and options market

#### 9.1.1 Performance of the commodity futures and options market

In 2022, the trading of China's commodity futures and options market declined year on year, with a cumulative trading volume of 6.616 billion lots and a cumulative trading turnover of RMB 401.90 trillion, down 10.49 percent and 13.20 percent year on year respectively. China's trading volume of commodity derivatives accounted for 72.30 percent of the world's total, up 2.50 percentage points from 69.80 percent in 2021.

As for exchanges, the SHFE including the Shanghai International Energy Exchange (INE) realized a cumulative trading volume of 1.943 billion lots and a cumulative trading turnover of RMB 181.30 trillion, down 20.54

percent and 15.51 percent year on year respectively, accounting for 28.72 percent and 33.89 percent in the market respectively. Zhengzhou Commodity Exchange (ZCE) realized a cumulative trading volume of 2.398 billion lots and a cumulative trading turnover of RMB 96.85 trillion, down 7.14 percent and 10.33 percent year on year respectively, taking up 35.42 percent and 18.10 percent of the market respectively. Dalian Commodity Exchange (DCE) realized a cumulative trading volume of 2.275 billion lots and a cumulative trading turnover of RMB 123.73 trillion, down 3.77 percent and 11.91 percent year on year respectively, accounting for 33.62 percent and 23.13 percent in the market respectively. Guangzhou Futures Exchange (GFEX) realized a cumulative trading volume of 193,600 lots and a cumulative trading turnover of RMB 15.84 billion.



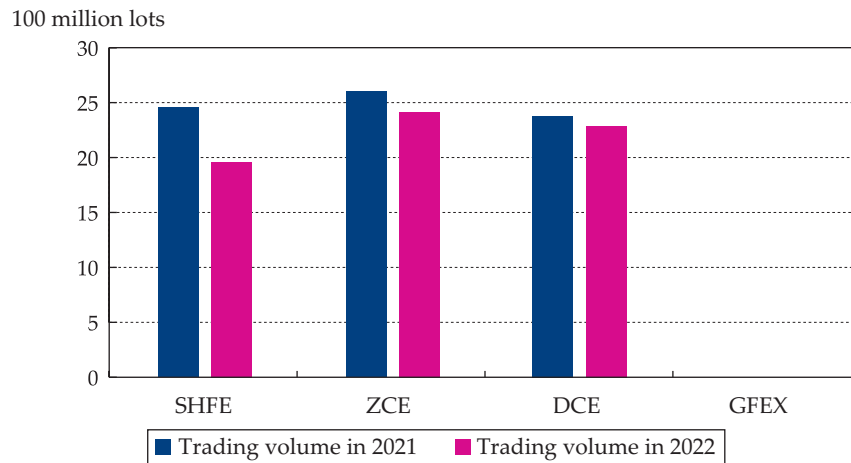


Figure 9.1 Cumulative trading volume of the SHFE, DCE, ZCE and GFEX in 2022

[Source: China Futures Association (CFA)]

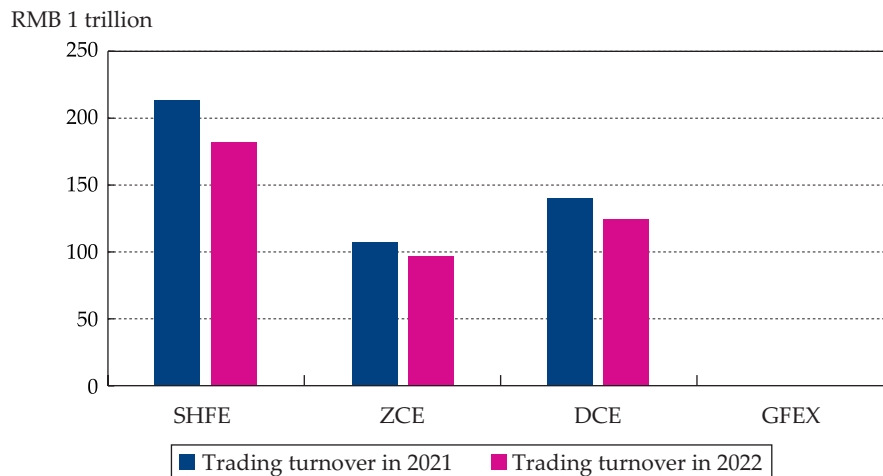


Figure 9.2 Cumulative trading turnover of the SHFE, DCE, ZCE and GFEX in 2022

(Source: CFA)

In 2022, China's commodity futures market registered a cumulative trading volume of 6.229 billion lots and a turnover of RMB 401.52 trillion, down 13.21 percent and 13.23 percent year on year respectively. Agricultural products saw a cumulative trading volume of 1.562 billion lots and a turnover of RMB 102.27 trillion, down 20.43 percent and 8.68 percent year on year respectively; metal reported a

cumulative trading volume of 1.612 billion lots and a turnover of RMB 139.98 trillion, down 25.23 percent and 31.30 percent year on year respectively; energy and chemicals realized a cumulative trading volume of 3.055 billion lots and a turnover of RMB 159.27 trillion, down 0.10 percent and up 8.33 percent year on year respectively.

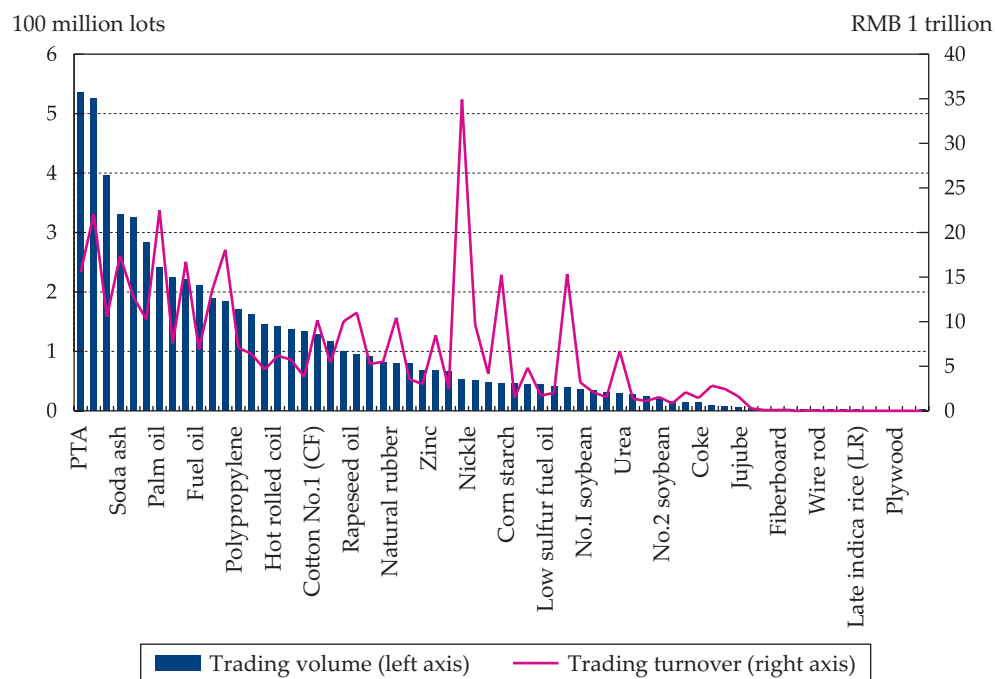


Figure 9.3 Cumulative trading volume and turnover of various commodity futures in China in 2022

(Source: CFA)

In 2022, China's commodity options market continued to grow, seeing a cumulative trading volume of 387 million lots and a cumulative trading turnover of RMB 370 billion, up

80.17 percent and 41.90 percent year on year respectively. As of end-2022, a total of 28 varieties of commodity options were listed on the market, which was 8 more than that of end-2021.

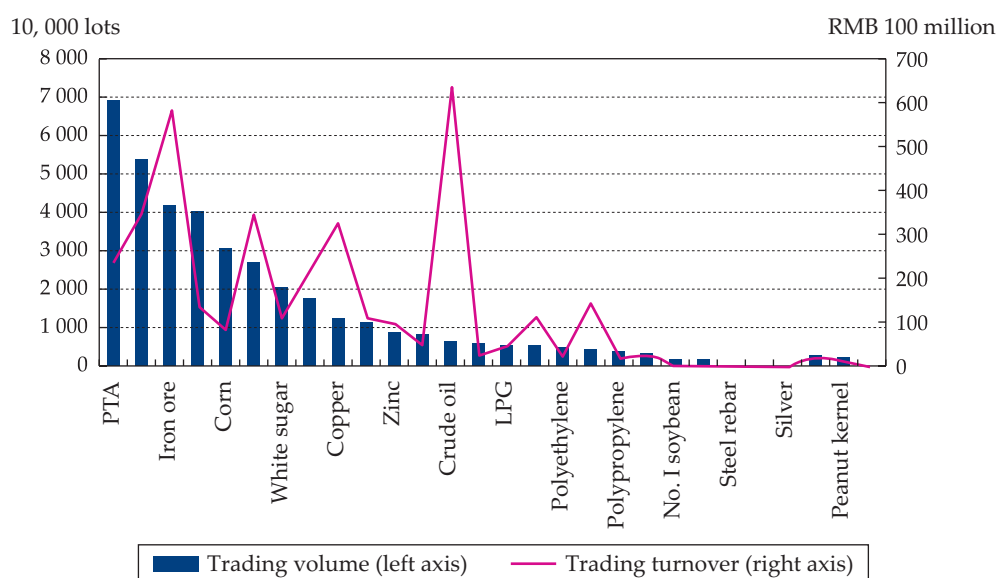


Figure 9.4 Cumulative trading volume and turnover of various commodity options in China in 2022

(Source: CFA)

In 2022, the world's top five exchange-traded commodity derivatives markets were China, the U.S., the U.K., India, and Russia, which combined accounted for 97.19 percent of the

total (see Table 9.1). 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 2022

| 2022 ranking | 2021 ranking | Country  | Volume(100 million lots) | YoY growth (%) | Market share (%) |
|--------------|--------------|----------|--------------------------|----------------|------------------|
| 1            | 1            | China    | 66.16                    | -10.50         | 72.29            |
| 2            | 2            | The U.S. | 12.95                    | -1.70          | 14.15            |
| 3            | 3            | The U.K. | 5.99                     | -15.31         | 6.54             |
| 4            | 5            | India    | 2.25                     | 19.01          | 2.45             |
| 5            | 4            | Russia   | 1.61                     | -77.60         | 1.76             |

Source: Futures Industry Association (FIA).

## 9.1.2 Main features of the commodity futures and options market

### 9.1.2.1 The trading turnover of energy and chemical futures continued to grow and that of Low Sulfur Fuel Oil (LSFO) registered the biggest growth

In 2022, energy and chemical futures saw a cumulative trading volume of 3.055 billion lots and a cumulative trading turnover of RMB 159.27 trillion, with the turnover up 8.33 percent year on year. Specifically, LSFO saw the biggest growth, with a cumulative trading volume of 40,841,600 lots and a cumulative trading turnover of RMB 2.0 trillion, up 119.64 percent and 218.55 percent year on year respectively.

### 9.1.2.2 Product concentration in the commodity options market rose slightly

In 2022, the top three varieties of commodity options in terms of trading volume in China were PTA, Soybean Meal, and Iron Ore options,

with a trading volume of 68.8974 million lots, 53.4079 million lots, and 41.7120 million lots respectively; and the cumulative trading volume of the three options accounted for 42.35 percent of the total, a slight increase of 0.9 percentage points year on year. The top three varieties in terms of trading turnover were Crude Oil, Iron Ore, and Soybean Meal options, with a trading turnover of RMB 63.591 billion, RMB 58.252 billion, and RMB 34.780 billion respectively; and the cumulative trading turnover of the three options accounted for 42.01 percent of the total, up 3.07 percentage points from the previous year.

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

### 9.1.3.1 The *Futures and Derivatives Law of the People's Republic of China* came into force

The *Futures and Derivatives Law of the People's Republic of China* (FDL) was passed by the

Standing Committee of the National People's Congress on April 20, 2022 and came into force on August 1, 2022. The *FDL* seeks to regulate derivatives trading with a particular focus on futures, which provides a strong legal guarantee for regulating the development of the futures industry and protecting investors' rights and interests, and creates favorable conditions for the futures market to better serve the real economy. Its highlights are as follows. First, the *FDL* defines hedging, encourages enterprises to use the futures market to engage in risk management activities such as hedging, and restricts excessive speculation to better serve the real economy. Second, it clarifies the rights and interests of traders and establishes a trader protection system. Third, it sets out basic rules on futures trading, settlement and delivery as well as rules that regulate the supervision and management of the futures market and operation of market entities. Fourth, it clearly stipulates the principles, methods, performance guarantees and prohibited acts of derivatives trading, and recognizes at the legislation level the regimes of single master agreement, close-out netting and trading report database. Specifically, the close-out netting regime is conducive to limiting contagion effects in case of a default of one party, stabilizing market expectations and reducing systemic risks in the financial sector. Fifth, it is conducive to promoting the recognition of China as a jurisdiction in which close-out netting can be applied by the international market, facilitating the calculation of the credit risk exposure

of Chinese-funded institutions by foreign counterparties on a net basis, improving the competitiveness of Chinese-funded financial institutions participating in the international market, and advancing the high-level two-way opening-up of China's over-the-counter derivatives market. Sixth, it applies to both domestic and overseas derivatives trading, better integrating the domestic and overseas markets.

To implement the *FDL*, the CSRC issued the *Provisions on Amending and Repealing Some Regulations on Securities and Futures and the Decision on Amending and Repealing Some Normative Documents on Securities and Futures* on August 12, 2022, amending certain provisions of 8 regulations and 14 normative documents, and repealing 1 regulation and 1 normative document.

#### **9.1.3.2 China Hydrogen Price Index was compiled and released**

To actively implement the "dual carbon" strategy, promote China's green development and serve the high-quality development of the energy industry, the SHFE, together with relevant organizations, successfully launched the China Hydrogen Price Index system. The SHFE, Shanghai Environment and Energy Exchange (SEEE) and YRD Hydrogen Energy Technology Research Institute jointly compiled the China Hydrogen Price Index system, and released the Yangtze River Delta Hydrogen Price Index, the first index in the system, on September 22, 2022, which would be published every two weeks.



### 9.1.3.3 A sounder product system of futures and options was fostered

In 2022, 9 new varieties were listed on China's commodity futures and options markets, including 1 commodity futures and 8 commodity options. Specifically, Steel Rebar and Silver options were listed on the SHFE, Rapeseed Oil and Peanut Kernel options were listed on the ZCE, No.1 Soybean, No.2 Soybean and Soybean Oil options were listed on the DCE, and Silicon Metal futures and options were listed on the GFEX. As of end-2022, there were 93 listed varieties on China's commodity futures and options markets, including 65 futures varieties and 28 options.

### 9.1.3.4 Monthly average settlement prices for some varieties were released

In 2022, the SHFE released monthly average settlement prices for some energy and chemical futures including crude oil, fuel oil, bitumen and TSR 20 to guide industrial clients to refer to futures prices for trade pricing.

## 9.1.4 Opening-up of the commodity futures and options market

### 9.1.4.1 Efforts were made to promote the internationalization of varieties

As of end-2022, the INE had 5 international varieties, including Crude Oil, TSR 20, LSFO and Copper futures and Crude Oil options, accounting for 55.56 percent of the international varieties listed in China (9 in total). In 2022, the volume of physical trade using TSR 20

futures as a benchmark for cross-border trade pricing increased from 50,000 tons in 2021 to 1.4 million tons, with a value of over RMB 15 billion, accounting for nearly 30 percent of China's natural rubber imports. In addition, the QFII and RQFII were allowed to participate in futures and options trading. Among the first batch of 41 tradable varieties (including financial futures and options), 16 were products listed on the SHFE and INE such as gold, silver and crude oil. This indicates that the futures market opened up wider to the world.

### 9.1.4.2 The scope and intensity of global promotion were enhanced

In July 2022, the SHFE signed a memorandum of understanding with Bursa Malaysia Derivatives (BMD) to strengthen the business partnership between the two, which would share information and practical experience in marketing, product research and other areas of mutual interest and increase personnel exchange.

## 9.2 Financial futures and options market

### 9.2.1 Performance of the financial futures and options market

#### 9.2.1.1 Stock index futures

In 2022, the total trading volume of the four stock index futures, namely CSI 300, SSE 50, CSI 500, and CSI 1000, was 74.4937 million lots with a total value of RMB 86.36 trillion, up 11.62 percent and down 4.48 percent year on

year respectively. The average daily trading volume and average daily positions were 307,800 lots and 679,200 lots, up 12.08 percent and 23.72 percent year on year respectively. The average daily volume to open interest ratio was 0.45, which was maintained at a low level. The correlations between the stock index

futures prices and spot prices of the four 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, CSI 500, and CSI 1000 futures were 0.9984, 0.9987, 0.9930, and 0.9949 respectively.

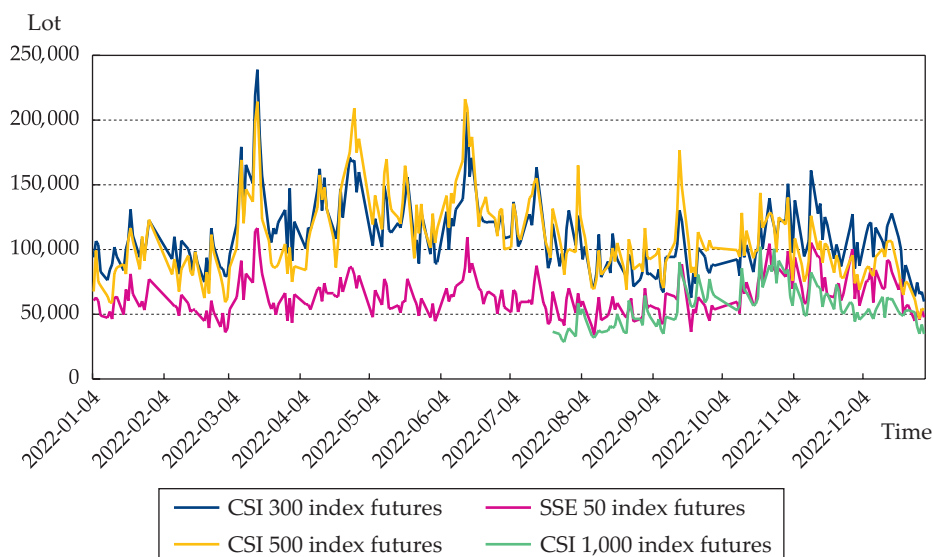


Figure 9.5 Daily trading volume of stock index futures in 2022

[Source: China Financial Futures Exchange (CFFEX)]

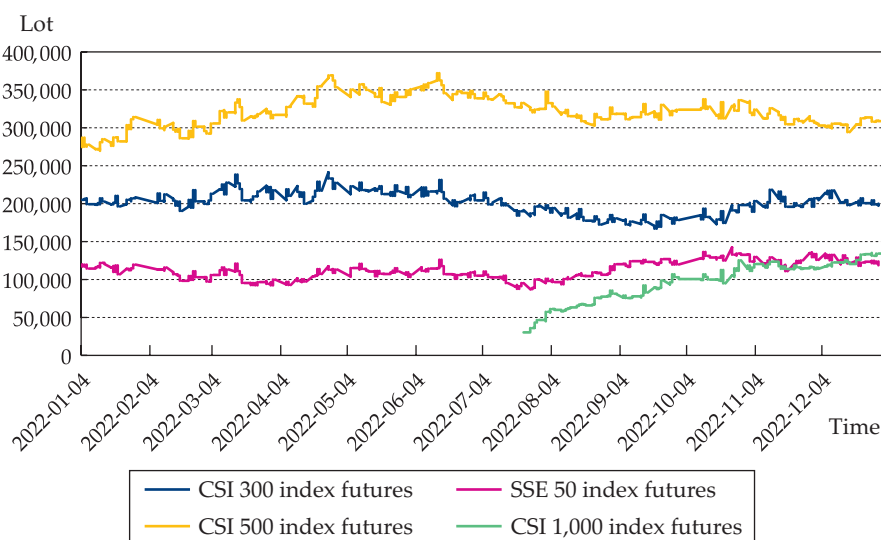


Figure 9.6 Daily positions of stock index futures in 2022

(Source: CFFEX)

### 9.2.1.2 Government securities futures

In 2022, the 2-year, 5-year, and 10-year government securities futures registered a total trading volume of 38.8165 million lots with a total value of RMB 46.42 trillion, up 54.94 percent and 68.71 percent year on year respectively. The average daily trading volume and average daily positions were 160,400 lots and 355,200 lots, growing by 55.58 percent and 44.39 percent year on year respectively. The average daily volume to open interest ratio was 0.45, which was maintained at a reasonable level. The government securities futures

prices and spot prices of the three government securities futures were highly correlated. The price correlation coefficients between the price of the dominant contracts of 2-year, 5-year, and 10-year government securities futures and the spot price were 0.98, 0.99, and above 0.95 respectively. The deliveries of 12 government securities futures contracts were completed successfully in 2022, the total number of deliveries was 21,689 lots with an average delivery rate of 3.51 percent, and the deliveries were handled smoothly.

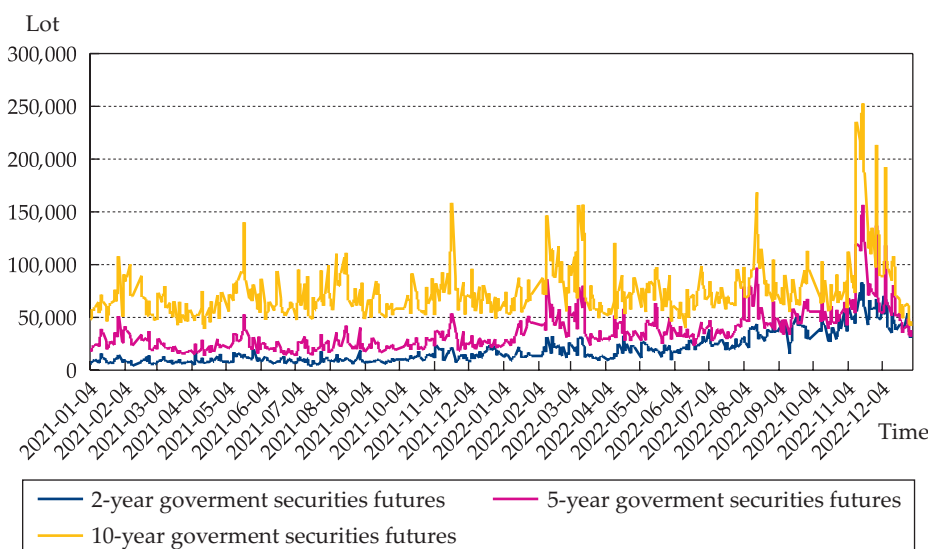


Figure 9.7 Daily trading volume of government securities futures from 2021 to 2022

(Source: CFFEX)



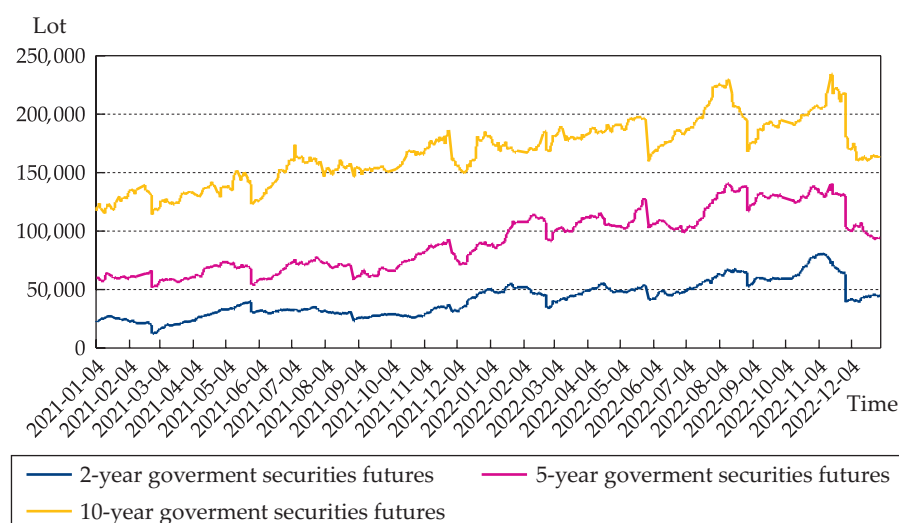


Figure 9.8 Daily positions of government securities futures from 2021 to 2022

(Source: CFFEX)

### 9.2.1.3 Stock index options

In 2022, the CSI 300, SSE 50 and CSI 1000 index options saw a total trading volume of 38.5516 million lots with a total notional trading value of RMB 17.69 trillion. The average daily notional trading value was RMB 73.110 billion, and the cumulative premium trading value was RMB 264.331 billion. The average daily trading volume and average daily positions were 159,300 lots and 210,900 lots, up 28.05 percent and 19.29 percent year on year respectively. The average daily volume to open interest ratio was 0.76, which was 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 synthetic futures price of the current month at-the-money (ATM) contracts of CSI 300, SSE 50 and CSI 1000 index options and the closing price of the corresponding underlying index were 0.9991, 0.9893, and 0.9966 respectively, and those between the synthetic futures price of the current month ATM contracts of CSI 300, SSE 50 and CSI 1000 index options and the closing price of the current month contracts of CSI 300, SSE 50 and CSI 1000 index futures were 0.9999, 0.9932, and 0.9999 respectively.

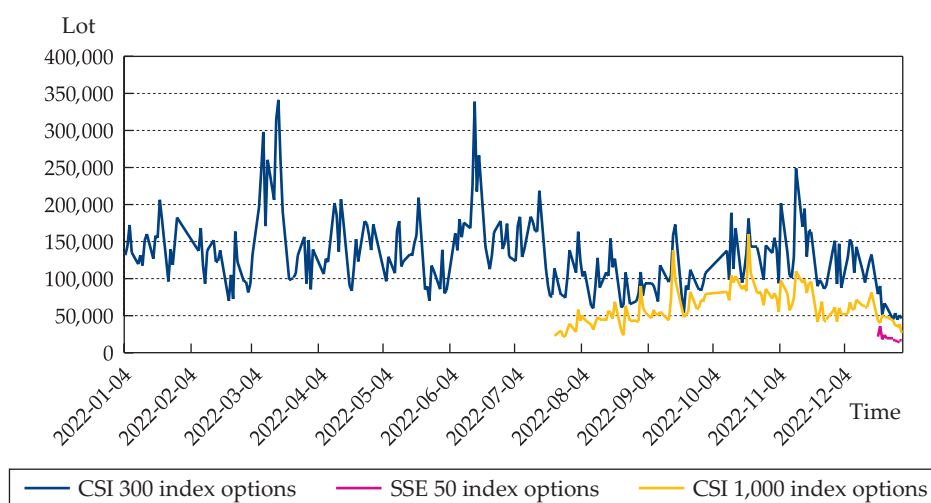


Figure 9.9 Daily trading volume of stock index options in 2022

(Source: CFFEX)

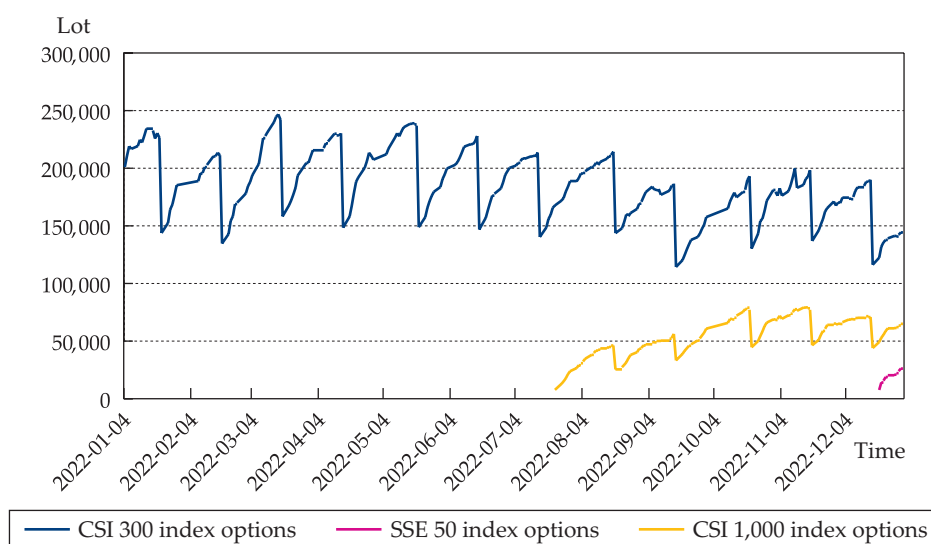


Figure 9.10 Daily positions of stock index options in 2022

(Source: CFFEX)

#### 9.2.1.4 Stock options

In 2022, the cumulative trading volume of SSE ETF options was 1.075 billion contracts, including 553 million call options contracts and 522 million put options contracts. The

average daily trading volume and average daily positions were 4.4424 million contracts and 4.9445 million contracts respectively. The total notional trading value was RMB 38.29 trillion, with an average daily notional trading value of

RMB 158.175 billion. The cumulative premium trading value was RMB 647.522 billion, with an average daily premium trading value of RMB 2.676 billion. The SSE 50 ETF options and CSI 300 ETF options have become important ETF options in the world. 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 access to the options brokerage business, among which 63 securities companies were granted access to options proprietary trading. As of end-2022, there were 21 market makers of SSE 50 ETF options, including 16 primary market makers and five general market makers. There were 20 market makers of CSI 300 ETF options, including 15 primary market makers and 5 general market makers. There were 21 market makers of CSI 500 ETF options, including 16 primary market makers and 5 general market makers.

In 2022, the average daily trading volume of CSI 300 ETF options, ChiNext Board ETF options, CSI 500 ETF options, and SZSE 100 ETF options on the SZSE was 299,000 contracts, 687,100 contracts, 134,700 contracts, and 57,600 contracts respectively and the average daily positions were 316,300 contracts, 562,500 contracts, 165,300 contracts, and 65,500 contracts respectively. The four ETF options realized a cumulative trading volume of 131 million contracts, with a total notional trading value of RMB 4.75 trillion. The cumulative premium trading value was RMB 80.102 billion.

As of end-2022, there were 260,000 investor accounts for the four ETF option varieties on the SZSE. A total of 89 securities companies and 31 futures companies obtained the qualification as trading participants of stock options on the SZSE and were granted access to the option brokerage business. Among them, 49 securities companies were granted access to options proprietary trading. There were 15 primary market makers and 5 general market makers involved in the market-making business, and the options market achieved sound and orderly operation.

## 9.2.2 Main features of the financial futures and options 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 2022, the open interest of stock index futures and options increased steadily and hit new highs. Institutional investors took up a larger share in both the trading volume and open interest in the stock futures and options markets. The average daily positions of the four stock index futures products registered a total of 679,200 lots, up 23.72 percent year on year, and peaked on November 11, standing at 797,200 lots. The average daily positions of the three stock index option products totaled 210,900 lots, up 19.26 percent year on year, and peaked at 277,400 lots on November 10. More institutional investors were involved



in the market. They accounted for 57.61 percent and 75.91 percent, respectively, of the trading volume and open interest in the stock futures market, both up 7 percentage points from the previous year, and took up 65.94 percent and 63.47 percent, respectively, of the trading volume and open interest in the stock options market, up 3 percentage points and 5 percentage points from the previous year.

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

In 2022, the indicators of the stock index futures and options markets were maintained at a reasonable level, the market operated in a stable and orderly manner overall, and the functions of products were further brought into play. The volume to open interest ratio of the stock index futures market was 0.45, and the futures trading volume to spot trading volume ratio was 0.76. The volume to open interest ratio of the stock index options market was 0.76, and the futures trading volume to spot trading volume ratio was 0.22, indicating that the trading intensity in the markets was moderate. Stock index futures and options achieved coordinated development, with their positions repeatedly hitting new highs. Their functions such as risk management were brought into play, meeting the needs of investors for hedging and making positive contributions to keeping investors' shareholding stable and promoting the smooth operation of the stock market.

#### **9.2.2.3 The stock options market remained stable, with market functions effectively fulfilled**

The stock options market operated smoothly in general. In 2022, 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 0.29, and the share of speculative trading (directional trading) was 17.86 percent. Throughout the year, the quality index of the options market averaged at 125.59 (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 32.81 (values below 60 indicate relatively low risks), and the market risks were small. The average daily volume to open interest ratio of CSI 300 ETF options, ChiNext Board ETF options, CSI 500 ETF options and SZSE 100 ETF options on the SZSE was 0.84, 1.2, 0.78, and 0.85, respectively, and the average daily futures trading volume to spot trading volume ratio of the four varieties was 0.05, 0.3, 0.07, and 0.02 respectively, indicating rational trading behaviors of investors.

The economic function of stock options on the SSE was effectively fulfilled. As of end-2022, the number of options investor accounts on the SSE was 591,300, an increase of 48,800 accounts throughout the year. As the SSE stock options market 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 9.17 percent and 54.12 percent respectively. In 2022, the average daily insured market value of the market was RMB 26.195 billion, with the largest daily insured market value reaching RMB 38.798 billion.

The SZSE options market developed steadily, and the economic function of stock options was effectively brought into play. First, the market stability mechanism was improved and market resilience was enhanced. In 2022, the average daily insured market value of the four ETF options on the SZSE was nearly RMB 5.5 billion, which reduced the selling pressure in the spot market. Second, efforts were made to promote the development of the ETF market and stimulate market vitality. The launch of option varieties enriched the futures and spot investment strategy, enhanced the enthusiasm of institutional investors for spot market trading, and encouraged more funds to be allocated to the corresponding ETF products. After the listing of ChiNext Board ETF options, CSI 500 ETF options and SZSE 100 ETF options, the share of underlying ETFs increased by 41.0 percent. Incremental funds of RMB 10.7 billion were brought into the market, and the average daily trading volume increased by nearly 110 percent.

#### **9.2.2.4 The government securities futures market expanded steadily, with its function effectively leveraged**

In 2022, China's economy maintained growth

and the quality of its development improved steadily. In the face of changes in the COVID-19 pandemic and a severe and complex external environment, the market institutions had increasing demands for interest rate risk management. In general, the government securities futures market expanded steadily and operated in a stable and orderly manner. Throughout the year, the trading volume and open interest of government securities futures both raced to record highs. The largest daily trading volume registered 491,000 lots on November 17, 2022, and the total open interest peaked at 448,600 lots on November 16, 2022.

### **9.2.3 Innovation and institutional building of the financial futures and options market**

#### **9.2.3.1 CSI 1000 index futures and options and SSE 50 index options were listed**

In 2022, CSI 1000 index futures and options and SSE 50 index options were successfully listed on the CFFEX on July 22 and December 19 respectively. After the listing, the market operated in a smooth and orderly manner, the futures prices and spot prices were highly correlated, investors exhibited rational trading behaviors, and the product functions were initially brought into play. As of end-2022, the average daily trading volume of CSI 1000 index futures, CSI 1000 index options and SSE 50 index options was 55,600 lots, 61,800 lots and 20,100 lots respectively, and the average daily positions were 96,200 lots, 54,000 lots and 19,600 lots respectively. The listing of new stock index

futures and options was conducive to enriching the risk management tools of the capital market, better meeting the increasingly diversified risk management and wealth management needs of investors, and promoting the stable and healthy operation and high-quality development of the capital market.

### **9.2.3.2 ChiNext Board ETF options, CSI 500 ETF options and SZSE 100 ETF options were listed**

To further leverage the economic function of the options market, the SSE continued to promote the listing of new options. On September 19, 2022, the SSE successfully launched CSI 500 ETF options under the leadership of the CSRC. After the launch, the market operated smoothly, pricing was reasonable, risk control measures were effective, investors traded rationally, public opinions were positive, and the market function was brought into full play. Overall, CSI 500 ETF options served as a complement to SSE 50 ETF options and CSI 300 ETF options in terms of stock size and industry coverage, effectively addressing the problem of insufficient coverage of the stock market by option targets, further improving the market risk management system, enhancing the efficiency of market asset allocation, and meeting the multi-dimensional product risk management needs of market participants.

Under the leadership of the CSRC, the SZSE continued to enrich its ETF option portfolio and promoted the functioning of the futures market.

In 2022, ChiNext Board ETF options, CSI 500 ETF options and SZSE 100 ETF options were successfully listed. The listing ended the history of zero single-market ETF options on the SZSE and marked a significant leap from a single variety to a comprehensive product system. The options product system on the SZSE now covers innovative growth, innovative blue-chip, small- and mid-cap, and large-cap blue-chip stocks, and features four varieties, with the market capitalization of their underlying indices accounting for 60 percent of the market capitalization of all stocks listed on the SZSE, which meets the needs of investors for diverse investment transactions and risk management.

### **9.2.3.3 The second batch of insurers and commercial banks were approved to participate in the trading of government securities futures**

In 2022, following the principles of “high standards, steady start and controllable risks”, the CFFEX actively promoted consensus building among the four departments (the CSRC, MOF, PBOC and CBIRC) on deepening the participation of insurers in the market. As a result, the second batch of 3 insurers and Standard Chartered, as a pilot commercial bank, were approved to participate in the trading of government securities futures. The commercial banks and insurers participated in the market in an orderly manner and conducted transactions in a prudent and sound way, and the investor structure of government securities futures was further improved.



#### **9.2.3.4 A mechanism for the grading of market makers was implemented to enrich the number and variety of market-making institutions**

To further improve the structure of market makers and boost the high-quality development of the financial futures market, the CFFEX introduced the market maker grading mechanism in the government securities futures and stock index options markets in January and July 2022 respectively, realizing the implementation of the grading mechanism in the domestic financial futures market. The market makers were divided into primary market makers and general market makers, and the two types had different quotation obligations and rights. At the same time, a number of institutions were newly approved as general market makers according to market needs and development, and market makers were subject to dynamic qualification adjustments. These moves helped foster a new landscape in which the primary market makers and general market makers complement and promote each other and interact positively, which is conducive to improving the liquidity of market-making varieties and enhancing market vitality and resilience. As of end-2022, market makers of the CFFEX included 16 securities companies and 6 futures risk management companies, of which there were a total of 24 primary market makers and 21 general market makers for the 3 government securities futures, and a total of 34 primary market makers for the 3 stock index options.

#### **9.2.3.5 Fifteen measures in five aspects were introduced to help members resume operations and improve services**

To fully implement the decisions and arrangements of the CPC Central Committee and the State Council on bolstering the economy, and respond to the call of the CSRC to support the accelerated recovery and development of the regions and industries severely affected by the pandemic by giving full play to the functions of the capital market, the CFFEX introduced 15 measures to help its members resume operations and improve services, covering five aspects including tax and fee cuts, provision of emergency assistance, establishment of “green channels”, strengthening of online services, and facilitation of member contact, with the aim of reducing the burden on market entities, optimizing management and service methods, promoting the smooth operation and healthy development of the financial futures market, and contributing to COVID-19 containment as well as economic and social development.

### **9.2.4 Opening-up of the financial futures and options market**

#### **9.2.4.1 QFII and RQFII participated in the trading of stock index options**

In September 2022, the CFFEX issued the *Notice on Matters Concerning the Participation of Qualified Foreign Institutional Investors and RMB Qualified Foreign Institutional Investors in Stock Index Options Trading*, formally accepting the





application for hedging quota of stock index options by QFII and RQFII. This indicated that QFII and RQFII could participate in the trading of stock index options, further expanding the risk management toolkit for MLT professional foreign investors participating in China's capital market.

#### 9.2.4.2 Overseas cooperation projects were steadily advanced

First, support was extended to the PSX to help it launch the Growth Enterprise Market (GEM) Board, and develop and list 2 stock ETF products and a 90-day deliverable futures contract, which helped expand the number of investors and optimize its revenue structure. Second, substantial progress was made in promoting the China-Germany Stock Connect, with 12 ETPs and 2 offshore RMB bonds listed on the CEINEX and China International Capital Corporation Limited (CICC) becoming a member of the Frankfurt Stock Exchange, and continuous efforts were made to promote the development of A-share derivatives.

### 9.3 RMB interest rate derivatives market

#### 9.3.1 Performance of the RMB interest rate derivatives market

##### 9.3.1.1 The trading and clearing volumes of interest rate swaps decreased slightly, with a short-run decline and a long-run increase in the curve

The trading volume of interest rate swaps

decreased slightly year on year. In 2022, the interest rate swap market registered a cumulative trading volume of 244,000 lots, down 3.40 percent year on year, and the notional principal totaled RMB 21.0 trillion, down 0.90 percent year on year. At end-2022, the amount of outstanding interest rate swap contracts in the market stood at RMB 26.20 trillion, an increase of 4.90 percent from end-2021. The bond forward market (including standard bond forwards) reported a trading turnover of RMB 260.01 billion.

In 2022, the central clearing of interest rate swaps registered a total volume of 243,600 lots, almost the same as that of 2021, with a notional principal of RMB 20.77 trillion, down 0.55 percent from the same period of the previous year. Specifically, in H1, the notional principal of cleared interest rate swaps totaled RMB 8.27 trillion, down 24.52 percent year on year; and in H2, the nominal principal of cleared interest rate swaps totaled RMB 12.50 trillion, up 25.93 percent year on year.

As of end-2022, the prices of FR007\_1Y and FR007\_5Y swaps dropped by 3 bps and increased by 21 bps respectively compared with those of end-2021 to 2.19 percent and 2.77 percent, and their movements throughout the year were 45 bps and 48 bps respectively. The spread between FR007\_1Y and FR007\_5Y swaps fluctuated between 32 and 60 bps throughout the year. The prices of Shibor3M\_1Y and Shibor3M\_5Y swaps dropped by 2 bps and

increased by 15 bps respectively compared with those of end-2021 to 2.46 percent and 3.13 percent, and their movements throughout the year were 56 bps and 47 bps respectively.

The spread between Shibor3M\_1Y and Shibor3M\_5Y swaps fluctuated between 41 bps and 85 bps throughout the year.

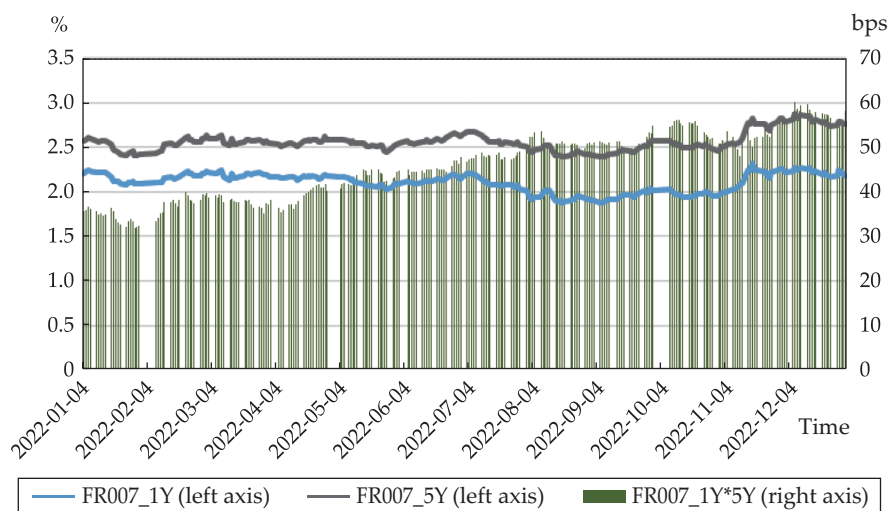


Figure 9.11 Price movements of FR007 swaps in 2022

(Source: CFETS)

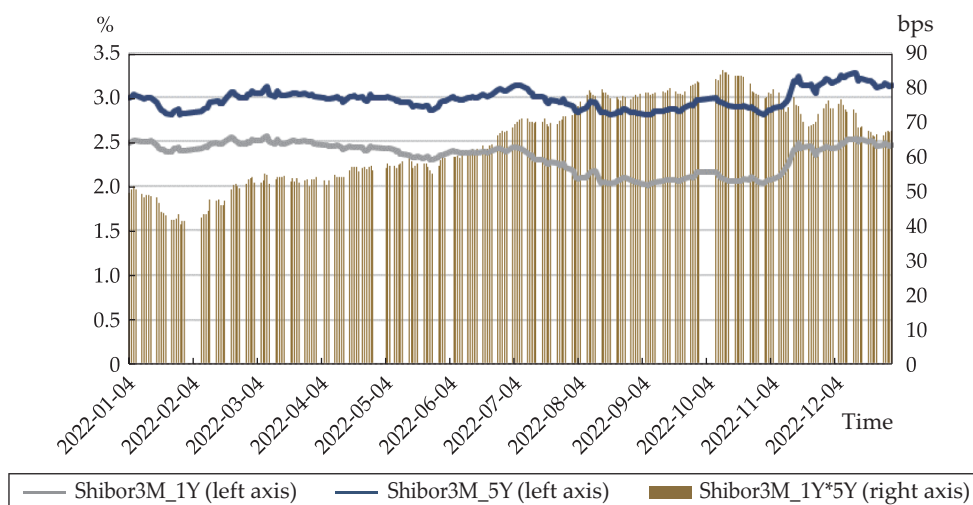


Figure 9.12 Price movements of Shibor3M swaps in 2022

(Source: CFETS)

### 9.3.1.2 The amount of bond forwards traded and standard bond forwards cleared both declined slightly

The bond forward market (including standard bond forwards) reported a trading volume of RMB 260.01 billion, down 0.57 percent year on year. Standard bond forward was the dominant product traded in the bond forward market, with a total turnover of RMB 260 billion, accounting for more than 99.0 percent of the total. All of those standard bond forward transactions were subject to central clearing. By maturity structure, the 5-year contract was the dominant variety. In 2022, the amount of 3-year, 5-year and 10-year contracts traded and cleared was RMB 43.27 billion, RMB 138.97 billion and RMB 60.72 billion respectively, accounting for 16.60 percent, 53.50 percent and 23.40 percent of the total in the market. By participants, securities companies, joint-stock

commercial banks and urban commercial banks were major participating institutions, with their trading volume accounting for 46.80 percent, 39.90 percent and 9.60 percent of the total respectively, and together accounting for 96.30 percent of the total.

By contract types, the clearing volume of cash settlement contracts totaled 2,759 lots with a notional amount of RMB 242.96 billion, and that of physical delivery contracts totaled 151 lots with a notional amount of RMB 17.04 billion. By underlying asset of the contract, contracts with CDB bonds as the underlying asset achieved a total volume of 1,962 lots with a notional amount of RMB 147.68 billion, and contracts with ADBC bonds as the underlying asset reached a total volume of 948 lots with a notional amount of RMB 112.32 billion.

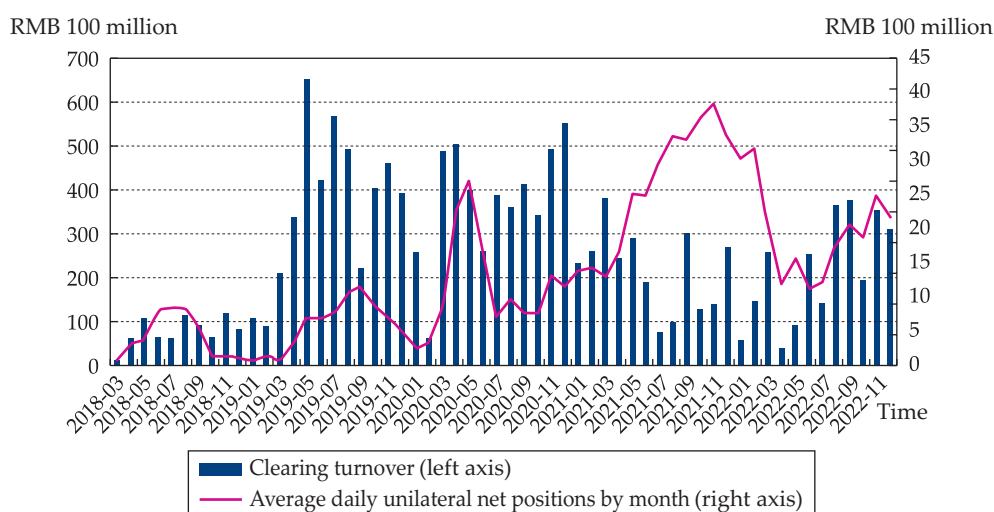


Figure 9.13 Performance of standard bond forwards from 2018 to 2022

(Source: SHCH)

### 9.3.2 Main features of the RMB interest rate derivatives market

#### 9.3.2.1 The maturity structure of interest rate derivatives continued to improve

In 2022, the share of interest rate swaps with a maturity of over 1 year in the total trading volume increased by 4.90 percentage points, among which the share of interest rate swaps with a maturity of 1~5 years (including 5 years) increased by 4.70 percentage points and that of interest rate swaps with a maturity of 5~10 years (including 10 years) increased by 0.20 percentage points, indicating a continuously improving maturity structure.

#### 9.3.2.2 Prices better reflected market expectations and the effect of hedging improved

In 2022, the interest rate swap curve showed a downward trend first and then an upward trend, and the fluctuation in H2 increased compared with that in H1, which was similar to the trend of yield on government securities in the bond market and that of money market interest rates. The role of the interest rate swap market as a forward-looking guide for the bond market and a reflection of the expectations of changes in money market interest rates continued to be strengthened.

By comparing the yield on 10-year government securities with the curve of 10-year FR007 swap, it was found that the yield on 10-year government securities dropped to the year's low in mid-August while the 10-year FR007

swap curve dipped to a low since the beginning of 2022 on the previous trading day; and the yield on 10-year government securities rose to the year's high in mid-December while the 10-year FR007 swap curve rose to the year's high five trading days earlier.

By comparing the DR007 and 1-year FR007 swap curves, it was found that DR007 dropped to the year's low in early August while the 1-year FR007 swap curve hit a low since the beginning of the year two trading days earlier; and DR007 fluctuated upwards after August and the 1-year FR007 swap curve reached the year's high one month earlier than DR007.

#### 9.3.2.3 The reference rate of interest rate swaps remained dominated by FR007 and Shibor, and the maturity structure was dominated by 1-year and 5-year maturities

In 2022, 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 99.20 percent of the total. Specifically, transactions with FR007 as the reference rate accounted for 89.40 percent of the total, up 2.80 percentage points over 2021, with a total of RMB 18.69 trillion cleared, accounting for 89.97 percent of the total notional principal amount of all transactions. Transactions with Shibor as the reference rate accounted for 9.80 percent of the total, down 2.60 percentage points from 2021, with a total of RMB 2.03 trillion cleared, accounting for 9.79 percent of the total notional principal amount of all transactions.

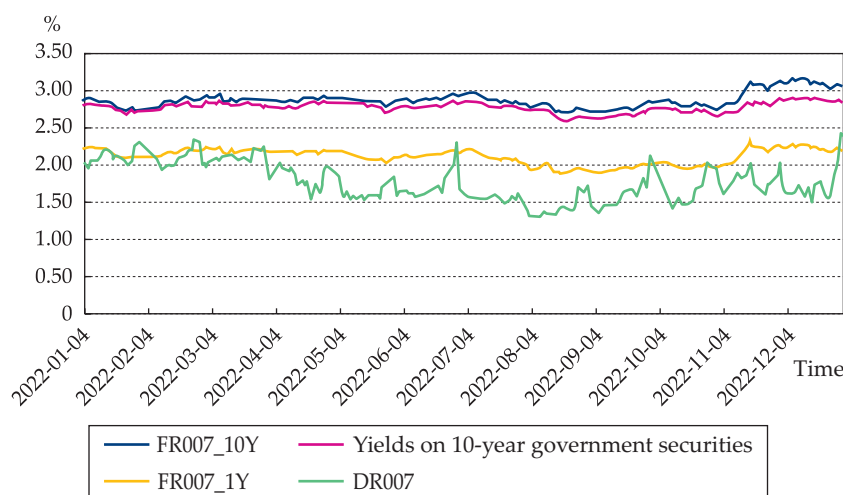


Figure 9.14 Movements of FR007 interest rate swaps, government securities yields and DR007 in 2022

(Source: CFETS)

In 2022, the notional principal of 1-year and 5-year interest rate swap transactions increased by 19.38 percent and 14.58 percent year on year respectively, and accounted for 46.15 percent and 25.54 percent of the total notional principal amount of all transactions.

#### 9.3.2.4 The demand for risk hedging further expanded

From the demand side of risk hedging instruments, the participants in the interest rate swap business were further diversified and kept growing in number in 2022, registering an increase of 38 compared with that of the previous year. As of end-2022, there were 9 general clearing members, 40 direct clearing members, and 337 non-clearing members. The 386 participants in the market included banks, securities companies, insurers, finance companies, and non-incorporated products, of which 8 were foreign-funded institutions. 5 new

institutions participated in Real-time novation clearing, bringing the total number to 73, which improved the liquidity of dominant contracts and enhanced trading and clearing efficiency.

The physical delivery mechanism for standard bond forwards was put into operation. In March 2022, the SHCH successfully completed the first physical delivery, creating a new form of inter-bank interest rate derivatives. The first batch of physical delivery contracts included standard bond forwards with 2-year CDB green bonds, and 2-year and 7-year ADBC bonds as the underlying assets.

### 9.3.3 Innovation and institutional building of the RMB interest rate derivatives market

#### 9.3.3.1 Exclusive quotation service for interest rate swaps was launched

To further enrich interest rate swap trading

services, broaden trading channels and meet the trading needs of various market members, the CFETS launched the exclusive quotation service for interest rate swaps in November 2022. Exclusive quotation means that the quotation institution provides quality prices to its client institutions through the CIBMTS (China Inter Bank Market Trading System) or API interface on the basis of the local X-Swap quotation. The client institution can view the real-time quotations of all contracts of its exclusive quotation institution in the CIBMTS, and realize one-click trading on the basis of credit granted by both parties.

#### **9.3.3.2 The anonymous one-click trading business of interest rate swaps on the X-Swap system developed steadily**

In 2022, the functions of the X-Swap system were continuously optimized, the market share was stable, and the single-day turnover reached a record high of over RMB 130 billion, making the system an important tool for interest rate risk management of market members.

#### **9.3.4 Opening-up of the RMB interest rate derivatives market**

On July 4, 2022, PBOC, Hong Kong Securities and Futures Commission (SFC) and Hong Kong Monetary Authority (HKMA) issued a joint announcement on the launch of the mutual access program between the Hong Kong and mainland financial derivatives markets (Swap Connect), allowing domestic

and overseas investors to participate in the financial derivatives markets in the two places through the infrastructure connection. According to the announcement, the CFETS, SHCH and OTC Clearing Hong Kong Limited (OTC Clear) would collaborate to build Swap Connect, which would provide derivatives trading and clearing services for overseas investors to access the mainland market and for mainland investors to access the Hong Kong market.

### **9.4 RMB credit derivatives market**

#### **9.4.1 Performance of the RMB credit derivatives market**

##### **9.4.1.1 The inter-bank credit derivatives market grew steadily and various varieties developed in a more balanced way**

In 2022, a total of 338 transactions of Credit Risk Mitigation (CRM) instruments were concluded in the inter-bank market, with a total notional principal of RMB 53.064 billion, up 42.02 percent and 42.75 percent year on year respectively, and the efficiency of credit risk diversification was further enhanced. Credit Risk Mitigation Warrants (CRMWs) remained the dominant CRM instrument. In 2022, 178 CRMWs were made available, with a total notional principal of RMB 26.805 billion, a slight decrease of 9.19 percent year on year, accounting for 50.51 percent of the notional principal of all CRM transactions, down from 80.49 percent in 2021. The scale of Credit Risk Mitigation Agreement



(CRMA) increased significantly, with richer types of reference debts. A total of 119 CRMA transactions were made throughout the year, with a notional principal of RMB 21.324 billion, up 464.0 percent year on year, accounting for 40.19 percent of the notional principal of all CRM transactions, up from 8.94 percent in 2021. Credit-Linked Notes (CLNs) achieved a breakthrough in application scenarios. A total of 24 CLNs were made available, with a notional principal of RMB 2.54 billion, accounting for 4.79 percent of the total, up from 0.68 percent. Credit Default Swap (CDS) transactions dried up in 2022, with the transaction volume dropping to 4.51 percent of the total. A total of 17 CDS transactions were made throughout the year, with a notional principal of RMB 2.395 billion.

#### **9.4.1.2 CRM market participants continued to grow**

As of end-2022, there were a total of 145 CRM market participants, among which 65 were CRM Major Dealers (including 44 banks, 20 securities companies and 1 credit enhancement institution), one more than those of end-2021. Based on the filing of CRM Major Dealers, there were a total of 57 CRMW issuers (2 new ones) and 52 CLN issuers (1 new one). Among the CRM market participants, there were 80 CRM Dealers, an increase of 20 compared with those of end-2021. Among them, 50 were asset management institutions (271 products), with wealth management subsidiaries participating

in filing activity for the first time; 6 were non-financial enterprises, including newly added provincial guarantee or credit enhancement companies in Shandong, Sichuan and Henan; and 24 were financial institutions, mainly small and medium-sized banks and securities companies.

As of end-2022, there were 41 participants in the bilateral clearing and central clearing of contract-type credit derivatives in the SHCH, covering large state-owned commercial banks, joint-stock commercial banks, urban commercial banks, securities companies, credit enhancement institutions, private placement products, segregated accounts of publicly offered funds, etc. Onshore branches of foreign-funded banks were among the participants in bilateral clearing for the first time, and 2 new non-incorporated products participated in central clearing as customers.

#### **9.4.1.3 Credit derivatives of exchanges developed rapidly and helped improve the financing efficiency**

As of end-2022, the SSE issued 119 warrants with a notional principal of RMB 6.957 billion, supporting bond issuance in an accumulative amount of RMB 248.00 billion, including private enterprise bonds worth RMB 60.70 billion. The SSE reached 206 contracts with a notional principal of RMB 12.85 billion, supporting bond issuance in an accumulative amount of RMB 92.00 billion, including private enterprise



bonds worth RMB 19.70 billion. A total of 29 institutions became issuers of credit protection warrants on the SSE.

At end-2022, the SZSE reached 126 credit protection contracts with a notional principal of RMB 6.672 billion and issued 13 credit protection warrants with a notional principal of RMB 1.293 billion, supporting financing of RMB 50.00 billion, including financing of RMB 22.0 billion through private enterprise bonds. In addition, the SZSE launched the first batch of portfolio credit protection contracts in August 2022, and reached a total of 32 contracts with a notional principal of RMB 900 million.

## 9.4.2 Main features of the RMB credit derivatives market

### 9.4.2.1 Domestic large and medium-sized banks were the main net sellers and asset management institutions and foreign-funded banks were the main net buyers in the CRM market

In 2022, there were 35 CRM Major Dealers and 31 CRM Dealers conducting the CRM business. Specifically, the net sellers of CRM instrument transactions were mainly joint-stock commercial banks, urban commercial banks and large state-owned commercial banks, with a net sale of RMB 25.132 billion in notional principal. The net buyers of CRM instrument transactions were mainly asset management

institutions, foreign-funded banks and rural commercial banks, with a net purchase of RMB 24.891 billion in notional principal. In addition, securities companies and credit enhancement institutions were quite similar in terms of the size of their purchases and sales throughout the year.

### 9.4.2.2 CRMW issuance slightly decreased year on year but was better able to serve the real economy

In 2022, 178 CRMWs were made available by 23 institutions, with a total notional principal of RMB 26.805 billion, down 9.19 percent year on year. In the secondary market, 197 transactions were concluded, and their total notional principal stood at RMB 4.827 billion, up 4.35 percent year on year. The enhanced ability to serve the real economy can be attributed to three reasons. First, a majority of CRMWs were made available to support bond issuance, with the number being 134, and their total notional principal stood at RMB 24.016 billion, supporting bond issuance by 89 enterprises in a cumulative amount of RMB 58.013 billion. In addition, 44 CRMWs linked to existing bonds were made available, with a total notional principal of RMB 2.789 billion, a significant increase of 335.78 percent year on year. Second, most of the reference entities were non-private enterprises. A total of 37 CRMWs linked to private enterprise bonds were made available, with a nominal principal of RMB 5.609 billion, accounting for 20.91 percent of the total. A total

of 81 CRMWs linked to bonds of non-private enterprises (including state-owned enterprises, Chinese-foreign joint ventures and Hong Kong, Macao and Taiwan-funded enterprises) were made available, with a notional principal of RMB 21.196 billion, accounting for 79.09 percent of the total. Third, ratings of reference entities were mainly AA and AA+, and the maturities of CRMWs basically matched those of underlying bonds. The geographical area of reference entities expanded to 22 provinces within the Chinese mainland and a regions outside the mainland. In terms of industries, reference entities were mainly dedicated to urban investment and manufacturing industries, and expanded to the real estate industry. The underlying bonds were mainly debt-financing instruments issued by non-financial enterprises, and incorporated panda bonds for the first time in 2022.

#### 9.4.2.3 The demand for contract-type credit derivatives in the inter-bank market was diverse and the clearing volume hit a record high

In 2022, the notional principal of CRMA and CDS transactions in the inter-bank market was RMB 23.719 billion, up 243.50 percent year on year, and their market share increased from 18.80 percent in 2021 to 44.70 percent. CRMAs with a single bond as the underlying debt were the dominant products, which were used for hedging credit risks, optimizing the credit line management mechanism, and enhancing the efficiency of bond financing for enterprises. Throughout the year, the volume of contract-type credit derivatives cleared at the SHCH reached RMB 17.781 billion, up 710.0 percent year on year, and the proportion of clearing volume in the trading volume of contract products in the inter-bank market increased from 31.80 percent in 2021 to 75.0 percent.

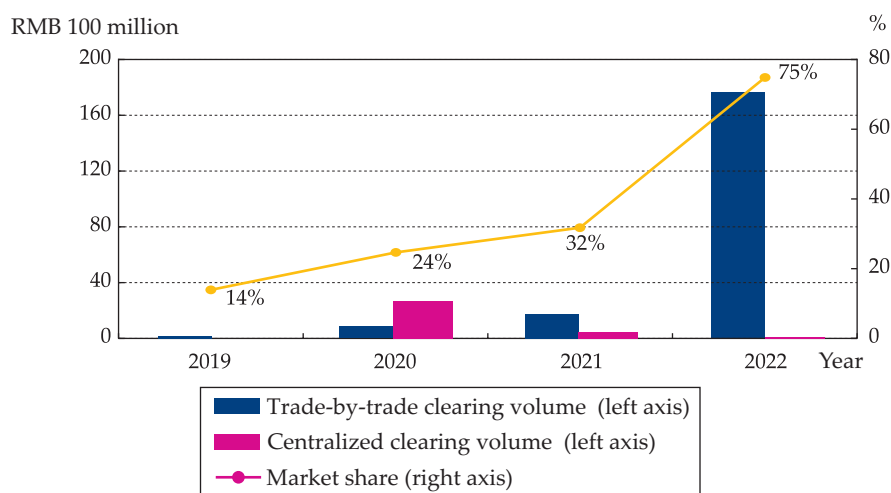


Figure 9.15 Change in the volume of credit derivatives cleared at the SHCH from 2019 to 2022  
(Source: SHCH)

### 9.4.3 Institutional building of the RMB credit derivatives market

#### 9.4.3.1 A new cross-border version of the NAFMII Master Agreement was released to enrich the array of master agreements

To promote the further opening-up of China's financial market, NAFMII released the *NAFMII Master Agreement (Cross-border—2022 Version)* (the Master Agreement) in August 2022, which was formulated by market members and legal experts by optimizing and adjusting the 2009 version, with the characteristics of cross-border derivatives transactions taken into account. First, tax provisions were added. Second, a cross-agreement settlement arrangement that can be optionally applied in the supplemental agreement was added. Third, provisions on trading through branches were added. Fourth, applicable laws and dispute resolution methods were revised. Fifth, provisions on non-incorporated products were added. Market participants conducting cross-border financial derivatives transactions can choose to sign the Master Agreement.

#### 9.4.3.2 Interest rate and credit terminology documents were updated to improve market services

In August 2022, NAFMII released the *NAFMII Definitions Document for Interest Rate Derivatives Trading (2022 Version)* and the *Basic Terminology and Applicable Rules for OTC Credit Derivatives Trading in China (2022 Version)* (hereinafter referred to as the *Interest Rate Definitions*

*Document and Credit Terminology Document*), which revised and improved some definitions and terms in the 2012 version of *Interest Rate Definitions Document* and the 2016 version of *Credit Terminology Document*, respectively, with the innovation and development of the derivatives market in recent years taken into consideration. The *Interest Rate Definitions Document* introduced the definitions of option products, incorporated the loan prime rate (LPR) and inter-bank fixing repo rate (FDR) as reference rates, and improved the provisions on the information backup mechanism. The *Credit Terminology Document* improved the definition of debt restructuring, introduced a reference debt assumption mechanism, added a special arrangement for the protection of a single debt, introduced the option of "credit deterioration requirement" in the supplementary agreement, and further improved the expression of "public information". Market participants can choose to use different versions of definitions or terminology documents according to their own trading needs.

### 9.4.4 Innovation of product and trading mechanism in the RMB credit derivatives market

#### 9.4.4.1 China's first tranche of social panda bonds issued with CRMW placement, an active attempt to explore the credit enhancement field

In December 2022, China Bond Insurance Co., Ltd. successfully issued CRMWs, which supported the issuance of the first social

panda bonds in the domestic market by China Shengmu Organic Milk Limited. The total amount of the CRMWs was RMB 20 million. The model of “CRMW issuance + bond issuance” effectively improved the market recognition of the underlying bonds and reduced the financing difficulty and cost of enterprises. The bonds were the first private enterprise panda bonds with CRMW placement in the market as well as the first social panda bonds. The proceeds of the bonds would be used to support the development of upstream and downstream industrial chains of animal husbandry and increase the income of low-income nomads in remote areas such as Dengkou County in Inner Mongolia and areas around pastures, so as to achieve social responsibility objectives.

#### **9.4.4.2 The first jointly established ABS credit protection certificate was launched to support the financing of private enterprises**

On May 16, 2022, the SZSE launched the credit protection certificate that was jointly established by China Securities Finance Co., Ltd. (CSF) and CITIC Securities Co., Ltd., the special plan manager. It was matched with “CITIC Securities-Linklogis-Xinlian No.1 Supply Chain Financial Asset Support Special Plan (II)”, or Longfor Supply Chain ABS, and successfully completed bookkeeping. The total issue size of Longfor Supply Chain ABS was RMB 402 million, the interest rate for senior ABS was 3.50 percent, the bid-to-cover ratio was 2.36, and the underlying assets were the accounts receivables by 306 small- and medium-sized suppliers

in the upper stream of the supply chain from Longfor. The notional principal of the matched credit protection certificate was RMB 40 million, and the issue size of the protected underlying assets was RMB 400 million. This credit protection certificate was the first credit protection instrument for private property developers on the market.

#### **9.4.4.3 The first pilot projects of financing support for private real estate enterprises under the “central-local government cooperation model” launched**

On December 9, 2022, Country Garden Real Estate Group issued, in the book entry form, the second tranche of corporate bonds in 2022 on the SZSE. The SZSE launched the first pilot projects of financing support for private real estate enterprises under the “central-local government cooperation model” and realized full credit enhancement support. The issue size of bonds of this tranche totaled RMB 1 billion, including RMB 800 million for Type I bonds and RMB 200 million for Type II bonds. CSF and underwriter China Securities Co., Ltd. jointly established a full credit protection certificate for the Type I bonds, and Guangdong Join-Share Financing Guarantee Investment Co., Ltd. provided full bond guarantee for the Type II bonds.

#### **9.4.4.4 Portfolio credit protection contracts launched**

To implement the decisions and arrangements of the CPC Central Committee and the State

Council on supporting the development of private enterprises and fulfill the requirements of the government work report on improving the bond financing support mechanism for private enterprises, the SSE and SZSE both launched a pilot of portfolio credit protection contract (CDX) in July 2022 with approval of the CSRC, aiming to support enterprises in financing in a market-oriented manner.

#### **9.4.4.5 The scope of bilateral clearing for credit derivatives was expanded to innovate application scenarios**

Previously, the SHCH mainly provided bilateral clearing services for contract-type credit derivatives with debt financing instruments of non-financial enterprises as the underlying assets in the inter-bank market. In 2022, the SHCH expanded the service scope to cover contract-type credit derivatives with green bonds, domestic bank-issued perpetual bonds, Chinese US dollar bonds and dim sum bonds as the underlying assets, and extended the coverage of underlying assets to both the onshore and offshore markets, helping Chinese-funded enterprises issue bonds abroad.

#### **9.4.4.6 Credit derivatives business with green bonds as the underlying assets and involving collateral was launched to expand the scope of services**

In 2022, when market institutions conducted contract-type credit derivatives transactions with investors such as private equity funds, they innovatively used bonds in the SHCH's

custody as the bilateral collateral. By connecting centralized derivatives clearing with bond registration and custody, the SHCH provided bilateral clearing and collateral management services to help market institutions improve the efficiency of counterparty credit risk management.

#### **9.4.4.7 The scope of reference entities of CDS central clearing was updated and the underlying asset pool was enriched**

In December 2022, the SHCH increased the number of reference entities that are non-financial enterprises eligible for central clearing from 43 to 113, and allowed market institutions to submit standardized single-name CDS transactions with reference entities within the updated scope to the SHCH for central clearing, further expanding the scope of the underlying asset.

## **9.5 Exchange rate derivatives market**

### **9.5.1 Performance of the exchange rate derivatives market**

In 2022, the RMB foreign exchange derivatives market saw a slightly declining turnover, which totaled USD 20.4 trillion. The daily turnover averaged USD 84.30 billion, down 4.0 percent year on year. Specifically, the average daily turnover of swaps, options, forwards and currency swaps was USD 79.80 billion, USD 3.80 billion, USD 500 million and USD 100 million respectively, down 5.0 percent, up 4.0 percent,



up 20.0 percent and down 29.0 percent year on year. The turnover of RMB foreign exchange derivatives in the year accounted for 71.0 percent of the total turnover of the RMB foreign exchange market, up 3 percentage points year on year.

The foreign currency pair derivatives market remained stable in 2022, with a total turnover of USD 1.20 trillion. The daily turnover averaged USD 5.10 billion, down 1.0 percent year on year.

### 9.5.2 Main features of the exchange rate derivatives market

#### 9.5.2.1 The exchange rate derivatives market reported increased volatility

In 2022, due to the US dollar interest rate hike cycle, the interest rate of US T-bonds continued to rise, and the China-US interest rate spread repeatedly hit new lows. The swap points of swaps with major maturities kept moving downward and showed a high correlation with interest rates. In particular, the swap points of long-term swaps showed an obvious downward trajectory, turning from positive to negative in April and remaining in the negative territory from then on. The 1-year swap points closed at -1,970 bps at end-2022, down 3,464 bps from end-2021 and hitting a new low since 2015. The swap points, especially those of long-term swaps, fluctuated violently, with the movement of 1-year swap points throughout the year registering 3,958 bps, a record high since 2015.

#### 9.5.2.2 Prices of exchange rate derivatives reflected divergent market expectations

Since Q2 2022, the US dollar had officially entered the cycle of interest rate hikes, which exerted pressure on both the spot exchange rate of RMB against USD and derivatives prices. The implied volatility of RMB-USD parity options showed a significant upward trend, and the implied volatility of short-term options with a maturity of no more than one month remained high, once hitting a new high in nearly three years. From May onwards, the implied volatility curve remained inverted for most of the time, with options with short maturities having higher implied volatilities than those with medium or long maturities, indicating divergent market expectations of exchange rate trends.

### 9.5.3 Innovation and institutional building of the exchange rate derivatives market

To further implement the *Notice by the State Administration of Foreign Exchange on Relevant Measures for Further Encouraging the Foreign Exchange Market to Serve the Real Economy* (Huifa No.15 [2022]), the CFETS launched exotic options such as American, Asian, European barrier and European digital options in the inter-bank foreign exchange market in June 2022, further meeting the needs of the domestic foreign exchange options market, improving the derivatives portfolio in the domestic foreign exchange market and providing the



market with more abundant exchange rate risk management tools.

## 9.6 OTC commodity derivatives market

### 9.6.1 Performance and features of the OTC commodity derivatives market

In 2022, the SHCH made the OTC commodity derivatives CCP clearing business available for 20 derivatives in six industries, i.e., freight, ferrous metals, non-ferrous metals, energy, chemicals, and carbon emission, with a total clearing volume of 41,200 lots and a clearing amount of RMB 14.376 billion. In terms of industry distribution, the total volume of business was mainly in derivatives in chemicals, which accounted for 97.82 percent of the total clearing volume, while those of other industries accounted for 2.18 percent. As of end-2022, there were 7 general clearing members and 8 direct clearing members in the OTC commodity derivatives CCP clearing business of the SHCH.

In 2022, the SHFE continued to promote the development of OTC derivatives business such as commodity swaps by opening accounts for 20 primary dealers, 3 secondary dealers, 2 agency clearing houses and 15 proprietary clearing houses and completing the technical development of the commodity swap trading platform.

In 2022, the SHCH's Commodity Clearing Net (CCNet) was connected with 4 spot trading

platforms, supported those in expanding 9 cooperative warehouses, introduced 15 banks, and served 3,736 enterprise entities. The business covered 30 varieties in four industries, i.e., chemicals, non-ferrous metals, ferrous metals and agricultural products. Throughout the year, the SHCH, via the CCNet, cleared 119,800 spot transactions with a total delivery of 9,523.75 tons and a volume of RMB 541.749 billion, up 126.1 percent year on year.

In 2022, the SHFE OTC Platform supported the trading business of warrants of 17 products, including standard warrants of 15 products, extended warrants of 1 product, and bonded standard warrants of 1 product, introduced the functions of seller listing, targeted listing, buyer listing and online warrant pledge financing as well as the client for futures-physicals integrated trading, and launched the ZME, Ouyeel, bonded warrant transfer, EFP (exchange of futures for physicals) and CSICE quotation sections. In 2022, 18,335 transactions were made on the SHFE OTC Platform, totaling 686,000 warrants and 1,353,600 tons, with a turnover of RMB 122.978 billion (all unilateral statistics). The number of warrants increased by 271,500, or 65.52 percent, year on year, and the turnover increased by RMB 8.054 billion, or 7.01 percent, year on year. As of end-2022, the OTC Platform had 621 traders, who completed 140 pledges worth RMB 1.645 billion for financing on the platform throughout the year.



## 9.6.2 Innovation and institutional building of the OTC commodity derivatives market

### 9.6.2.1 CCNet supply chain financial service launched

In June 2022, the SHCH launched the CCNet supply chain financial service. The service, developed by the SHCH in collaboration with commercial banks and spot trading platforms based on the CCNet, established a decentralized business model mainly based on property rights and commodity value in the context of real-life trade and provided digital financing services for spot trading of MSMEs in the commodity industrial chain.

### 9.6.2.2 Carbon derivatives clearing services supported the green and high-quality development of enterprises

First, the research and development of cross-border RMB clearing business for emission allowances were advanced in an orderly manner to facilitate ways of cross-border clearing and settlement of carbon trading by financial infrastructure. Second, in-depth research on China Certified Emission Reduction (CCER) and other product reserves was conducted and efforts were made to connect with regional environmental rights trading platforms to expand business coverage. Third, as a member of the Working Group on Green Finance Standards under the China Financial Standardization Technical Committee, the SHCH participated in the drafting of *Carbon Financial Products*, a national financial industry

standard that was issued and came into effect in April, helping channel more financial resources into the green development field. Fourth, the existing derivatives CCP clearing service was optimized and improved and the mechanism of using carbon emission allowance to offset margin was explored.

### 9.6.2.3 Measures for the Administration of Commodity Swap Business of the Shanghai Futures Exchange issued

In 2022, the SHFE issued the *Measures for the Administration of Commodity Swap Business of the Shanghai Futures Exchange*, whose highlights were as follows. First, commodity swap dealers, categorized into primary ones and secondary ones, were managed on a tiered basis. It is stipulated that dealers should adopt the trading model of price inquiry, quotation, listing and delisting. Primary dealers can trade with each other and form an inter-institutional market while the secondary dealer can only join the market-making market of a primary dealer and request quotations from that primary dealer. Second, a hierarchical settlement system was established to provide centralized settlement services. Under the system, the SHFE provided settlement services for clearing houses and agency clearing houses provided settlement services for dealers not eligible for settlement. Third, drawing on the successful operation of the exchange-traded futures market, a five-level risk control system was established to strictly control the risk of the commodity swap business, and a “triple firewall” system

was established to isolate risks between the derivatives business and the futures business (which realized the isolation of technical system, account system and risk pool).

## 9.7 Outlook of the derivatives market

### 9.7.1 The derivatives market system will be improved

First, the *FDL* will be implemented and rules and regulations of the market will be revised to strictly crack down on illegal acts, enhance the capability of market governance, strengthen the protection of traders, and optimize the market development environment. Second, the alignment of relevant systems with the *Measures for the Administration of Stock Options Trading* will be promoted, adaptive revision of stock options business rules will be accelerated, and systems of stock options listing, trading, risk management and trader protection will be improved.

### 9.7.2 The market trading mechanism will be optimized

First, the efficiency of self-regulation will be improved. Second, continued efforts will be made to build a comprehensive commodity service system featuring domestic-overseas interconnectivity and futures-spot linkage to meet corporate demands for risk management, hedging, financing and pricing. Third, the operation and management mechanism of the credit derivatives market will be further

improved, rules on the determination of credit events in CRM transactions will be developed and implemented, and a professional and efficient market-oriented credit event resolution mechanism will be put in place. Fourth, the efficiency of credit derivatives clearing will be improved and supporting services during the term of transactions will be expanded to enhance the momentum of business development. Fifth, the implementation of innovative services such as cross-border RMB clearing and settlement via CCNet, e-CNY clearing and blockchain application will be advanced.

### 9.7.3 Diverse market participants will be introduced

First, net sellers of credit derivatives with excellent risk-pricing capabilities and flexible trading strategies will be cultivated and introduced. Second, the dynamic management of CRM dealers will be improved to encourage major dealers to actively engage in business operations and strengthen their risk management and pricing capabilities. Third, participants of CCNet will be enriched, the service scope will be extended, and the supply chain financial service will be expanded. Fourth, more MLT funds will be introduced to the derivatives market.

### 9.7.4 The development of representative products that can pool market liquidity will be explored

First, based on the needs of the real economy,



existing products will be improved and new products will be developed to build a high-quality product system. Innovation of futures varieties such as aluminum oxide, synthetic rubber, cold-rolled coil, recycled steel raw materials, sodium hydroxide, PX and lithium carbonate will be pushed forward. Second, monthly average settlement prices will be developed for appropriate futures varieties to provide more diverse and flexible risk management tools for the market. Third, financial futures and options products will be enriched. Fourth, the role of financial infrastructure will be further leveraged to actively promote the launch of cross-border RMB clearing business for emission allowances. Fifth, efforts will be made for the early approval

of the commodity swap business by the CSRC.

### 9.7.5 Opening-up of the derivatives market will be pushed forward

First, the mechanisms of Swap Connect will be optimized and improved and market monitoring and analysis will be strengthened to ensure the smooth operation of the business and provide convenient and efficient risk management tools for more overseas institutions investing in China's bond market. Second, research on further opening up the markets of stock index futures, government securities futures and stock options will be carried out.

#### BOX 8 China Hydrogen Price Index launched to serve the goal of peaking carbon emissions and achieving carbon neutrality

To achieve "dual carbon" goals, promote China's green development and serve the high-quality development of the energy industry, the SHFE, together with relevant organizations, successfully launched the China Hydrogen Price Index system. The SHFE, SEEE and YRD Hydrogen Energy Technology Research Institute jointly compiled the China Hydrogen Price Index system, and released the Yangtze River Delta Hydrogen Price Index, the first index in the system, on September 22, 2022, which would

be published every two weeks. According to the Yangtze River Delta Hydrogen Price Index on the day of its release, the hydrogen price in the Yangtze River Delta was RMB 33.69/kg, and that of clean hydrogen in the region was RMB 34.17/kg.

The index shows the overall level and trend of hydrogen price and clean hydrogen price in the Yangtze River Delta and serves as a reference for monitoring of the market by the government, decision-making by

upstream and downstream enterprises in the hydrogen energy industrial chain, and investment analysis. It lays the foundation for an effective market price indicator of the hydrogen energy industry and for a national hydrogen trading platform and system. At the same time, the calculation of the index takes into account carbon emissions, linking hydrogen pricing with carbon emission prices, which gives full play to the guiding role of carbon prices in the market and promotes the coordinated development of

carbon and hydrogen.

Going forward, the SHFE will continue to work with relevant organizations to further improve the China Hydrogen Price Index system, help build Shanghai into a carbon pricing center and hydrogen pricing center with international influence, and serve the strategy of integrated development of the Yangtze River Delta as well as the green and low-carbon transition and development of China's energy sector.

### **BOX 9 The credit derivatives business continues to innovate to improve the quality and efficiency of financial services for the real economy**

#### **1. Portfolio credit protection contracts launched**

To implement the decisions and arrangements of the CPC Central Committee and the State Council on supporting the development of private enterprises and fulfill the requirements of the government work report on improving the bond financing support mechanism for private enterprises, the SSE and SZSE both launched a pilot of portfolio credit protection contract (CDX) in July 2022 with approval of the CSRC, with a view to supporting enterprise financing in a market-oriented manner.

On August 15, 2022, eight core CDX dealers, namely China Merchants Securities Co., Ltd., CICC, Huatai Securities Co., Ltd., CITIC Securities, Guotai Junan Securities Co., Ltd., Shenwan Hongyuan Securities Co., Ltd., China Securities Co., Ltd. and GF Securities Co., Ltd., based on qualification filing, trading negotiation and other preparations, were actively involved in trading and quotations of the first CDX products. A total of 32 contracts were reached, with a notional principal of RMB 900 million.

CDX can offer a package of credit protection



to bond issuers, including quality private enterprises, which serves as a complement to the single credit protection contract. CDX has the following characteristics. First, high transaction efficiency. Investors can realize risk protection for multiple reference entities by completing one CDX transaction, thus saving transaction costs. Second, good diversification effect. As the portfolio consists of a package of reference entities, it can effectively reduce concentration and diversify risks.

## **2. Bilateral clearing of credit derivatives continues to innovate**

The SHCH has empowered bilateral clearing with the advantages of CCP clearing and expanded it to more financial transaction scenarios by launching bilateral clearing service for credit derivatives, providing centralized and full-process clearing and settlement services for credit derivatives transactions not included in CCP clearing in the inter-bank market, which improves the standardization, automation and transparency of post-transaction processes

of credit derivatives.

SHCH's bilateral clearing service of credit derivatives mainly includes calculation of cash flow during transaction duration, automatic fund transfer and payment, electronic credit event settlement and third-party reference valuation for contract-type credit derivatives, including single-name CDS, CRMA, CDS indices.

The service applies to a variety of scenarios. In 2021, the SHCH provided bilateral clearing service for credit enhancement business featuring CRMA transactions to promote the issuance of collective bonds and the establishment of a market-oriented risk-sharing mechanism and to facilitate corporate financing. In 2022, the SHCH provided bilateral clearing service for credit derivatives transactions with green bonds, Chinese US dollar bonds and dim sum bonds as the underlying assets to serve the development of green finance and help Chinese-funded enterprises issue bonds overseas.

### BOX 10 SHCH's commodity central clearing business actively serves the real economy

In response to the diverse risk management needs of commodity enterprises, the SHCH launched the OTC commodity derivatives CCP clearing business and CCNet business.

In terms of the OTC commodity derivatives CCP clearing business, the SHCH has continuously enriched the products and expanded the service scope since the launch of the business in 2013. It has made the business available for 20 derivatives in six industries, i.e., freight, ferrous metals, non-ferrous metals, energy, chemicals, and carbon emission, and served more than 600 enterprises. The cumulative clearing volume exceeds RMB 530.00 billion.

In terms of the CCNet business, the CCNet has been connected to 4 spot trading platforms in the Yangtze River Delta Eco-Green Integrated Development Demonstration Zone and the China (Shandong) Pilot Free Trade Zone Qingdao Area and supported them in expanding 9 cooperative warehouses. The multi-level cross-bank payment network developed by the SHCH has been incorporated into 15 banks. The business

has been expanded to cover 30 varieties in the chemical, non-ferrous metal, ferrous metal and agricultural products industries from 4 chemical products in the initial stage, serving over 170,000 spot transactions of more than 3,700 enterprises, with a total clearing volume of over RMB 780 billion, representing an annual growth rate of 126.1 percent, and a total delivery of more than 130 million tons. At the same time, by extending the clearing fee waiver of the CCNet business in a timely manner, the SHCH has saved market participants over RMB 10 million.

Next, the SHCH will continue to take multiple measures to expand and improve the commodity central clearing business, build a standard system for the business and a commodity data center, and address the problems of the traditional offline financing business, such as insufficient credit of MSMEs, difficulty in verifying the authenticity of trade background and the use of funds, through the CCNet supply chain financial service, so as to help MSMEs raise funds.



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**On January 1st**, the CSRC and the MOF issued the *Measures for the Administration of Commitment Funds of Securities and Futures Administrative Law Enforcement Parties* to strengthen investor protection, further enhance regulatory efficiency, and stabilize the market order.

**On January 4th**, foreign currency lending matching transaction (C-Lending) and bond lending anonymous click trading mechanism (X-Lending) services were launched to further improve the price discovery mechanism in the inter-bank market.

**On January 20th**, the SSE, the SZSE, the National Inter-bank Funding Center (NIFC), the SHCH, and the CSDC issued the *Interim Measures for the Connectivity Business Between the Inter-bank Bond Market and the Exchange-traded Bond Market*.

**On January 27th**, the SSE issued the *Bond Trading Rules of the Shanghai Stock Exchange* and related supporting guidelines.

**On January 29th**, PBOC and the SAFE issued the *Notice of the People's Bank of China and the State Administration of Foreign Exchange on Overseas Lending by Banking Institutions* to further encourage and regulate domestic banks

to carry out overseas loan business.

**On February 8th**, PBOC and the CBIRC issued the *Notice on the Exclusion of Loans for Affordable Rental Housing from Real Estate Loan Concentration Management*, clarifying that loans for affordable rental housing projects shall be excluded from real estate loan concentration management.

**On February 11th**, PBOC issued the *Measures for the Administration of Bond Lending Business in the Inter-bank Bond Market*, which came into force on July 1st, 2022.

**On February 11th**, the CSRC revised the *Regulatory Provisions of the China Securities Regulatory Commission on the Interconnection Depositary Receipt Business of the Shanghai Stock Exchange and the London Stock Exchange (Trial)* to further facilitate cross-border investment and financing, promote the global allocation of factor resources, and expedite the institutional opening-up of the capital market.

**On February 25th**, the MOF officially released the "MOF-China Local Government Bond Yield Curve", which provides an effective reference for the pricing of local government bond primary issuance.



**On March 1st**, the first batch of four general market makers of government securities futures, including Guotai Junan Securities, the CICC, China Securities, and Zhongtai Securities, initiated market-making transactions.

**On March 2nd**, the SHFE issued the *Guidelines for Commodity Swap Settlement Business of Shanghai Futures Exchange* to promote commodity swap business.

**On March 25th**, the SSE issued the *Interim Measures for the Listing and Trading of Depositary Receipts Interconnected Between Shanghai Stock Exchange and Overseas Stock Exchanges* and related supporting guidelines.

**On March 30th**, PBOC issued the *Opinions on Intensifying Financial Support for Promoting Key Work on Rural Revitalization in an All-round Way in 2022*, guiding financial institutions to optimize resource allocation and increase financial resources investment in key areas such as important agricultural products, rural industries, and rural construction.

**On March 30th**, the CFETS issued the *Notice on Issuing CFETS High Credit Rating Bond Index Series*.

**On April 19th**, the Financial Market Institutional Investor Dispute Mediation Center of the NAFMII was officially unveiled, serving as a new channel to inter-bank market dispute resolution.

**On April 20th**, the *Futures and Derivatives Law of the People's Republic of China* was adopted and promulgated at the 34th meeting of the Standing Committee of the 13th National People's Congress, which took effect on August 1st, 2022.

**On April 22nd**, the SHCH successfully launched the green bond credit derivatives business with pledged bond.

**On April 25th**, PBOC lowered the RRR for financial institutions by 0.25 percentage points (not applicable to financial institutions that have carried an RRR of 5 percent). Meanwhile, for urban commercial banks that do not operate across provinces and rural commercial banks whose RRR is higher than 5 percent, an additional 0.25 percentage points would be reduced.

**On April 28th**, PBOC, in conjunction with the Ministry of Science and Technology and the Ministry of Industry and Information Technology, issued the *Notice on Launching Central Bank Lending to Support Sci-tech Innovation*, guiding financial institutions to issue loans to sci-tech enterprises to promote innovation.

**On May 12th**, the SAFE issued the *Notice by the State Administration of Foreign Exchange on Relevant Measures for Further Encouraging the Foreign Exchange Market to Serve the Real*

*Economy.*

**On May 13th**, the CSRC issued the *Pilot Regulations on Market Making Trading of Stocks on the STAR Market by Securities Companies*, which further promoted the establishment of the STAR Market and piloted the reform to establish a registration-based IPO system, perfected the trading system in the STAR Market, improved the liquidity of STAR Market stocks, and enhanced market resilience.

**On May 15th**, PBOC lowered the foreign exchange RRR of financial institutions by 1 percentage point, from 9 percent to 8 percent.

**On May 15th**, PBOC and the CBIRC issued the *Notice on Issues Concerning Adjustments to Differentiated Housing Credit Policies*, adjusting the floor of the interest rates on first-home mortgage loans to not lower than the LPR in the corresponding term minus 20 bps.

**On May 20th**, the SSE issued the *Guidelines for the Application of Rules of the Shanghai Stock Exchange for the Review of Issuance and Listing of Corporate Bonds No.4 — Corporate Bonds for Sci-tech Innovation*, launching corporate bonds for sci-tech innovation. The whole life cycle bond financing support system for sci-tech innovation enterprises was basically taken shape.

**On May 24th**, PBOC issued the *Notice on Promoting the Establishment of a Long-term Mechanism for Boosting the Financial Sector's Confidence*,

*Willingness, Capability, and Professionalism in Lending to MSBs*, so as to enhance the willingness, capacity and sustainability of financial institutions to serve MSBs and other market entities.

**On May 27th**, PBOC, the CSRC, and the SAFE jointly issued the Announcement [2022] No.4 (*Matters Concerning Further Facilitating Investment in China's Bond Market by Overseas Institutional Investors*), thus making overall plans to advance the opening-up of the inter-bank and exchange-traded bond markets.

**On May 31st**, the NAFMII released the *Notice on Launching Innovation Pilot Programs Related to Transition Bonds*.

**On June 3rd**, the new generation bill business system of the SHCPE was put into operation.

**On June 7th**, the MOF issued the *Notice on Clarifying the Requirements for the Administration of Custody of Treasury bonds*, clarifying that the custody of domestic treasury bonds should strictly follow the requirements of the management system featuring centralized, unified, and single-tier custody as well as penetration at the bottom.

**On June 10th**, the SHCH launched the DVP settlement business for foreign currency cash bond transactions.

**On June 20th**, PBOC issued the *Notice on*

*Supporting Cross-border RMB Settlement for New Forms of Foreign Trade* to support banks and payment institutions in better serving the development of new foreign trade forms.

**On June 24th**, the CSRC issued the *Announcement on the Arrangements for Including Exchange-Traded Funds in the Mainland-Hong Kong Mutual Market Access Mechanism*, further deepening the trading connectivity mechanism between the Chinese mainland and Hong Kong stock markets and promoting the joint development of the capital markets of the two places.

**On June 28th**, the CCDC launched the first standardized green collateral pool in China, achieving the first in-depth application of the green collateral management concept in the financial market.

**On July 1st**, the CFETS launched the "Institutional Data Interchange Platform (IDIP)". This information sharing platform supports effective point-to-point information exchange and all-to-all information sharing among institutions, which improves the efficiency of risk management for financial institutions.

**On July 4th**, PBOC, the SFC, and the HKMA jointly held the 5th Anniversary Forum 2022 of "Bond Connect" and the launch ceremony of "Swap Connect", and the CFETS, the SHCH, and the OTC Clearing Hong Kong

Limited signed the Swap Connect Cooperation Agreement.

**On July 8th**, PBOC issued the *Interim Measures for the Administration of Gold Leasing Business* to further strengthen the management on the gold market, promote the standardized development of gold leasing business, and better serve the real economy.

**On July 11th**, the NAFMII established the inter-bank bond market information file on trading behaviors, and issued the *Notice on Establishing the Information File on Trading Behaviors in the Inter-bank Bond Market* at the same time, further improving the efficiency of market services and creating a good market trading environment.

**On July 13th**, the second batch of insurance institutions officially entered the market to carry out government securities futures trading.

**On July 22nd**, the CSRC, the National Development and Reform Commission (NDRC) and the All-China Federation of Industry and Commerce (ACFIC) jointly issued the *Notice on Promoting the Bond Market in Better Supporting the Reform and Development of Private Enterprises*, so as to enhance the quality and efficiency of the bond market in serving the reform and development of private enterprises.

**On July 25th**, PBOC and the Ministry of Culture and Tourism (MCT) jointly issued the *Notice on Providing Financial Support for the*



*Recovery and Development of Cultural and Tourism Industries*, guiding banking financial institutions to improve and strengthen credit services for cultural and tourism enterprises.

**On July 25th**, the settlement function of centralized bilateral clearing services for foreign exchange transactions in the SHCH was expanded and launched.

**On July 25th**, the inter-bank RMB foreign exchange market introduced the trading agent function for overseas institutions and the negotiation transaction function for intra-group members, further optimizing the transaction process and improving the transaction efficiency and price effectiveness for overseas institutions.

**On July 26th**, the NIFC officially released the CFETS Guangdong-Hong Kong-Macao Greater Bay Area Bond Index Series.

**On July 29th**, the NAFMII and the CGBSC issued the *China Green Bond Principles*.

**On August 1st**, the SHIE started the construction of the international reinsurance business platform.

**On August 12th**, PBOC and the CBIRC jointly issued the *Notice on Issues Concerning the Issuance of Undated Capital Bonds by Insurance Companies*, clarifying the core elements and administration of undated capital bonds issued

by insurance companies.

**On September 2nd**, the BSE launched the government securities issuance business, and the MOF issued RMB 60.3 billion of government securities on the BSE for the first time.

**On September 7th**, the MOF successfully issued RMB 3 billion of government securities in Macao, and the Macao Central Securities Depository (MCSD) System provided issuance registration, settlement, and custody services for sovereign bonds for the first time after its launch.

**On September 9th**, PBOC and the CBIRC released a list of China's systemically important banks (SIBs) in 2022.

**On September 9th**, the CFETS officially released the foreign currency swap curves.

**On September 15th**, PBOC lowered the foreign exchange RRR for financial institutions by 2 percentage points, from 8 percent to 6 percent.

**On September 28th**, PBOC raised the foreign exchange risk reserve ratio for forward foreign exchange sales from 0 to 20 percent.

**On September 29th**, PBOC and the CBIRC issued the *Notice on Phased Adjustment to Differentiated Housing Credit Policies*, relaxing floor on first-home mortgage rates temporarily in some cities.

**On October 25th**, PBOC and the SAFE decided to raise the macro-prudential adjustment parameters for cross-border financing of enterprises and financial institutions from 1 to 1.25.

**On October 29th**, the CFETS officially joined the Cross-border Inter-bank Payment System (CIPS) as a direct participant.

**On October 31st**, with the approval of the CSRC, the first batch of STAR Market makers officially launched the STAR Market stock market-making trading business.

**On November 18th**, PBOC and the SAFE jointly issued the *Rules on Funds Invested by Overseas Institutional Investors in China's Bond Market*, which improved and clarified the requirements for the management on funds invested by overseas institutional investors in China's bond market.

**On November 18th**, PBOC and the CBIRC jointly issued the *Measures for the Administration of Acceptance, Discount and Rediscount of Commercial Bills*.

**On November 18th**, the SHCPE issued the *Implementation Rules for the Information Disclosure of Commercial Drafts*.

**On November 25th**, the NAFMII issued the *Rules for the Administration of the Use of proceeds by Debt Financing Instruments of Non-*

*financial Enterprises in the Inter-bank Bond Market*, improving the use and management of proceeds by bonds.

**On December 2nd**, PBOC and the SAFE jointly issued the *Notice of the People's Bank of China and the State Administration of Foreign Exchange on Matters Concerning the Proceeds Management for Yuan-Denominated Bonds Issued by Overseas Issuers in China*, which improved the requirements for the management on funds issued by overseas institutions in the domestic bond market, and further facilitated the financing of overseas institutions in China's bond market.

**On December 15th to 16th**, the Central Economic Work Conference was held in Beijing.

**On December 16th**, the CCDC officially launched the ChinaBond Information Disclosure Report Filing System, realizing the digitalization of corporate bond information disclosure for the first time.

**On December 30th**, PBOC and the SAFE issued the Announcement No.17 [2022], which specified that as of January 3, 2023, the trading hours of the inter-bank RMB foreign exchange market would be extended to 3:00 a.m. the next day (Beijing time), and the applicable period for market management schemes, such as RMB central parity rate and trading band as well as market maker quotations, would be extended accordingly.



## Appendix II China Financial Market Statistics

Table I Major macroeconomic and financial

| Item   | 2001      | 2002      | 2003      | 2004      | 2005      | 2006      | 2007      | 2008      | 2009      | 2010       |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Gross domestic product (GDP) (RMB 100 million)               | 109,655   | 120,333   | 135,823   | 159,878   | 184,937   | 216,314   | 265,810   | 314,045   | 340,903   | 408,903    |
| Growth rate (%)  | 8.3       | 9.1       | 10        | 10.1      | 10.4      | 12.7      | 14.2      | 9.6       | 9.2       | 10.6       |
| Exports & imports (USD 100 million, RMB 100 million)         | 5,097.7   | 6,208     | 8,512     | 11,547    | 14,221    | 17,607    | 21,738    | 25,616    | 22,073    | 201,723    |
| Growth rate (%)  | 7.5       | 21.8      | 37.1      | 35.7      | 23.2      | 23.8      | 23.5      | 17.8      | -13.9     | 34.7       |
| Exports (USD 100 million, RMB 100 million)                   | 2,661     | 3,256     | 4,384     | 5,934     | 7,620     | 9,690     | 12,205    | 14,307    | 12,016    | 107,023    |
| Imports (USD 100 million, RMB 100 million)                   | 2,436.1   | 2,952     | 4,128     | 5,614     | 6,601     | 7,915     | 9,561     | 11,326    | 10,059    | 94,700     |
| Foreign exchange reserves (USD 100 million)                  | 2,121.7   | 2,864     | 4,033     | 6,099     | 8,189     | 10,663    | 15,282    | 19,460    | 23,992    | 28,473     |
| Foreign direct investment (USD 100 million)                  | 468.5     | 527       | 535       | 606       | 603       | 694.7     | 747.7     | 924       | 900       | 1,057      |
| Fiscal revenue (RMB 100 million)                             | 16,371    | 18,914    | 21,691    | 26,355.9  | 31,628    | 38,760.2  | 51,304    | 61,330    | 68,518    | 83,102     |
| Fiscal expenditure (RMB 100 million)                         | 18,844    | 22,012    | 24,607    | 28,360.8  | 33,708.1  | 40,222.7  | 49,565.4  | 62,593    | 76,300    | 89,874     |
| Deficit/surplus (RMB 100 million)                            | -2,473    | -3,098    | -2,916    | -2,004.9  | -2,080.1  | -1,462.5  | 1,738.6   | -1,263    | -7,782    | -6,772     |
| Money supply (M2) (RMB 100 million)                          | 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 | 725,851.79 |
| Growth rate (%)  | 17.6      | 16.9      | 19.6      | 14.9      | 16.5      | 16.7      | 16.7      | 17.8      | 27.6      | 19.7       |
| Money supply (M1) (RMB 100 million)                          | 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 | 266,621.54 |
| Growth rate (%)  | 12.7      | 18.3      | 18.8      | 14.1      | 11.8      | 17.5      | 21.0      | 9.0       | 32.4      | 21.2       |
| Money supply (M0) (RMB 100 million)                          | 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 | 44,628.17  |
| Growth rate (%)  | 7.1       | 10.1      | 14.3      | 8.7       | 11.9      | 12.6      | 12        | 12.8      | 11.8      | 16.7       |
| Per capita disposable income of urban residents (RMB)        | 6,859.6   | 7,703     | 8,500     | 9,422     | 10,493    | 11,759    | 13,786    | 15,781    | 17,175    | 19,109     |
| Real growth rate (%)   | 8.5       | 13.4      | 9         | 7.7       | 9.6       | 10.4      | 12.2      | 8.4       | 9.8       | 7.8        |
| Net income of rural residents (RMB)                          | 2,366     | 2,475.6   | 2,622     | 2,936     | 3,255     | 3,587     | 4,140     | 4,761     | 5,153     | 5,919      |
| Real growth rate (%)   | 4.2       | 4.8       | 4.3       | 6.8       | 6.2       | 7.4       | 9.5       | 8         | 8.5       | 10.9       |
| Total deposits with financial institutions (RMB 100 million) | 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 | 733,382.03 |
| Growth rate (%)  | 16.0      | 19.0      | 21.7      | 16.0      | 24.3      | 15.9      | 15.2      | 19.3      | 27.9      | 19.8       |
| Total loans by financial institutions (RMB 100 million)      | 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 | 509,225.95 |
| Growth rate (%)  | 13.0      | 16.9      | 21.1      | 12.1      | 16.1      | 15.2      | 16.6      | 15.2      | 33.0      | 19.6       |
| Consumer Price Index (CPI) (%)                               | 0.7       | -0.8      | 1.2       | 3.9       | 1.8       | 1.5       | 4.8       | 5.9       | -0.7      | 3.3        |

Sources: NBS, PBOC, 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.



indicators, 2001—2022 (year-end balance)

| 2011       | 2012       | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | 2019         | 2020         | 2021         | 2022         |
|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 484,124    | 534,123    | 595,244      | 643,974      | 689,052      | 743,585      | 832,036      | 919,281      | 990,865      | 1,015,986    | 1,143,670    | 1,210,207    |
| 9.5        | 7.7        | 7.8          | 7.3          | 7            | 6.8          | 6.9          | 6.7          | 6.1          | 2.3          | 8.1          | 3.0          |
| 236,402    | 244,160    | 258,168      | 264,242      | 245,503      | 243,386      | 278,099      | 305,010      | 315,505      | 321,557      | 391,009      | 420,678      |
| 17.2       | 3.2        | 5.7          | 2.39         | -7           | -0.9         | 14.2         | 9.7          | 3.4          | 1.9          | 21.4         | 7.7          |
| 123,241    | 129,359    | 137,131      | 143,884      | 141,167      | 138,419      | 153,309      | 164,129      | 172,342      | 179,326      | 217,348      | 239,654      |
| 113,161    | 114,801    | 121,037      | 120,358      | 104,336      | 104,967      | 124,790      | 140,881      | 143,162      | 142,231      | 173,661      | 181,024      |
| 31,811     | 33,116     | 38,213       | 38,430       | 33,304       | 30,105       | 31,399       | 30,727       | 31,079       | 32,165.22    | 32,501.66    | 31,277.00    |
| 1,160      | 1,117      | 1,176        | 1,196        | 1,263        | 1,260        | 1,310        | 1,350        | 1,381        | 1,444        | 1,735        | 1,891        |
| 103,874    | 117,254    | 129,210      | 140,370      | 152,269      | 159,605      | 172,593      | 183,360      | 190,382      | 182,895      | 202,539      | 203,703      |
| 109,248    | 125,953    | 140,213      | 151,662      | 175,768      | 188,793      | 203,330      | 220,906      | 238,874      | 245,588      | 236,233      | 260,609      |
| -5,374     | -8,699     | -11,003      | -11,312      | -23,499      | -29,188      | -30,734      | -37,546      | -48,492      | -62,693      | -33,694      | -56,906      |
| 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 | 2,382,899.56 | 2,664,000.00 |
| 13.5       | 14.4       | 13.6         | 11           | 13.3         | 11.4         | 8.2          | 8.1          | 8.7          | 10.1         | 9            | 11.8         |
| 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   | 672,000.00   |
| 7.9        | 6.5        | 9.3          | 3.2          | 15.2         | 21.4         | 11.8         | 1.5          | 4.4          | 8.6          | 3.5          | 3.7          |
| 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    | 84,314.53    | 90,825.15    | 105,000.00   |
| 13.8       | 7.7        | 7.1          | 2.9          | 4.9          | 8.1          | 3.4          | 3.6          | 5.4          | 9.2          | 7.7          | 15.3         |
| 21,810     | 24,565     | 26,955       | 28,844       | 31,195       | 33,616       | 36,396       | 39,251       | 42,359       | 43,834       | 47,412       | 49,283       |
| 8.4        | 12.6       | 9.7          | 6.8          | 6.6          | 5.6          | 8.3          | 7.8          | 5            | 3.5          | 8.2          | 3.9          |
| 6,977      | 7,917      | 8,896        | 9,892        | 11,422       | 12,363       | 13,432       | 14,617       | 16,021       | 17,131       | 18,931       | 20,133       |
| 11.4       | 13.5       | 9.3          | 11.2         | 7.5          | 6.2          | 7.3          | 8.8          | 9.6          | 6.9          | 10.5         | 6.3          |
| 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 | 2,644,472.28 |
| 12.7       | 14.1       | 13.5         | 9.6          | 19.1         | 11.3         | 8.8          | 7.8          | 8.6          | 10.2         | 9.3          | 10.8         |
| 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 | 2,191,028.57 |
| 14.3       | 15.6       | 13.9         | 13.3         | 14.5         | 12.8         | 12.1         | 12.9         | 11.9         | 12.5         | 11.3         | 10.4         |
| 5.4        | 2.6        | 2.6          | 2.0          | 1.4          | 2.0          | 1.6          | 2.1          | 2.9          | 2.5          | 0.9          | 2.0          |



Table 2 Composition and growth of RMB and foreign

| Item  | 2001      | 2002      | 2003      | 2004      | 2005      | 2006      | 2007      | 2008       | 2009      | 2010       |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-----------|------------|
| Total deposits with financial institutions    | 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 | 733,382.03 |
| YoY growth                                    | 16.0      | 19.0      | 21.7      | 16.0      | 24.3      | 15.9      | 15.2      | 19.3       | 27.9      | 19.8       |
| of which: Deposits of urban & rural residents | 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 | 307,166.39 |
| YoY growth                                    | 14.7      | 17.8      | 19.2      | 15.4      | 23.0      | 13.3      | 5.8       | 25.7       | 19.5      | 16.0       |
| Corporate deposits                            | 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   | 252,960.27 |
| YoY growth                                    | 16.9      | 16.5      | 20.8      | 16.8      | 20.2      | 16.8      | 21.8      | 13.5       | 36.5      | 12.7       |
| Total loans by financial institutions         | 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 | 509,225.95 |
| YoY growth                                    | 13.0      | 16.9      | 21.1      | 12.1      | 16.1      | 15.2      | 16.6      | 15.2       | 33.0      | 19.6       |
| of which: Short-term loans                    | 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 | 171,236.64 |
| YoY growth                                    | 2.4       | 14.1      | 13.8      | 3.9       | 0.4       | 11.6      | 16.9      | 8.1        | 17.7      | 13.11      |
| Medium and long-term loans                    | 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 | 305,127.55 |
| YoY growth                                    | 40.5      | 31.8      | 30.0      | 20.5      | 14.7      | 21.6      | 22.6      | 18.5       | 43.5      | 29.5       |

Source: PBOC.

## currency deposits and loans, 2001—2022 (Year-end balance)

Units: RMB 100 million, percent

| 2011       | 2012       | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | 2019         | 2020         | 2021         | 2022         |
|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 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 | 2,644,472.28 |
| 12.7       | 14.1       | 13.5         | 9.6          | 19.1         | 11.3         | 8.8          | 7.8          | 8.6          | 10.2         | 9.3          | 10.8         |
| 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 | 1,212,109.95 |
| 16.5       | 16.1       | 13.4         | 8.9          | 7.6          | 9.9          | 7.5          | 11.1         | 13.4         | 13.8         | 10.6         | 17.3         |
| 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   | 779,397.81   |
| 67.3       | 13.2       | 13.2         | 9.1          | -22.9        | 16.6         | 7.7          | 3.1          | 5.4          | 10.8         | 6.1          | 6.7          |
| 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 | 2,191,028.57 |
| 14.3       | 15.6       | 13.9         | 13.3         | 14.5         | 12.8         | 12.1         | 12.9         | 11.9         | 12.5         | 11.3         | 10.4         |
| 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   | 554,378.00   |
| 27         | 23.3       | 16.3         | 7.9          | 6.8          | 3.4          | 9.2          | 6.7          | 6.9          | 5.3          | 5.9          | 7.4          |
| 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 | 1,427,667.71 |
| 9.4        | 9          | 12.8         | 15           | 14           | 17.9         | 18.3         | 13.9         | 13.7         | 17.1         | 13.5         | 10.6         |

Table 3 Outstanding loans, outstanding bonds and stock market capitalization as percentage of GDP, 2006–2022

Units: RMB 100 million, percent

| Year | GDP       | Outstanding loans | Outstanding loans/GDP | Outstanding bonds | Outstanding bonds/GDP | Stock market capitalization | Stock market capitalization / 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                              |
| 2022 | 1,210,207 | 2,191,029         | 181                   | 1,445,404         | 119                   | 788,006                     | 65.1                              |

Source: PBOC 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 inter-bank market and on the stock exchange.

Table 4 Composition of aggregate financing to the real economy (flow), 2010–2022

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     | 0.002                  | 0.77          | 2.26        | 0.54                              | 0.45                              | 0.87   | 0.71   |
| 2018 | 19.26  | 15.67     | -0.42                  | -1.61         | -0.69       | -0.63                             | 2.49                              | 0.36   | 4.1    |
| 2019 | 25.67  | 16.88     | -0.13                  | -0.94         | -0.35       | -0.48                             | 3.34                              | 0.35   | 6.18   |
| 2020 | 34.86  | 20.03     | 0.15                   | -0.40         | -1.10       | 0.17                              | 4.45                              | 0.89   | 10.66  |
| 2021 | 31.35  | 19.94     | 0.17                   | -0.17         | -2.01       | -0.49                             | 3.29                              | 1.24   | 8.32   |
| 2022 | 32.01  | 20.91     | -0.53                  | 0.36          | -0.60       | -0.34                             | 2.05                              | 1.18   | 7.96   |

Source: PBOC.

Table 5 Inter-bank lending and bond repo trading, 1997–2022

Unit: RMB 100 million

| Year | inter-bank 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        |
| 2022 | 1,468,216          | 13,745,849   | 55,697        |

Source: CFETS.



Table 6 Change in the number of inter-bank funding market participants, 2000—2022

Units: RMB 100 million, percent

| 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 | Others | 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 |
| 2022 | 1,585 | 106                  | 60                  | 66              | 243               | 66                | 244                       | 0                        | 9                          | 24                     | 26                         | 3      | 2,432 |

Source: NIFC.

Table 7 Trading in the bill market, 2017–2022

Unit: RMB 1 trillion

| Year | Trading volume of acceptances | Trading volume of discounts | Trading volume of inter-bank 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                         | 15.0151                     | 46.94                                  | 22.98                         |
| 2022 | 27.39                         | 19.46                       | 58.2                                   | 29.9                          |

Source: SHCPE.

Table 8 Spot trading and futures trading in the bond market, 2006–2022

Units: RMB 100 million, percent

| Year | Inter-bank bond market |            |                    |            | Exchange market |            |                                      |            |
|------|------------------------|------------|--------------------|------------|-----------------|------------|--------------------------------------|------------|
|      | Spot trading           | YoY growth | OTC market trading | YoY growth | Spot trading    | YoY growth | Government securities 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       | 3,273.6            | 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       |
| 2022 | 2,712,353.5            | 26.5       | 2,105.7            | -56.0      | 381,136.3       | 31.8       | 464,165.3                            | 68.71      |

Source: PBOC.

Table 9 Spot trading in the bond market, 2022

Units: RMB 100 million, percent

| Month | Inter-bank bond market |            |                                 |                    |            | Exchange market |            |                          |
|-------|------------------------|------------|---------------------------------|--------------------|------------|-----------------|------------|--------------------------|
|       | Spot trading           | YoY growth | Inter-bank bond aggregate index | OTC market trading | YoY growth | Spot trading    | YoY growth | SSE corporate bond index |
| 1     | 208,844.1              | 29.0       | 120.15                          | 222.2              | -52.9      | 23,339.2        | 12.4       | 220.16                   |
| 2     | 173,199.8              | 59.1       | 119.51                          | 140.0              | -57.3      | 20,510.9        | 64.6       | 220.70                   |
| 3     | 235,349.3              | 23.7       | 119.29                          | 285.0              | -38.1      | 36,459.9        | 85.3       | 220.91                   |
| 4     | 202,752.1              | 18.5       | 119.52                          | 139.8              | -33.7      | 32,129.6        | 70.2       | 221.42                   |
| 5     | 197,913.3              | 32.0       | 119.87                          | 141.7              | -62.8      | 38,605.6        | 70.5       | 222.12                   |
| 6     | 225,403.6              | 21.7       | 119.53                          | 213.0              | -53.9      | 47,329.6        | 119.2      | 222.46                   |
| 7     | 235,323.8              | 16.3       | 120.06                          | 211.4              | -45.7      | 36,964.8        | 30.1       | 222.82                   |
| 8     | 282,503.1              | 40.8       | 120.67                          | 230.4              | -65.1      | 31,594.9        | 6.2        | 223.68                   |
| 9     | 247,153.6              | 37.1       | 120.33                          | 164.4              | -69.5      | 23,200.0        | -20.4      | 224.23                   |
| 10    | 196,283.3              | 35.9       | 120.74                          | 112.1              | -59.3      | 19,949.9        | -3.5       | 224.48                   |
| 11    | 286,306.1              | 28.6       | 119.42                          | 148.3              | -64.0      | 35,078.8        | -1.9       | 225.89                   |
| 12    | 221,321.4              | -2.4       | 119.38                          | 97.4               | -51.3      | 35,973.2        | 21.9       | 226.47                   |
| Total | 2,712,353.5            | 26.5       | —                               | 2,105.7            | -56.0      | 381,136.3       | 31.8       | —                        |

Sources: PBOC, CCDC, SSE, and CFETS.

Note: The inter-bank bond aggregate index refers to the month-end close value of ChinaBond inter-bank Aggregate Index. SSE corporate bond index refers to the month-end close value of the SSE Corporate Bond Index (full price).





Table 10 Bond market issuance, 2004–2022

Unit: RMB 100 million

| Year | Government credit bonds |                        |           | Financial bonds         |                    |                           | Corporate credit bonds                             |                       |           |           |   |                          | ABS              | Inter-national institutional bonds | Stan-dardized note                           | Exchange fund notes | Debt financing plan of BFAE | Credit ABS | Total     |
|------|-------------------------|------------------------|-----------|-------------------------|--------------------|---------------------------|--|-----------------------|-----------|-----------|---|--------------------------|------------------|------------------------------------|--|---------------------|-----------------------------|------------|-----------|
|      | Treasury bonds          | Local government bonds | Sub-total | Government agency bonds | Central bank bills | CDB and policy bank bonds | Short-term financing bonds of securities companies | Other financial bonds | Sub-total | NCDs      | Debt financing instruments of non-financial enterprises | Asset-backed notes (ABN) | Enterprise bonds | Corporate bonds                    | Exchange-based asset-backed securities (ABS) | Sub-total           |                             |            |           |
| 2004 | 7,318.8                 | 0                      | 7,318.8   | 0                       | 17,037             | 4,348                     | 0  | 748.8                 | 5,096.8   | —         | 0.0   | —                        | 326.0            | 209.0                              | —  | 535.0               | —                           | —          | 29,987.6  |
| 2005 | 7,042                   | 0                      | 7,042     | 0                       | 27,882             | 6,051.7                   | 29   | 1,036.3               | 7,117     | —         | 1,424.0   | —                        | 654.0            | 0.0                                | —  | 2,078.0             | 172.7                       | —          | 44,291.7  |
| 2006 | 8,883.3                 | 0                      | 8,883.3   | 0                       | 36,574             | 8,980                     | 0  | 525                   | 9,505     | —         | 2,919.5   | —                        | 995.0            | 142.9                              | —  | 4,057.4             | 280.0                       | —          | 59,299.7  |
| 2007 | 23,483.4                | 0                      | 23,483.4  | 0                       | 40,721             | 10,931.9                  | 0  | 972.7                 | 11,904.6  | —         | 3,349.1   | —                        | 1,720.0          | 407.3                              | —  | 5,476.4             | 178.1                       | —          | 81,763.5  |
| 2008 | 8,546.3                 | 0                      | 8,546.3   | 0                       | 42,960             | 10,809.3                  | 0  | 974                   | 11,783.3  | —         | 6,075.5   | —                        | 2,367.0          | 976.5                              | —  | 9,419.0             | 302.0                       | —          | 73,010.6  |
| 2009 | 16,213.6                | 2,000                  | 18,213.6  | 0                       | 39,740             | 11,678.1                  | 0  | 3,071                 | 14,749.1  | —         | 11,509.7  | —                        | 4,252.0          | 715.0                              | —  | 16,476.7            | 0.0                         | —          | 89,179.4  |
| 2010 | 17,778.2                | 2,000                  | 19,778.2  | 1,090                   | 46,608             | 13,192.7                  | 0  | 979.5                 | 14,172.2  | —         | 11,863.0  | —                        | 3,627.0          | 1,320.3                            | —  | 16,810.3            | 0.0                         | —          | 98,458.7  |
| 2011 | 15,397.9                | 2,000                  | 17,397.9  | 1,000                   | 14,140             | 19,972.7                  | 0  | 3,528.5               | 23,501.2  | —         | 18,503.2  | —                        | 2,473.5          | 1,707.4                            | —  | 22,684.1            | 12.8                        | —          | 78,736.0  |
| 2012 | 14,360.4                | 2,500                  | 16,860.4  | 1,500                   | 0                  | 21,399                    | 561  | 4,233.7               | 26,193.7  | —         | 26,547.2  | —                        | 6,499.3          | 2,722.8                            | —  | 35,769.3            | 224.4                       | —          | 80,547.8  |
| 2013 | 16,945                  | 3,500                  | 20,445    | 1,900                   | 5,362              | 20,760.3                  | 2,995.9  | 1,321                 | 25,077.2  | 340       | 28,357.9  | —                        | 4,752.3          | 4,081.4                            | —  | 37,191.6            | 231.7                       | —          | 90,547.5  |
| 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   | 41,217.6  | —                        | 6,952.0          | 3,483.8                            | —  | 51,653.4            | 3,220.6                     | —          | 119,613.8 |
| 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  | 53,660.6  | —                        | 3,431.0          | 13,292.4                           | —  | 70,384.0            | 6,157.2                     | 115        | 234,358.8 |
| 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   | 50,297.9  | —                        | 5,917.7          | 25,770.0                           | —  | 81,985.6            | 8,647.0                     | 1,330.4    | 361,456.3 |
| 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 | 39,813.5  | —                        | 3,731.0          | 11,460.2                           | —  | 55,004.7            | 15,398.4                    | 666        | 408,212.0 |
| 2018 | 35,411                  | 41,651.7               | 77,062.6  | 2,530                   | 0                  | 33,681.8                  | 1,425  | 18,302.2              | 53,409    | 210,832.4 | 57,915.9  | —                        | 2,404.8          | 16,336.7                           | —  | 76,657.4            | 18,187.5                    | 896.6      | 439,577.5 |
| 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 | 67,975.7  | —                        | 3,606.2          | 25,704.9                           | —  | 97,286.8            | 19,668.3                    | 538.4      | 453,240.7 |
| 2020 | 70,173.3                | 64,438.1               | 134,611.4 | —                       | 0                  | 51,517.2                  | 7,983  | 33,343.6              | 92,843.8  | 189,719.8 | 78,848.7  | 5,107.9                  | 5,508.7          | 34,439.3                           | 14,634.4                                     | 138,538.9           | —                           | 586.5      | 573,204.2 |
| 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 | 85,144.0  | 6,454.4                  | 6,274.4          | 34,914.2                           | 15,598.4                                     | 148,385.3           | —                           | 1,064.5    | 619,883.7 |
| 2022 | 96,322.7                | 73,555.8               | 169,878.5 | —                       | 0                  | 58,433.4                  | 3,988.3  | 35,089.5              | 97,511.2  | 205,120.3 | 83,428  | 4,624.3                  | 6,191.3          | 31,542.5                           | 11,912.1                                     | 137,698.1           | —                           | 830.7      | 618,525.6 |

Source: PBOC.

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

2. Other financial bonds include inter-bank and exchange-traded financial bonds from 2015.

3. From 2015 to 2019, asset-backed securities (ABSs) include inter-bank 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 (ABNs) are separated from the debt financing instruments of non-financial enterprises, and exchange-based ABSs 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.



Table 11 Bond custody in bond market, 2006—2022

Unit: RMB 100 million

| Year | Government credit bonds |                                   |           | Govern-<br>ment-backed<br>agency<br>bonds and<br>others | Financial bonds                       |  |                             |               | NCDs    | Corporate credit bonds  |                                    |                          |                         |   | Inter-<br>na-<br>tional<br>insti-<br>tutional<br>bonds | Stan-<br>dard-<br>ized<br>note | Exchange<br>fund<br>notes | Debt<br>financing<br>plan of<br>BFAE | Credit<br>ABS | Inter-<br>bank<br>custody | Exchange<br>custody | Total<br>custody |
|------|-------------------------|-----------------------------------|-----------|---|---------------------------------------|--|-----------------------------|---------------|---------|---|------------------------------------|--------------------------|-------------------------|---|--|--------------------------------|---------------------------|--------------------------------------|---------------|---------------------------|---------------------|------------------|
|      | Treasury<br>bonds       | Local<br>govern-<br>ment<br>bonds | Sub-total |   | CDB<br>and<br>policy<br>bank<br>bonds | Short-term<br>financing<br>bonds of<br>securities<br>companies | Other<br>financial<br>bonds | Sub-<br>total |         | Debt<br>financing<br>instruments<br>of non-<br>financial<br>enterprises | Asset-<br>backed<br>notes<br>(ABN) | Enter-<br>prise<br>bonds | Cor-<br>porate<br>bonds | Exchange-<br>based<br>asset-<br>backed<br>securities<br>(ABS) |  |                                |                           |                                      |               |                           |                     |                  |
| 2006 | 29,048                  | 0                                 | 29,048    | 30  | 32,300                                | 22,836   | 0                           | 2,552         | 25,388  | —   | 2,667                              | —                        | 2,832                   | 288   | —  | 5,786                          | 188                       | —                                    | —             | 88,910                    | 3,830               | 92,740           |
| 2007 | 46,503                  | 0                                 | 46,503    | 30  | 36,587                                | 28,784   | 0                           | 3,486         | 32,270  | —   | 3,203                              | —                        | 4,422                   | 1,131   | —  | 8,756                          | 324                       | —                                    | —             | 120,102                   | 4,368               | 124,470          |
| 2008 | 48,753                  | 0                                 | 48,753    | 30  | 48,121                                | 36,720   | 0                           | 4,255         | 40,975  | —   | 5,875                              | —                        | 6,803                   | 539   | —  | 13,218                         | 551                       | —                                    | —             | 148,100                   | 3,548               | 151,648          |
| 2009 | 55,411                  | 2,000                             | 57,411    | 40  | 42,326                                | 44,498   | 0                           | 6,454         | 50,952  | —   | 13,196                             | —                        | 10,971                  | 1,135   | —  | 25,301                         | 399                       | —                                    | —             | 172,476                   | 3,954               | 176,430          |
| 2010 | 62,628                  | 4,000                             | 66,628    | 1,130   | 40,909                                | 51,604   | 0                           | 6,662         | 58,266  | —   | 20,271                             | —                        | 14,511                  | 3,584   | —  | 38,366                         | 182                       | —                                    | —             | 199,019                   | 6,462               | 205,481          |
| 2011 | 67,839                  | 6,000                             | 73,839    | 2,130   | 21,290                                | 64,778   | 0                           | 9,785         | 74,563  | —   | 29,047                             | —                        | 16,799                  | 6,023   | —  | 51,869                         | 95                        | —                                    | —             | 214,260                   | 9,526               | 223,786          |
| 2012 | 74,236                  | 6,500                             | 80,736    | 8,532   | 13,440                                | 78,582   | 295                         | 13,126        | 92,003  | —   | 40,327                             | —                        | 19,310                  | 7,441   | —  | 67,078                         | 269                       | —                                    | —             | 250,014                   | 12,044              | 262,058          |
| 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  | —  | 85,394                         | 354                       | —                                    | —             | 277,128                   | 19,377              | 296,505          |
| 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  | —  | 109,749                        | 2,751                     | —                                    | —             | 329,803                   | 25,975              | 355,778          |
| 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  | —  | 133,123                        | 5,463                     | 125                                  | —             | 440,640                   | 38,337              | 478,978          |
| 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  | —  | 165,387                        | 6,174                     | 531                                  | —             | 563,292                   | 73,316              | 636,608          |
| 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  | —  | 169,460                        | 9,132                     | 1,013                                | —             | 654,324                   | 85,774              | 740,098          |
| 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  | —  | 191,538                        | 28,917                    | 1,550                                | —             | 763,015                   | 107,000             | 870,016          |
| 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  | —  | 217,474                        | 38,142                    | 1,659                                | —             | 864,460                   | 126,583             | 991,043          |
| 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  | 23,111   | 282,406                        | —                         | 1,580                                | 29            | 3,890                     | 162,611             | 1,169,815        |
| 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   | 25,040   | 307,596                        | —                         | 1,494                                | 0             | 4,110                     | 187,736             | 1,334,959        |
| 2022 | 251,931                 | 348,919                           | 600,850   | —   | 210                                   | 223,668  | 2,227                       | 120,837       | 346,733 | 141,390   | 132,232                            | 7,781                    | 45,451                  | 109,025   | 22,330   | 316,818                        | —                         | 1,601                                | 0             | 3,740                     | 195,085             | 1,447,809        |

Source: PBOC.

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

2. Other financial bonds include inter-bank and exchange-traded financial bonds from 2015.

3. From 2015 to 2019, asset-backed securities (ABSs) include inter-bank 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 (ABNs) are separated from the debt financing instruments of non-financial enterprises, and exchange-based ABSs 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.

Table 12 Number of inter-bank bond market participants, 2014—2022

| Domestic participants |                         |  |       |       |        |        |        |        |        |        |        |        |        |
|-----------------------|-------------------------|--|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Year                  |                         |  | 2014  | 2015  | 2016   | 2017   | 2018   | 2019   | 2020   | 2021   | 2022   |        |        |
| Domestic participants | Incorporated entities   | Depository financial institutions                      | 1,088 | 1,302 | 1,560  | 1,745  | 1,859  | 2,068  | 2,261  | 2,342  | 2,428  |        |        |
|                       |                         | Other banking financial institutions                   | 158   | 182   | 242    | 278    | 324    | 349    | 370    | 398    | 408    |        |        |
|                       |                         | Securities financial institutions                      | 169   | 171   | 179    | 185    | 189    | 194    | 199    | 207    | 208    |        |        |
|                       |                         | Insurance financial institutions                       | 148   | 152   | 154    | 163    | 173    | 183    | 184    | 189    | 189    |        |        |
|                       |                         | Non-financial institutions                             | 278   | 280   | 274    | 274    | 274    | 265    | 86     | 84     | 10     |        |        |
|                       |                         | Others   | 7     | 7     | 21     | 20     | 23     | 23     | 23     | 23     | 23     |        |        |
|                       |                         | Sub-total  | 1,848 | 2,094 | 2,430  | 2,665  | 2,842  | 3,082  | 3,123  | 3,243  | 3,266  |        |        |
|                       | Unincorporated Products | Securities investment funds                            | 1,556 | 2,151 | 3,137  | 3,919  | 4,212  | 4,796  | 5,659  | 6,564  | 7,270  |        |        |
|                       |                         | Corporate annuities                                    | 1,275 | 1,431 | 1,528  | 1,625  | 1,684  | 2,748  | 3,270  | 3,271  | 3,346  |        |        |
|                       |                         | Social security fund                                   | 105   | 105   | 106    | 163    | 197    | 206    | 211    | 162    | 156    |        |        |
|                       |                         | Insurance products                                     | 145   | 311   | 641    | 976    | 1,087  | 1,164  | 1,511  | 1,741  | 1,950  |        |        |
|                       |                         | Trust products   | 569   | 666   | 684    | 869    | 949    | 1,032  | 1,038  | 1,496  | 2,059  |        |        |
|                       |                         | Specific asset management portfolios of fund companies | 176   | 1,140 | 3,061  | 3,425  | 3,315  | 3,395  | 3,610  | 3,765  | 3,833  |        |        |
|                       |                         | Asset management schemes of securities companies       | 560   | 1,388 | 2,743  | 3,586  | 3,965  | 4,832  | 5,501  | 5,943  | 6,395  |        |        |
|                       |                         | Wealth management products of banks                    | 48    | 48    | 445    | 679    | 1,006  | 1,611  | 2,581  | 3,120  | 3,364  |        |        |
|                       |                         | Others   | 0     | 0     | 114    | 216    | 320    | 412    | 549    | 745    | 893    |        |        |
|                       |                         | Sub-total  | 4,434 | 7,240 | 12,459 | 15,458 | 16,735 | 20,196 | 23,930 | 26,807 | 29,266 |        |        |
|                       |                         | Overseas participants                                  |       |       | 180    | 302    | 407    | 617    | 1,186  | 2,610  | 905    | 1,016  | 1,071  |
|                       |                         | Total  |       |       | 6,462  | 9,636  | 15,296 | 18,740 | 20,763 | 25,888 | 27,958 | 31,066 | 33,603 |

Source: PBOC.

Table 13 Primary dealers for open market operations

| No. | Institution                             | No. | Institution                                  |
|-----|---|-----|--|
| 1   | Industrial and Commercial Bank of China | 27  | Bank of Guangzhou                            |
| 2   | Agricultural Bank of China              | 28  | Bank of Jiangsu                              |
| 3   | China Construction Bank                 | 29  | Bank of Hangzhou                             |
| 4   | Bank of China                           | 30  | Huishang Bank                                |
| 5   | Bank of Communications                  | 31  | Bank of Qingdao                              |
| 6   | Postal Savings Bank of China            | 32  | Xiamen Bank                                  |
| 7   | China Development Bank                  | 33  | Bank of Hebei                                |
| 8   | The Export-Import Bank of China         | 34  | Bank of Guiyang                              |
| 9   | Agricultural Development Bank of China  | 35  | Bank of Zhengzhou                            |
| 10  | China Merchants Bank                    | 36  | Bank of Xi'an                                |
| 11  | Shanghai Pudong Development Bank        | 37  | Bank of Chengdu                              |
| 12  | Industrial Bank                         | 38  | Shanghai Rural Commercial Bank               |
| 13  | China CITIC Bank                        | 39  | Shunde Rural Commercial Bank                 |
| 14  | Ping An Bank                            | 40  | Chongqing Rural Commercial Bank              |
| 15  | China Guangfa Bank                      | 41  | Chengdu Rural Commercial Bank                |
| 16  | Huaxia Bank                             | 42  | Guangzhou Rural Commercial Bank              |
| 17  | China Everbright Bank                   | 43  | Beijing Rural Commercial Bank                |
| 18  | China Zheshang Bank                     | 44  | Bank of Tokyo-Mitsubishi UFJ (China)         |
| 19  | China Minsheng Bank                     | 45  | Deutsche Bank (China)                        |
| 20  | Hengfeng Bank                           | 46  | HSBC Bank (China)                            |
| 21  | Bohai Bank                              | 47  | Standard Chartered Bank (China)              |
| 22  | Bank of Beijing                         | 48  | Citibank (China)                             |
| 23  | Bank of Ningbo                          | 49  | CITIC Securities                             |
| 24  | Bank of Nanjing                         | 50  | China International Capital Co., Ltd.        |
| 25  | Bank of Changsha                        | 51  | China Securities Credit Investment Co., Ltd. |
| 26  | Bank of Shanghai                        |     |  |

Source: PBOC.

Table 14 Stock market statistics, 2000—2022

| Year | Number of listed companies | Listed share capital (100 million shares) | Market capitalization (RMB 100 million) | Free-float market capitalization (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 (million) |
|------|----------------------------|---|---|--|---|----------------------------|----------------------------|----------|-----------------------|----------|-----------------------------|
|      |                            |   |   |  |   |                            | 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     | 61,232                      |
| 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     | 68,987                      |
| 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     | 68,418                      |
| 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     | 69,812                      |
| 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     | 72,157                      |
| 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     | 73,361                      |
| 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     | 78,540                      |
| 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     | 92,806                      |
| 2008 | 1,625                      | 24,522.85                                 | 121,366.44                              | 45,213.9   | 3,429.29  | 267,113.0                  | 392.5                      | —        | 14.86                 | 17.13    | 104,497                     |
| 2009 | 1,718                      | 26,162.85                                 | 243,939.12                              | 151,258.7  | 4,816.07  | 535,986.7                  | —                          | —        | 28.73                 | 46.01    | 120,377                     |
| 2010 | 2,063                      | 33,184.35                                 | 265,422.59                              | 193,110.41   | 10,424.74   | 545,633.54                 | —                          | —        | 21.61                 | 44.69    | 133,9104                    |
| 2011 | 2,342                      | 36,095.52                                 | 214,758.10                              | 164,921.3  | 7,312.2   | 421,649.72                 | —                          | —        | 13.4                  | 23.11    | 140,5037                    |
| 2012 | 2,494                      | 38,295.0                                  | 230,357.62                              | 181,658.26   | 4,558.23  | 314,667.41                 | —                          | —        | 12.3                  | 22.01    | 140,5491                    |
| 2013 | 2,489                      | 40,569.08                                 | 239,077.19                              | 199,579.54   | 4,674.98  | 468,728.6                  | —                          | —        | 10.99                 | 27.76    | 132,4715                    |
| 2014 | 2,613                      | 43,610.13                                 | 372,546.96                              | 315,624.31   | 8,914.31  | 743,912.98                 | —                          | —        | 15.99                 | 34.05    | 142,1468                    |
| 2015 | 2,827                      | 49,997.26                                 | 531,304.20                              | 417,925.40   | 16,064.7  | 2,550,538.29               | —                          | —        | 17.63                 | 52.75    | 214,7757                    |
| 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    | —                           |
| 2022 | 5,079                      | 73,525.21                                 | 790,116.19                              | 664,576.94   | 16,894.45   | 2,247,060.17               | —                          | —        | 12.78                 | 23.44    | —                           |

Source: Wind.



Table 15 Change in stock market turnover and indices, 2000–2022

Units: 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 |
| 2022 | 2,247,060.17 | 9,285.37               | 3,649.15            | 3,651.89 | 2,863.65 | 3,089.26  | 2,541.46             | 2,542.99 | 1,724.92 | 1,975.61 |

Sources: CSRC, SSE, and SZSE.

Table 16 Market makers for RMB trading in the inter-bank spot foreign exchange market

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

Source: CFETS.





Table 17 RMB/FX central parity rates, 1994–2022

| 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  | 125.59 | 130.77 | 113.161 | 304.86 | 501.63 | 511.61 | 470.5  | 493.14 | 740.06 |
| 2021 | 637.57 | 721.97  | 5.5415 | 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 |
| 2022 | 696.46 | 742.29  | 5.2358 | 89.327 | 839.41  | 63.405 | 1,061.93 | 243.12 | 18,106.0 | 52.726 | 53.971 | 5,383.29 | 62.98  | 100.17 | 150.17 | 142.01 | 268.597 | 279.58 | 471.38 | 513.85 | 441.62 | 518.31 | 754.32 |

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

Table 18 Futures market trading, 1993—2022

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      |
| 2022 | 4,018,977.84             | 661,634.60     | 1,330,361.49             | 15,186.17      |

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—2022

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       |
| 2022 | 151,796.0     | 38,317.8       |

Source: SGE.



Table 20 OTC gold businesses of commercial banks, 2007—2022

| Year | Trading volume/<br>value | Account gold  |  |  | Physical gold                             |  |   | Others  |  |   |  |  |  |  |
|------|--------------------------|---|--|--|---|--|---|---|--|---|--|--|--|--|
|      |                          | USD-<br>denominated<br>(10,000 oz,<br>USD 100<br>million) | RMB-<br>denominated<br>(metric ton,<br>RMB 100<br>million) | Proprietary<br>(metric ton,<br>RMB 100<br>million) | Agent (metric<br>ton, RMB 100<br>million) | Gold<br>accumulation<br>and regular<br>investment<br>(metric ton,<br>RMB 100<br>million) | Gold leasing<br>(metric ton,<br>RMB 100<br>million) | Gold lending/<br>borrowing<br>(metric ton,<br>RMB 100<br>million) | Gold pledging<br>(metric ton,<br>RMB 100<br>million) | Domestic<br>USD gold for-<br>wards (10,000<br>oz, USD 100<br>million) | Domestic USD<br>gold options<br>(10,000 oz,<br>USD 100<br>million) | Domestic<br>RMB gold for-<br>wards (metric<br>ton, RMB 100<br>million) | Domestic<br>RMB gold<br>swaps<br>(metric ton,<br>RMB 100<br>million) | Domestic<br>RMB gold<br>options<br>(metric ton,<br>RMB 100<br>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   | —  | —  | —  |
|      | Trading value            | 51.47   | 3,227.49   | 222.90   | 8.53                                      | 35.29  | 413.25  | 28.85   | —  | 32.75   | 0.21   | —  | —  | —  |
| 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  | —  | —  |
|      | Trading value            | 72.21   | 6,271.71   | 428.50   | 21.49                                     | 102.18   | 970.55  | 104.92  | —  | 64.69   | 0.90   | 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  | 20.95  | —  | —  |
|      | Trading value            | 70.71   | 4,947.18   | 443.70   | 41.20                                     | 205.82   | 1,583.70  | 187.23  | —  | 222.01  | 10.17  | 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   | 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  | 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  | 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  | 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  | 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   | 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   | 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   | 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  | 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   | 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   | 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   | 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  | 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   | 1,251.49   | 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  | 360.92   | 248.93   | 76.34  |
|      | Trading value            | 164.28  | 15,952.76  | 621.53   | 142.24                                    | 1,154.44   | 2,304.64  | 5,340.85  | 2.20   | 83.20   | 7.80   | 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   | 31.81  |
|      | Trading value            | 56.30   | 4,377.49   | 469.06   | 122.62                                    | 713.61   | 2,144.92  | 5,469.75  | 0.85   | 40.96   | 4.22   | 775.86   | 1,111.24   | 121.65   |
| 2022 | Trading volume           | 113.66  | 492.93   | 121.59   | 29.29                                     | 417.02   | 519.83  | 1,615.80  | 0.05   | 710.02  | 43.15  | 223.79   | 86.90  | 14.65  |
|      | Trading value            | 23.11   | 1,924.14   | 489.91   | 137.74                                    | 1,636.76   | 2,038.71  | 6,295.75  | 0.15   | 131.14  | 7.69   | 883.04   | 339.42   | 60.05  |

Source: Gold market trading report database.

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—2022

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        | Notional principal amount |
| 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        | —                       | —                         |
| 2022 | 244,111             | 209,714.88                | —                | —                         | —                | —              | 2,910                  | 2,600.0        | —                       | —                         |

Source: CFETS.