CHINA FINANCIAL MARKET DEVELOPMENT REPORT

2019

PBC Shanghai Head Office
China Financial Market Development Report Committee

中国金融出版社

责任编辑：童祎薇
责任校对：李俊英
责任印制：程　颖

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Authors:

Chapter 1:	YU Yalian	ZHAO Yunxiao		
Chapter 2:	DENG Lingyuan	GUO Wenchao	WANG Wenzhu	HU Jun
	SUN Jing	LI Yuanlong	LI Ying	SHEN Yanbing
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Appendix I & II:				
	YANG Jie			
Box 1:	SHEN Yanbing			
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Box 10:	XU Lei			
Box 11:	HU Hui	CHEN Zhiqin		
Box 12:	FENG Xiazong	CHEN Zhiqin		

Contents

Contents

Contents

Chapter I Overview

In 2019, the momentum of world economic growth dwindled down, the international financial environment became loosened, and the development of international financial markets diverged. Notwithstanding mounting economic and financial influencing factors domestically and internationally, China's economic development was generally sound and remained relatively resilient. The financial market achieved broadly stable performance, with market reform and innovation deepened, and its functions optimized in serving the real economy, including private businesses and micro and small businesses (MSBs). Opening-up at all fronts was advanced at a faster pace, and the efforts to resolve financial risks in a market-based and law-based manner delivered prominent results. The financial market maintained a sound momentum of development.

1.1 The macro environment for China's financial market development in 2019

1.1.1 International economic and financial situations

According to the *World Economic Outlook* released by the International Monetary Fund (IMF) in early 2020, the global growth for 2019 is estimated at 2.9 percent, lower than the growth rate of 3.6 percent for 2018, and the projected growth rates for 2020 and 2021 are revised downward, showing a weakened momentum of global economic growth. In 2019, the global financial environment became loosened, the development of international financial markets diverged with increased market fluctuations.

1.1.1.1 Global economic growth slowed down

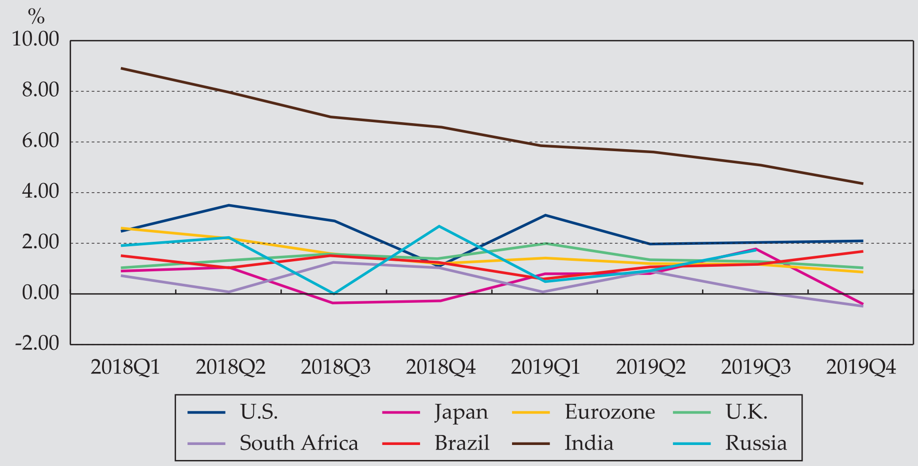
(1) Global economic growth overall slowed down

In 2019, the global economic expansion slowed down. Except the United Kingdom (U.K.) and Japan which registered stable economic growth, other developed and developing economies experienced evident declines. The real GDP of the United States (U.S.) grew at a rate of 2.3 percent, a decrease of 0.6 percentage points over the previous year. The seasonally adjusted annualized real GDP growth rates for each quarter were 3.1 percent, 2.0 percent, 2.1 percent, and 2.1 percent respectively. The real GDP growth rate in the Eurozone was 1.2 percent, down 0.8 percentage points from the previous year. The seasonally adjusted annualized real GDP growth rates for each quarter were 1.4 percent, 1.2 percent, 1.3 percent, and 1.0 percent. Japan's real GDP growth rate was 0.7 percent, which was on par with that of 2018. By quarters, its GDP growth in the first three quarters reached an annualized rate of 2.1 percent. In the fourth quarter, due to the increased consumption tax rate, the GDP growth rate fell to -0.7 percent. Overcoming the impact of Brexit and other unfavorable factors, the U.K. registered a real GDP growth rate of 1.4 percent, up 0.1 percentage point from the previous year. Economic growth in emerging markets and developing economies stalled, marked by a sharp fall of growth rate. India's real GDP growth rate was 5.0 percent, down 1.8 percentage points from the previous year. Brazil's real GDP growth rate was 1.1 percent, 0.3 percentage points lower than the previous year. Russia's real GDP growth rate was 1.3 percent, a decrease of 0.4 percentage points over the previous year. South Africa's real GDP grew by 0.2 percent, 1.3 percentage points lower than the previous year.

(2) Global trade sank

In 2019 when international trade frictions intensified, the global trade underperformed, evidenced by the declining foreign trade of developed economies, emerging markets and developing economies. The Baltic Dry Index (BDI), a leading indicator of global trade activities, stood at 1,282 at the beginning of the year, rose to 2,518 on September 4th, and fell to 1,090 at the end of the year, registering a fall of 15.0 percent throughout 2019. The World Trade Organization(WTO) predicted that world merchandise trade volumes would grow by only 1.2 percent in 2019, significantly lower than the growth rate of 3 percent in 2018. In the first three quarters, in G20 international merchandise trade in USD, exports increased by 0.2 percent, -1.9 percent, and -0.7 percent quarter on quarter respectively, and imports by -1.1 percent, -0.8 percent, and -0.9 percent quarter on quarter respectively. By economy, exports of the U.S. increased by 0.5 percent, -1.1 percent, and -0.2 percent quarter on quarter respectively, and imports by -2.0 percent, 0.3 percent, and -0.7 percent quarter on quarter respectively; exports of the 28 EU member countries increased by -0.9 percent, -1.7 percent, and 1.0 percent quarter on quarter respectively, and imports by -0.6 percent, -0.9 percent, and 0.1 percent quarter on quarter respectively; exports of Japan rose by -2.5 percent, -1.1 percent, and -2.3 percent quarter on quarter respectively, and imports by 1.4 percent, 1.5 percent, and -4.7 percent quarter on quarter respectively; exports of the U.K. grew by 6.5 percent, -7.2 percent, and -3.3 percent quarter on quarter respectively, and imports by 5.2 percent, -12.6 percent, and -1.6 percent quarter on quarter respectively. In emerging markets and developing economies, in the third quarter, imports of India, South Korea, and Indonesia grew by -9.7 percent, -2.3 percent, and -0.4 percent quarter on quarter respectively, and exports by -3.1 percent, 0.4 percent, and 4.1 percent quarter on quarter respectively.

Figure 1.1 Economic growth rates of major economies from 2018 to 2019



(Source: Wind, official website of U.S. Bureau of Economic Analysis, official website of U.K. Statistics Authority, etc)

(3) Global direct investment remained stable

Despite the weak global economy and the increased uncertainties surrounding the investment environment and decisions, the world's foreign direct investment (FDI) still recorded USD 1.39 trillion in 2019, a decrease of only 1 percent from the previous year. By economy, FDI inflow to developed economies was USD 643 billion, down 6 percent from the previous year. Among the developed economies, FDI inflow to the U.S. stood at USD 251 billion, the largest of all. The European Union (EU) attracted USD 305 billion worth of FDI, a year-on-year decrease of 15 percent. Affected by Brexit, FDI inflow to the U.K. fell by 6 percent. Despite all the negative situations, FDI channeled to Germany increased to three times that of 2018, mainly due to the expanded loans from multinationals to their overseas subsidiaries. FDI inflow to developing economies stood at USD 695 billion, basically flat with the previous year. Among developing economies, China's USD-denominated FDI inflow grew by 2.4 percent compared with the previous year, making it still the most favored developing country for foreign investment and the world's second largest FDI recipient. FDI inflow to Latin America and the Caribbean rose by 16 percent and that to Africa by 3 percent.

(4) International oil prices went up amid fluctuations, and the movements of commodity prices diverged

In 2019, the international oil prices went up amid fluctuations. In the first quarter, affected by reduced production in major oil-producing countries and other factors, the international crude oil prices rebounded from their lows at end-2018, showing a unilateral upward trend. In the second quarter, the intensified international trade disputes and other factors resulted in weakened oil demand and plummeting oil prices. In the third quarter, due to the geopolitical tensions and other factors, the international oil prices increased amid sharp fluctuations. In 2019, the U.S. West Texas Intermediate (WTI) surged all the way from USD 46.54 per barrel at the beginning of the year to USD 66.30 per barrel on April 23rd, and then plummeted to USD 51.14 per barrel on June 12th. After the third quarter, the price was restored to USD 61.60 per barrel at the end of the year. In 2019, the movements of global commodity prices diverged. In respect of nonferrous metals, London Metal Exchange (LME) grade-A copper price climbed from USD 5,842 per ton at the beginning of the year to USD 6,566 per ton on April 17th, and eventually closed at USD 6,174 per ton at end-2019, registering an increase of 5.68 percent from the beginning of the year. Aluminum alloy price fell from USD 1,420 per ton at the beginning of the year to USD 1,125 per ton on September 4th, and settled at USD 1,335 per ton at the end of the year, down 5.99 percent from the beginning of the year; the price of zinc closed at USD 2,272 per ton, down 5.73 percent from the beginning of the year; the price of lead ended at USD 1,927 per ton, a fall of 1.43 percent from the beginning of the year; the price of nickel climbed to USD 18,060 per ton on September 2nd and closed at USD 14,024 per ton, up 28.97 percent from the beginning of the year. In respect of precious metal, the international gold price had been on the rise since June, and closed at USD 1,517.18 per ounce at the end of the year, an increase of 18.2 percent from the beginning of the year. In terms of commodity indexes, the RJ/CRB commodity price index rose first and then fell, rising from 170.19 points at the beginning of the year to 189.68 points on April 10th, and finally closing at 185.75 points at the end of the year. The monthly average of the Food Price Index of Food and Agriculture Organization (FAO) stood at 171.42 points in 2019, an increase of 1.77 percent over the previous year.

1.1.1.2 International financial environment became loosened, with increasing uncertainties in the financial markets

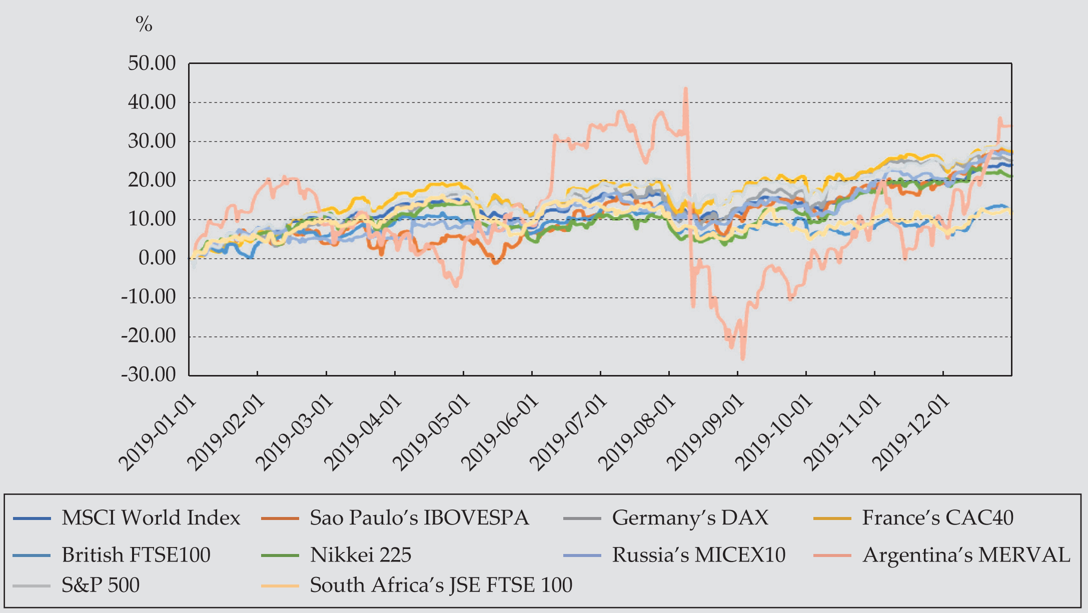
(1) Monetary policies of major developed economies became loosened

In 2019, the U.S. Federal Reserve (Fed) cut interest rates three times, lowered the target range for Federal funds rate to 1.5 percent to 1.75 percent, reduced the excess reserve ratio, and extended repo operations. The European Central Bank (ECB) lowered the deposit rate by 10 basis points (bps) to -0.50 percent, and restarted its quantitative easing (QE) program. The Bank of Japan (BOJ) maintained an ultra-loose monetary policy, kept the short-term interest rate unchanged at -0.1 percent, and continued to purchase long-term treasury bonds to keep long-term interest rates near zero. The central banks of the U.K. and Canada kept interest rates unchanged at 0.75 percent and 1.75 percent respectively.

(2) Major stock markets moved higher

In 2019, major stock markets moved higher to different extents. The MSCI World Index rose by 24.04 percent from 455.68 points at the beginning of the year to 565.24 points at the end of the year. In developed countries, the S&P 500 Index of the U.S. climbed from

Figure 1.2 Movements of stock indexes in major economies in 2019



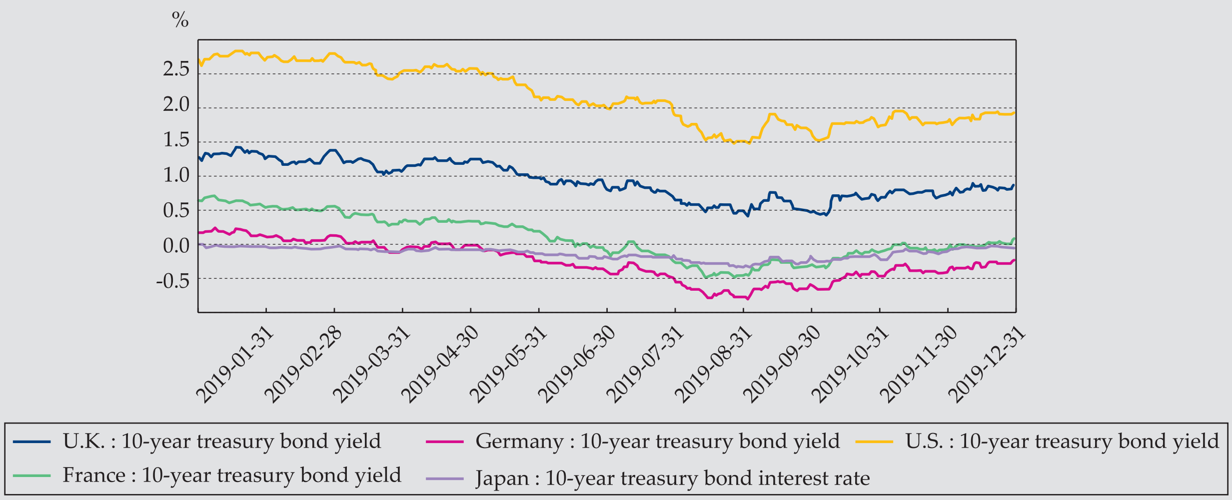
(Source: Wind)

2,510.03 points at the beginning of 2019 to 3,230.78 at year-end, recording an increase of 28.71 percent. The stock markets in Germany, France, the U.K., and Japan grew by 25.22 percent, 27.48 percent, 12.00 percent, and 20.93 percent respectively over the beginning of 2019. In emerging markets, the Argentina Merval Index (MERV) fluctuated significantly, reaching a high of 44,355.09 points on August 9th, plunging rapidly to 27,530.80 on August 12th, and then rising to 41,671.41 points at year-end, registering a rally of 34.01 percent. In Brazil, Russia, and South Africa, the stock markets gained 27.07 percent, 27.04 percent, and 11.35 percent respectively.

(3) The yields on long-term treasury bonds of major developed countries went down

In 2019, the yield on U.S. 10-year treasury bond declined from 2.69 percent at the beginning of the year to 1.47 percent on August 28th, and settled at 1.92 percent at year-end, registering a fall of 28.62 percent for the year. The U.K.'s 10-year treasury bond yield fell from 1.33 percent at the beginning of the year to 0.89 percent at year-end, a decrease of 33.32 percent throughout 2019. The yield on the French 10-year treasury bond tumbled below 0, and then rebounded to 0.12 percent at year-end, recording a sharp fall of 82.70 percent for the year. Germany's 10-year treasury bond yield dipped from 0.25 percent at the beginning of the year to the lowest level of -0.75 percent on September 3rd, and closed at -0.19 percent at year-end. Japan's 10-year treasury bond interest rate continued to fluctuate around 0, falling from 0.037 percent at the beginning of the year to -0.015 percent at year-end.

Figure 1.3 Movements of 10-year treasury bond yields in major economies in 2019

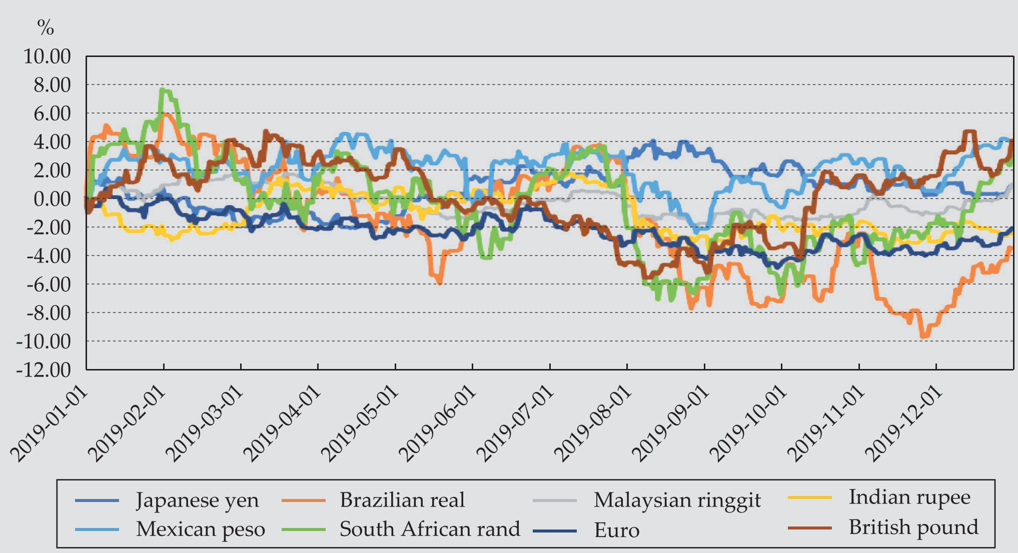


(Source: Wind)

(4) Movements of major currencies diverged

At end-2019, USD index closed at 96.45 points, registering an increase of 0.34 percent over the beginning of the year and lower than the growth rate of 4.14 percent in 2018. Major currencies either appreciated or depreciated

Figure 1.4 Movements of major currencies in 2019



(Note: The beginning of 2019 as the base)
(Source: Wind)

against USD: British pound, Japanese yen, Malaysian ringgit, Mexican peso, South African rand and Russian ruble strengthened against US dollar by 4.01 percent, 0.96 percent, 0.92 percent, 3.95 percent, 2.81 percent, and 10.95 percent respectively, while Euro, Brazilian real, Indian rupee, Turkish lira, and Argentine peso weakened against US dollar by 2.16 percent, 3.57 percent, 2.56 percent, 12.91 percent, and 58.43 percent respectively.

1.1.2 Domestic economic and financial situations

In 2019, the performance of China's economy was overall steady, with constant improvements made to the quality of economic development. GDP posted a year-on-year growth of 6.1 percent, falling within the official target of 6 percent to 6.5 percent set in early 2019, and laying solid foundation for building a moderately prosperous society in all respects. The monetary policy remained sound and moderate, liquidity in the banking system kept adequate at a reasonable level, the opening-up of the financial industry picked up pace, and the mechanism for financial regulatory coordination was further strengthened and improved. As a result, the domestic financial environment was further optimized.

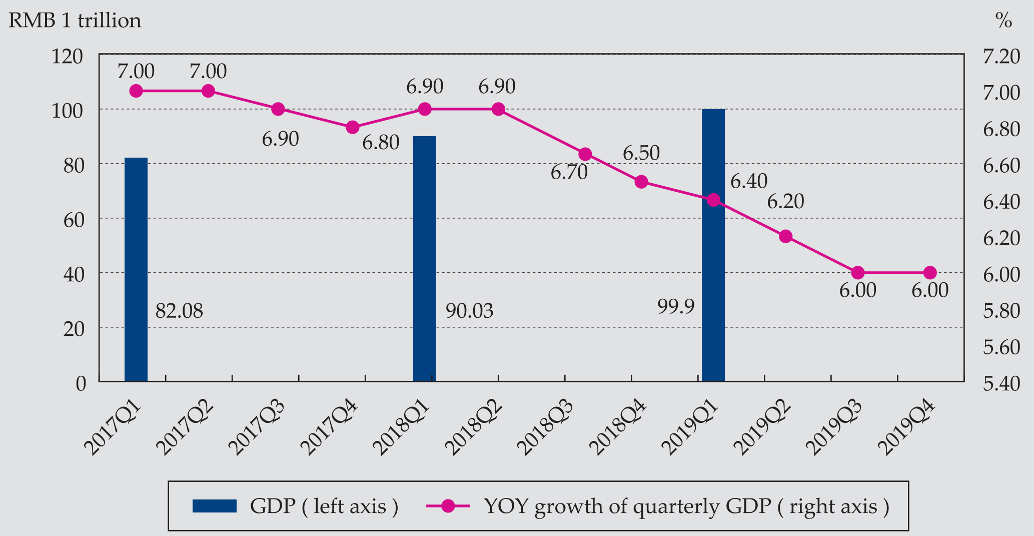
1.1.2.1 The domestic economy experienced mounting downward pressure, yet the long-term prospects of steady growth remained unchanged

(1) The economy achieved generally stable growth while making further progress

According to preliminary calculations, China's GDP in 2019 grew to RMB 99.09 trillion, which was close to the RMB 100 trillion landmark and about RMB 9 trillion more than that of 2018. The Consumer Price Index (CPI) edged up by 2.9 percent year on year, which met the official target of around 3 percent set at the beginning of the year. In 2019, a total of 13.52 million urban jobs were created, surpassing the year's target by 22.9 percent, and marking the 7th consecutive year of creating more than 13 million urban jobs. The surveyed urban unemployment rate ranged from 5.0 percent to 5.3 percent all year round, an indication that the official target of keeping the rate below 5.5 percent was well met. At end-2019, the registered urban unemployment rate was 3.62 percent, registering a year-on-year decrease of 0.18 percentage points and successfully meeting the official target of keeping the rate below 4.5 percent. In 2019, per capita disposable personal income stood at RMB 30,733, recording a nominal growth of 8.9 percent, 0.2 percentage points higher over the previous year, and 5.8 percent in real terms, which was basically in tandem with economic growth. Foreign trade strengthened against all the odds. The proportion of general trade recorded a constant rise. The total volume of export and import trade in goods in 2019 amounted to RMB 31.5446 trillion, 3.4 percent higher over the previous year. Among them, the total amount of exports stood at RMB 17.2298 trillion, up 5.0 percent over the previous year; the total amount of imports reached RMB 14.3148 trillion, rising by 1.6 percent over the previous year. The trade surplus stood at RMB 2.9150 trillion. The total amount of general trade accounted for

59.0 percent of the total exports and imports, overtaking the level of the previous year by 1.2 percentage points.

Figure 1.5 China's GDP and real quarterly GDP growth from 2017 to 2019

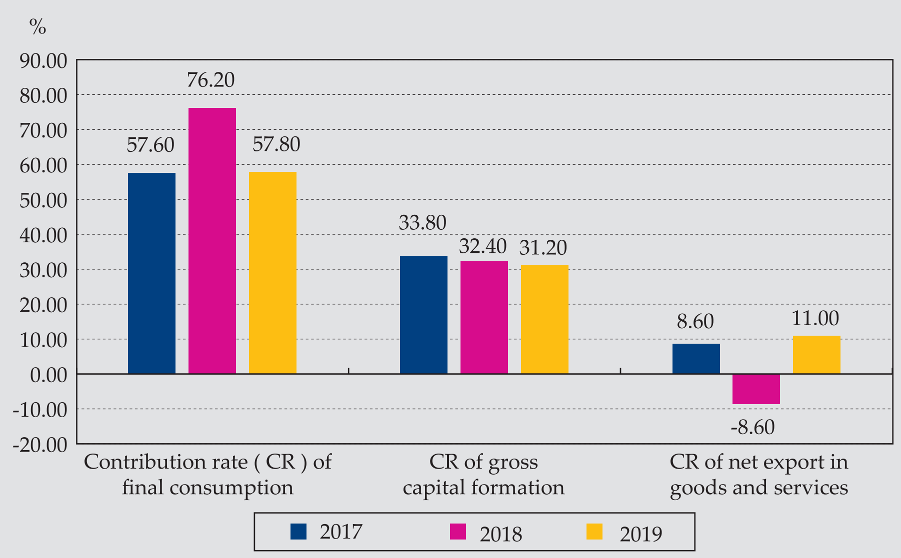


(Source: National Bureau of Statistics)

(2) The economic structure was optimized continuously

In 2019, the total retail sales of consumer goods stood at RMB 41.1649 trillion, up 8.0 percent over the previous year. The role of consumption as the main economic growth engine was reinforced. The contribution of final consumption to GDP growth reached 57.8 percent, 26.6 percentage points higher than the contribution of gross capital formation. The fixed-asset investment (excluding rural households) totaled RMB 55.1478 trillion, rising by 5.4 percent year on year. By sector, investment in infrastructure rose by 3.8 percent, manufacturing 3.1 percent, and real estate development 9.9 percent. The private investment totaled RMB 31.1159 trillion, up 4.7 percent year on year. The total investment in high-tech industries expanded by 17.3 percent, 11.9 percentage points faster than the growth of total investment. Among them, investment in high-tech manufacturing and high-tech service sectors surged by 17.7 percent and 16.5 percent respectively. The added value of the industrial enterprises above designated size grew by 5.7 percent, and the added values of the high-tech manufacturing sector and strategically emerging sector expanded by 8.8 percent and 8.4 percent respectively, which were 3.1 and 2.7 percentage points faster than average. In the service industry, the production index increased by 6.9 percent, among which corporate revenue of enterprises in the strategically emerging service sector, the scientific and technological service sector and high-tech service sector trended upward by 12.4 percent, 12.0 percent, and 12.0 percent respectively, which were 3.0, 2.6, and 2.6 percentage points faster than the average of the industrial enterprises above designated size in the service industry. Profit of the industrial enterprises above designated size in the service industry went up by 3.5 percent. The added-value of the tertiary industry accounted for 53.9 percent in GDP, up 0.6 percentage points over the previous year, and contributed 59.4 percent to GDP growth.

Figure 1.6 Contribution of three major demands to economic growth from 2017 to 2019



(Source: National Bureau of Statistics, Wind)

1.1.2.2 The financial environment remained stable, and the quality of the financial industry remained stable while making further progress

(1) Countercyclical adjustments were enhanced in monetary policy

In 2019, the People's Bank of China (PBC) adhered to the fundamental requirement of serving the real economy with financial services, and implemented the sound monetary policy, strengthened countercyclical adjustments and sought dynamic equilibrium amid a diverse range of targets. First, liquidity remained adequate at a reasonable level in the banking system. The required reserve ratio (RRR) was lowered three times to provide RMB 2.7 trillion worth of long-term capital for financial institutions to serve the real economy. Second, measures were made to both stabilize the aggregate and optimize the structure. The RRR system, characterized by "three brackets and two preferential policies", was built and optimized, to tap the role of central bank lending, central bank discount, macroprudential assessment (MPA), and other policy tools. Third, domestic demand was prioritized, and the equilibrium was achieved both internally and externally. The RMB exchange rate fluctuated in both directions, with RMB weakening beyond 7 per USD in both directions. Fourth, the monetary policy transmission was smoothed through reforms. The Loan Prime Rate (LPR) was further reformed and improved, the transition of the pricing benchmark of outstanding loans to LPR or fixed rates was advanced, and perpetual bonds were leveraged to help banks replenish capital. Fifth, risks were solidly forestalled. Targeted measures were taken to curb risks arising from specific small and medium-sized banks, and the "four lines of defense" were established to contain liquidity risks in small and medium-sized banks. Overall, the sound monetary policies delivered prominent results. At end-2019, the broad money supply (M2) stood at RMB 198.65 trillion, up 8.7 percent year on year. Outstanding aggregate financing to the real economy (AFRE) reached RMB 251.31 trillion, up 10.7 percent year on year. In 2019, AFRE (flow) was RMB 25.58 trillion, up RMB 3.08 trillion year on year. Specifically, RMB loans to the real economy grew by RMB 16.88 trillion, RMB 1.21 trillion more than the increase of the same period of 2018. The net financing of corporate bonds amounted to RMB 3.24 trillion, up RMB 609.8 billion year on year.

(2) The total asset of the financial industry maintained reasonable growth

At end-2019, the total assets of financial institutions in China amounted to RMB 318.69 trillion, a year-on-year increase of 8.6 percent. Specifically, banking institutions' total assets registered RMB 290 trillion, up 8.1 percent year on year; securities institutions' total assets reached RMB 8.12 trillion, up 16.6 percent year on year; insurance institutions' total assets reached RMB 20.56 trillion, up 12.2 percent year on year. The total liabilities of financial institutions reached RMB 289.43 trillion, a year-on-year growth of 8.1 percent. Specifically, banking institutions' total liabilities registered RMB 265.54 trillion, up 7.7 percent year on year; securities institutions' total liabilities reached RMB 5.81 trillion, up 20.4 percent year on year; insurance institutions' total liabilities reached RMB 18.08 trillion, up 10.8 percent year on year. In terms of operational performance, in 2019, commercial banks recorded cumulative net profits of RMB 2.0 trillion, registering an average return on capital of 10.96 percent and an average return on assets of 0.87 percent. Outstanding non-performing loans (NPLs) of commercial banks amounted to RMB 2.41 trillion, and the NPL ratio was 1.86 percent, slightly higher than the ratio of 1.83 percent for 2018. The operating revenue and net profit of 133 securities companies together posted RMB 360.483 billion and RMB 123.095 billion respectively, and 120 of them were profitable. In 2019, the primary premium income of insurance companies registered RMB 4.3 trillion, a year-on-year increase of 12.2 percent. The cumulative payments on claims and benefits posted RMB 1.3 trillion, surging by 4.9 percent over the previous year. The number of new insurance policies reached 49.54 billion, up 70.5 percent year on year.

1.1.2.3 The financial macro regulation was strengthened and improved

In 2019, the Financial Stability and Development Committee (FSDC) of the State Council propelled effective implementation of the policies and arrangements made by the CPC Central Committee and the State Council. It coordinated all major issues concerning financial and economic policies, safeguarded financial stability, and promoted the long-term and healthy development of China's financial industry. At the 6th FSDC meeting held on July 20th, the FSDC proposed to continue to effectively implement the sound monetary policy and make well-timed countercyclical adjustments in a moderate way, so as to keep liquidity adequate at a reasonable level. Moreover, the intensity and pace of measures to resolve risks should be properly handled, so as to forestall and defuse and resolve risks while promoting high-quality development. Above all, the supply-side structural reform in the financial industry should be deepened to form a triangular virtuous circle, connecting the supply and demand systems in the real economy with the financial system. At the 7th FSDC meeting held on September 1st, the FSDC stressed the need to smooth monetary policy transmission, maintain the reasonable growth of AFRE, prioritize the development of infrastructure, advanced technologies, transformation of traditional industries, social services, and other sectors, as well as new growth poles, and encourage banks to leverage more innovative tools to replenish capital via diversified channels. According to the 8th FSDC meeting held on September 29th, it was imperative to deepen the reform of policy financial institutions, accelerate the construction of a long-term mechanism for the capital replenishment of commercial banks, further expand the high-level two-way financial opening up, and encourage overseas financial institutions and capital to enter the domestic financial market. At the 9th FSDC meeting on November 6th, the FSDC accentuated the need to deepen the reform of small and medium-sized banks, align the corporate governance structure and internal risk control system with the characteristics of small and medium-sized banks, uphold the market-based and law-based principles, give full play to the leading role of various industrial investment funds and venture capital funds, and strengthen the integrated regulation and construction planning of financial infrastructure. At the 10th FSDC meeting on November 28th, the FSDC urged to ramp up capital of commercial banks, especially small and medium-sized banks, via multiple channels, and improve the long-term mechanism for forestalling, defusing and resolving risks, so as to maintain the sound and healthy operation of the financial system, and guide the well-regulated and healthy growth of the private equity industry.

1.1.2.4 Measures to forestall and resolve financial risks were further bolstered

Financial regulators launched an action plan to forestall and defuse major financial risks, and made significant progress in coping with the risks of key financial institutions. Efforts to resolve the risks of Baoshang Bank and to reorganize Hengfeng Bank and Bank of Jinzhou were advanced in a steady and orderly manner. The thorough implementation of reform plans for development and policy financial institutions was stepped up. The new boards of directors of China Development Bank (CDB), the Export-Import Bank of China (Eximbank), and Agricultural Development Bank of China (ADBC) were established and went into effective operation, with their roles constantly strengthened to enhance risk prevention. Efforts to expose and resolve NPLs were intensified. In 2019, roughly RMB 2 trillion worth of NPLs were resolved, and commercial bank loans overdue by over 90 days were managed as nonperforming assets. Corporate debt-induced risks were properly handled and defused. The working mechanism of the Creditors' Committee was further improved, and a total of around 192,000 committees were founded nationwide, realizing an aggregate amount of RMB 1.4 trillion worth of market-oriented debt-equity swaps. Efforts were made to continue the breakdown of high-risk shadow banks, regulate the interbank, wealth management, off-balance-sheet and trust businesses, sort out and condense financial assets that were diverted out of the real economy, manifested in complex structures and prone to cross-contagion. The shadow banking and cross-contagious financial risks were contained continuously. Over a three-year span, shadow banking had been scaled down by RMB 16 trillion compared with its historic high. Online lending risks were effectively governed. At end-2019, there were 248 online lending institutions in business nationwide, a sharp fall of 76 percent compared with the beginning of the year. The number of online lending institutions, the volume of outstanding lending and the number of participants registered a fall for 18 consecutive months. Regulatory accountability was strengthened. In 2019, regulators imposed 2,849 penalties on banking and insurance institutions and 3,496 penalties on persons held liable, with the volume of fines and confiscation amounting to RMB 1.45 billion.

1.2 Main features of China's financial market performance in 2019

In 2019, the performance of China's financial market was overall steady. Financial market reforms were pushed forward, and the pace of opening-up at all fronts was accelerated. Great achievements were obtained in preventing and defusing major risks in the financial market with market-based and law-based approaches, which led the market towards well-regulated, innovative, advanced and open development. By market, transactions in the money market were active, the interest rates declined, and repo transactions increased; bond issuance steadily expanded, cash bond transactions surged up, and the yield curve steepened downwards; turnovers in the interest rate derivatives market fell while swap rates trended upwards; the major stock market indexes moved up, and turnovers in the Shanghai Stock Exchange (SSE) and the Shenzhen Stock Exchange (SZSE) increased; in the insurance sector, the growth of premium income recovered and total asset growth picked up pace.

1.2.1 The financial market continuously scaled up

In 2019, the total turnover of the interbank market credit-based lending and bond repo was RMB 971.3 trillion, up 12.7 percent year on year. Altogether around 28,000 interbank Negotiable Certificates of Deposits (NCDs) were issued in the interbank market, registering a total issuance of RMB 17.9 trillion. The number of large-denomination NCDs issued by financial institutions stood at around 50,400, with a total issuance of RMB 12.0 trillion, a year-on-year increase of RMB 2.8 trillion. Enterprises issued a total of RMB 20.4 trillion of commercial bills, an increase of 11.6 percent year on year. Bill discounts of financial institutions totaled RMB 34.3 trillion, up 25.5 percent year on year. In the bond market, a total of RMB 45.3 trillion worth of bonds were issued, and cash bond transactions totaled RMB 217.4 trillion, a year-on-year increase of 38.6 percent[①]. The turnover at the Shanghai Gold Exchange (SGE) stood at RMB 28.76 trillion, a year-on-year increase of 33.18 percent. SGE's spot trading volume of gold ranked the first in the world for 13 consecutive years. In 2019, the cumulative turnover in the foreign exchange market was RMB 1,454.3 trillion, up 15.2 percent year on year[②]. In 2019, the cumulative turnover in the SSE and SZSE markets totaled RMB 127.4 trillion with a daily turnover of RMB 522.2 billion, up 40.7 percent year on year. Funds raised in the A-share market reached RMB 614.8 billion, a year-on-year increase of 11.2 percent[③]. In 2019, the commodity futures and options markets realized a cumulative turnover of 3.896 billion lots and RMB 220.99 trillion, a year-on-year increase of 29.78 percent and 19.65 percent respectively. In 2019, the cumulative premium income of the insurance sector added up to RMB 4.3 trillion, up 12.2 percent year on year, and 13.7 percentage points higher than the previous year. The cumulative payments on claims and benefits reached RMB 1.3 trillion, a year-on-year increase of 4.8 percent. Among them, claims and benefits for property insurance grew by a year-on-year rate of 10.3 percent.

1.2.2 The terminal interest rate in the financial industry went down

In 2019, liquidity in the financial system was adequate, and the terminal interest rate went down by an obvious margin. At end-2019, the weighted rate of the O/N interbank lending in the money market stood at 1.90 percent, decreasing by 44 bps from the beginning of the year. The spread of interest rates between the highest and the lowest was 720 bps, down 660 bps from the previous year. In the interbank market, the yields to maturity (YTM) of 1-year, 3-year, and 5-year ChinaBond short- and medium-term bills (AAA-grade) stood at 3.18 percent, 3.43 percent, and 3.71 percent respectively, down 41, 38, and 34 bps from the previous year. The yields on 1-year and 10-year

① Source: Website of the PBC, *2019 Financial Market Report*, January 19th, 2020.

② Source: *China Money Market*, *2019 Interbank Market Report*, January 2020.

③ Source: Website of the PBC, *China Monetary Policy Report in the Fourth Quarter of 2019*, February 19th, 2020.

treasury bonds recorded 2.36 percent and 3.14 percent respectively, down 24 and 9 bps from the end of last year. The YTMs of exchange-traded 3-year and 5-year CSI Corporate Bond (AAA-grade) were 3.42 percent and 3.72 percent respectively, a decrease of 46 and 37 bps year on year respectively. In 2019, the weighted average rate of interbank pledged repo was 2.3 percent, a year-on-year reduction of 34 bps. The weighted average financing cost of NCDs decreased from 3.81 percent at the beginning of the year to 3.20 percent. The weighted average interest rate of bill discounts was 3.44 percent, down 117 bps from the previous year, and the weighted average interest rate of interbank discounts stood at 3.31 percent, down 110 bps from the previous year.

1.2.3 Reform and innovation were pressed ahead

In 2019, the PBC supported commercial banks to issue perpetual bonds, and conducted central bank bills swap (CBS) operations. The Yangtze River Delta indexes and the first CDS index in the mainland market were launched. Bonds with LPR as the benchmark rate and innovative green bonds of various types were successfully issued. The foreign currency repo businesses with domestic bonds under the custody of the Shanghai Clearing House (SHCH) as collaterals were initiated. An electronic service platform named iSupport was launched. The NYAuTN12 contracts were launched, gold futures and gold options products were available in the market, and the delivery and logistics of Panda Gold Coins via the online app *Yijingtong* was optimized. Rules for gold leasing and gold delivery were improved, with the time of trading extended. Standardized bills were launched. China Banking and Insurance Regulatory Commission (CBIRC) allowed insurance institutions to invest in capital bonds without fixed terms that were issued by commercial banks. Reform of the premium rate formation mechanism for personal insurance was deepened, the regulation of the compulsory insurance for traffic accident of motor-driven vehicle was optimized, the coverage of agricultural insurance was extended, and the first national standard for the insurance industry was implemented. China Securities Regulatory Commission (CSRC) promoted the adoption of the new *Securities Law* by the Standing Committee of the National People's Congress (NPCSC). The Shanghai-London Stock Connect and the China-Japan ETF Connectivity scheme were initiated. New rules for companies planning to go listing via "restructuring" or "spin-off" were stipulated. The Science and Technology Innovation Board (STAR Market) was launched with a pilot registration system, and the reform of the National Equities Exchange and Quotations (NEEQ) was deepened. The Insurance Plus Futures pilot project was expanded. The SSE and SZSE were permitted to list and trade 300 ETF futures contracts.

1.2.4 The quality and efficiency of serving the real economy was improved

In 2019, corporate debenture bond issuance and local government bond issuance stood at RMB 9.72 trillion and RMB 4.36 trillion respectively.

The turnover of interbank bond repo reached RMB 819.6 trillion, reporting a daily average of RMB 3.3 trillion and up 14.3 percent year on year. The turnover of interbank lending reached RMB 151.6 trillion, registering a daily average of RMB 606.5 billion and up 8.9 percent year on year. In 2019, bill discounts of financial institutions stood at RMB 34.3 trillion, up 25.5 percent year on year. Medium and long-term (MLT) loans to the manufacturing industry increased by RMB 502.1 billion, RMB 180.4 billion more than the increase of the same period in the previous year. Inclusive MSB loans grew by RMB 2.1 trillion, 1.7 times the increase in the previous year. A total of 27.04 million MSBs received financial support, a year-on-year growth of 26.4 percent. Loans to private businesses surged by RMB 3.8 trillion, RMB 1.1 trillion more than the increase of the same period in the previous year. 70 companies were listed at the SSE STAR market, raising altogether RMB 82.4 billion. 47 high-tech companies raised RMB 41.059 billion in their IPOs in the SZSE market. Insurance companies paid RMB 1.2894 trillion in claims and payments, up 4.85 percent year on year.

1.2.5 Financial market opening-up at all fronts was accelerated

In 2019, the PBC launched 11 measures to open up the financial industry. Chinese bonds were successively included in the Bloomberg Barclays Global Aggregate Index and the JPMorgan Government Bond Index-Emerging Markets (GBI-EM). The investment limits for Qualified Foreign Institutional Investors (QFIIs) and RMB Qualified Foreign Institutional Investors (RQFIIs) were removed, along with the restrictions applying to countries and regions included in the RQFII pilot program. Rules and regulations in the domestic bond market were effectively aligned with the international system, and the procedures for overseas central bank institutions to enter the Chinese market were streamlined. The Shenzhen-based warehouse was put into use to ramp up the supply efficiency of physical gold traded on the international board. Foreign institutions gained the permission to conduct credit rating business in China. CSRC ratified the application of Chinese securities products in the China-Japan ETF Connectivity scheme, and kicked off the trading of Global Depositary Receipts (GDRs) via the Shanghai-London Stock Connect scheme. MSCI, FTSE Russell and S&P Dow Jones Indices successively added A-share stocks to their global benchmarks. The foreign ownership limits for joint-stock securities companies, fund management companies and futures companies were lifted. The STAR Market piloted the listing of red-chip enterprises, and the “full circulation” reform of H-shares was implemented across the board. The technically specified rubber (TSR) 20 futures were listed, becoming the fourth variety of futures in China that is open to foreign investors.

1.2.6 Financial risks were effectively prevented and controlled

In 2019, the PBC facilitated the revision of the *Bill Law*, making clear the legal status of e-bills. The Shanghai Commercial Paper Exchange

Corporation (SHCPE) improved the bill market risk monitoring indicator system and explored the establishment of institutional arrangements for trade bill information disclosure. In the interbank bond market, the building of the mechanism for transferring defaulted bonds upon maturity and the mechanism for handling collaterals of repo defaults was advanced, further enriching the market-based approaches to handling bond defaults. *Model Clauses on Investor Protection 2019* was revised to enhance credit risk prevention in the market of debt financing instruments. Information disclosure of bond issuing companies was standardized with the establishment of a bond issuer ESG evaluation system. The *Interim Measures on the Management of the Credit Rating Industry* was released to establish and improve the institutional framework for unified regulation of the credit rating industry. The *Interim Measures on the Management and Supervision of Insurance Assets and Liabilities* was formulated by CBIRC to promote industrial transformation and achieve high-quality development. The supervision of the compulsory insurance for traffic accident of motor-driven vehicle was optimized to offer better guarantee and support, the coverage of agricultural insurance was extended to facilitate its high-quality development, and the first national standard for the insurance industry was published. The securities regulators improved the statistical monitoring of the securities market, and ramped up early-warning of market risks. The contingency plans for the disposal of market risks and the prevention and control system for major risks were improved. Delisting risks were soundly handled to improve the quality of listed companies. A mix of measures were taken to prevent and resolve risks arising out of stock pledged, and help private businesses relieve difficulties in their financing.

1.3 Outlook of China’s financial market development in 2020

The year 2020 is the final year for completing the building of a moderately prosperous society in all respects and the 13th Five-Year Plan. Looking into 2020, the development of the financial market will follow the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, fully implement the spirits of the 19th CPC National Congress, the Second, the Third, and the Fourth Plenary Sessions of the 19th CPC Central Committee as well as the Central Economic Work Conference, adhere to the principle of pursuing progress while ensuring stability, and remain committed to the new development philosophy for high-quality development of the financial market, credit policies and other works. The outbreak of the COVID-19 pandemic at the end of 2019 exacerbated the downward pressure of China’s economy, leading to mounting uncertainties in the financial market. In the long run, however, China’s financial market will maintain the momentum of healthy and steady development.

1.3.1 Financial market reform will be deepened and fundamental institutions will be improved

In 2020, it is important to give full play to the decisive role of the market in allocating resources, deepen the reform of the financial system, and improve the fundamental institutions of the capital market. Moreover, the monitoring of the liquidity of NCD issuers will be strengthened, along with the quality of information disclosure of NCD issuers. The bond issuance business rules and management system will be optimized, the approval procedures significantly streamlined, and bond products further innovated. The pricing mechanism and market system for bond repo will be optimized, types of investors will diversify further, and the capital demand of non-banking financial institutions and non-legal-person products will be well guaranteed. The new *Securities Law* will be implemented to improve laws and regulations in the capital market. The research and development (R&D) of index futures such as commodity and shipping index futures will be strengthened, and the centralized clearing business of cross-border interest rate swaps and options will be launched in due course. The innovation of RMB interest rate derivatives and trading mechanisms will be stepped up, the business model of "Commodity Clearing Connect" established, and the product varieties of commodity derivatives further diversified. The market-oriented formation mechanism of commercial auto insurance rates will be optimized. The construction of the reinsurance market will be advanced. The pilot program of catastrophe insurance will be expanded. Green finance will be vigorously developed to introduce a series of environmentally friend financial products. The coverage and penetration rate of compulsory environmental pollution liability insurance will be promoted.

1.3.2 FinTech innovation will be stepped up to enable the increased quality and efficiency of financial services

Financial products and services will be made more digital, Internet-based and intelligent, so as to enable the increased quality and efficiency of financial services. FinTech will be applied in appropriate scenarios to boost overall development with key breakthroughs. The selection, capacity building, application scenarios, and security control of key generic technologies will be standardized. The application of FinTech will be comprehensively upgraded to make it a "new engine" for high-quality financial development. The deepened testing of central bank digital currencies will be actively promoted. The efficiency of capital clearing in the bill market and the quality of financial services will be upgraded. Efforts should be made to uphold the foundations while delivering innovations, so as to actively and steadily promote the application and innovation of big data, cloud computing, and blockchain in the bond, bill and other markets. The life-cycle information management system of foreign exchange trading will be perfected to tap the supporting and leading role of trading platforms in the innovative development of businesses in the foreign exchange market. Functions of supporting systems such as iDeal, iTrader, and iSupport will be constantly strengthened, so as to leverage their synergy, and improve the overall service capacity of electronic platforms with whole-process coverage. Based on the construction of a new digital ecosystem for the stock market, a new regulatory model will be established at a faster pace and regulatory effectiveness will be further enhanced.

1.3.3 The institutionalized and law-based financial management will be further bolstered

The tough battle to prevent and resolve major financial risks will be advanced, the market-based constraint mechanism will be proactively strengthened, and the efforts to build a long-term and law-based risk resolution mechanism will be stepped up. The regulation during and after the handling of matters in the bill market will be intensified to phase out irregularities in bill-related conducts and enhance the robustness of the money market. The risk prevention and resolution mechanism for bond defaults will be perfected, the infrastructure interconnectivity in the domestic bond market will be continuously advanced, the institutional alignment between the interbank market and the exchange market will be strengthened, regulatory standards will be unified, cross-market law enforcement will be intensified, risk screening will be more targeted, the market-based approaches to handling defaults will be diversified, and debt evasion will be seriously cracked down on. The coordinated management of financial infrastructure will be strengthened, and the regulation of the development of the gold market will be standardized. The sound and stable development of Internet finance will be well maintained.

1.3.4 Opening-up of the financial market at all fronts will be facilitated to align it with international standards

Financial opening-up will be advanced steadily, with relevant policies properly put in place. New policies for financial opening-up will be devised, and the participation of overseas financial institutions in the Chinese market will be encouraged in a more open-minded manner. The high-level opening-up of the bond market will be facilitated and the opening-up systems for the market will be continuously optimized. Greater facilitation will be provided for overseas investors to file applications and enter China's market. Domestic settlement agent banks shall be transformed to custodian banks step by step. Diversified services will be provided for foreign investors entering the interbank bond market. Administrative measures for Panda Bonds in the exchange market will be studied and formulated. The connectivity mechanism of domestic and overseas financial markets will be continuously optimized and innovated to strengthen cooperation between domestic financial infrastructure and overseas institutions. The in-depth execution of all financial services bolstering the Belt and Road Initiative will be expedited to better serve national strategies. The influence and competitiveness of China's financial market will be enhanced to make new grounds in opening the market up.

Chapter 2 Money Market

In 2019, the PBC continued to practice the sound monetary policy. The money market performance was generally stable, the trading scale of the market kept growing, and the participants in the market were increasingly diversified. The trading volume of interbank lending and bond repo continued rising, the issuance and trading volume of interbank Negotiable Certificate Deposits (NCDs) dipped, and the trading volume of bills rebounded. The market interest rates moved down overall, and the maturity structure continued to be dominated by short-term maturities.

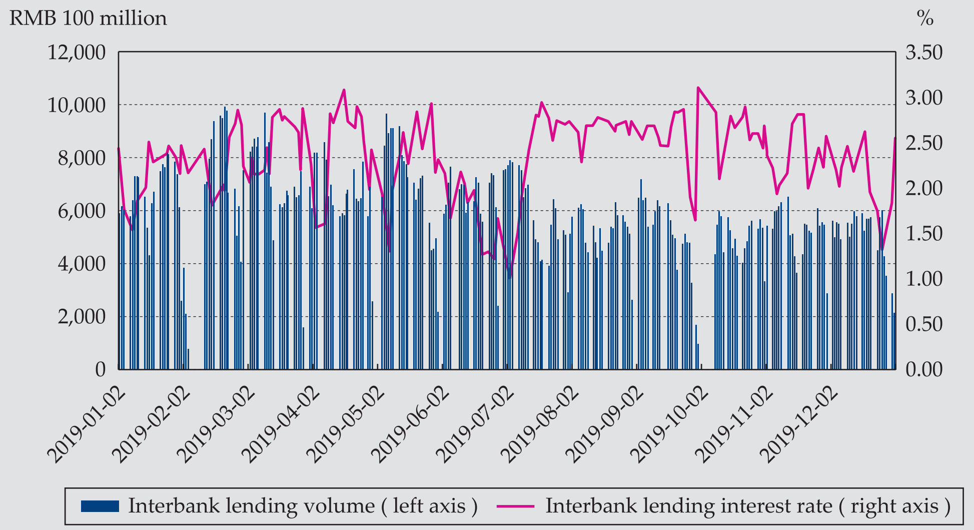
2.1 Interbank lending market

In 2019, the overall performance of the interbank lending market was stable. The number of market participants continued to grow, and the trading volume continued to rise. The terminal interest rate went down with slightly increased volatility, and the maturity structure was still dominated by short-term maturities.

2.1.1 Performance of the interbank lending market

In 2019, the trading volume of the interbank lending market totaled RMB 151.64 trillion, up 8.86 percent year on year and reporting an average daily trading volume of RMB 606.549 billion. Within the year, the peak and trough daily trading volume was RMB 995.242 billion on February 20th and RMB 77.449 billion on February 3rd respectively. The annual weighted average interest rate was 2.27 percent, down 32 bps year on year, with the highest point of 3.10 percent being registered on September 30th and the lowest of 1.00 percent being registered on July 4th. As of end-2019，the number of market participants totaled 2,190, up 144 over the previous year, including: 1,338 banks, 102 securities companies, 53 insurance companies, 66 trust companies, 236 financial companies, 66 leasing companies, 282 rural credit cooperatives, 9 asset management companies, 24 auto finance companies, 13 consumer finance companies, and 1 other institution.

Figure 2.1 Interbank lending volume and interest rate movement in 2019



2.1.2 Main features of the interbank lending market

2.1.2.1 Trading volume continued to grow, yet at a slower pace

In 2019, the turnover of interbank lending market continued to grow, yet at a slower pace, with its year-on-year growth declining from 76.37 percent in the previous year to 8.86 percent. The monthly turnovers from January to July ended higher over a year earlier, with the largest year-on-year growth, 78.92 percent, recorded in April. The monthly turnovers from August to December fell compared with a year

Figure 2.2 Trading volumes and growth rates of the interbank lending market from 2010 to 2019

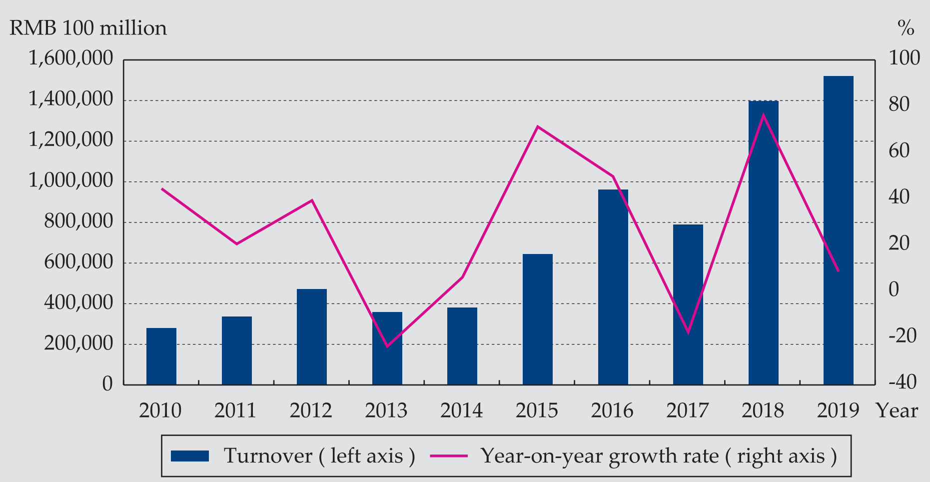
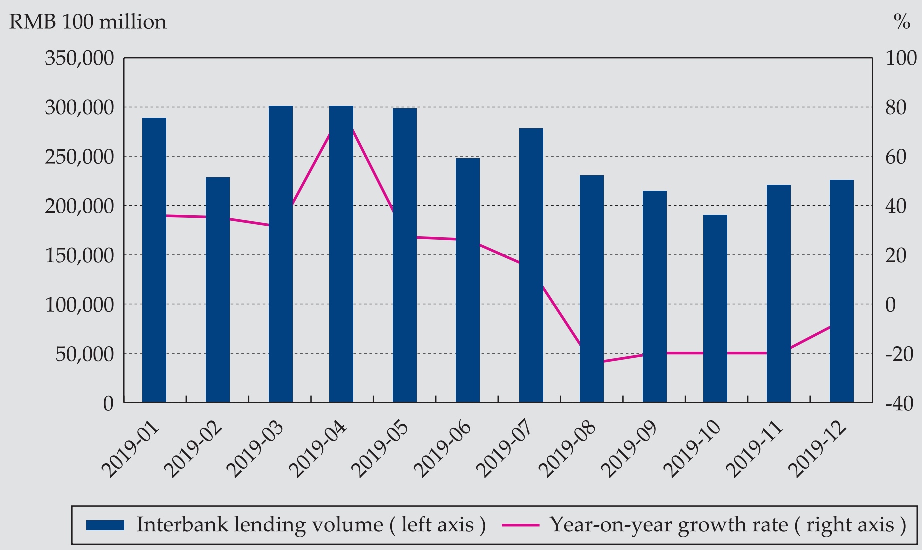


Figure 2.3 Monthly trading volumes and year-on-year growth rates of the interbank lending market in 2019



ago, with the largest year-on-year decline, 24.44 percent, reported in August. Since 2018, the liquidity in the money market has been kept adequate at a reasonable level, and commercial banks have increased counterparty credit limits. Meanwhile, due to financial institutions' deleveraging in repos and other factors, some repo transactions were transferred to interbank lending varieties. These factors combined contributed to the rapid growth of trading volume in the interbank lending market. In the second half of 2019, due to the takeover of Baoshang Bank, financial institutions tended to be more prudent in credit-based lending, which brought down the trading volume in the interbank lending market and thus depressed the annual growth.

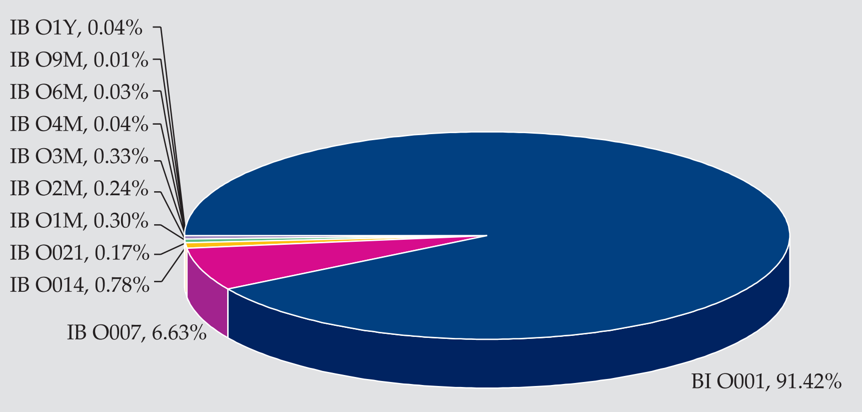
2.1.2.2 The terminal interest rate went down

In 2019, the PBC carried out three RRR cuts, and lowered the interest rates of reverse repos and medium-term lending facility (MLF), which enabled a downtrend of overall interest rates in the interbank lending market. The annual weighted average interest rate of the interbank lending market decreased by 32 bps year on year. At end-2019, the daily weighted rates of the O/N and 7-day interbank lending stood at 1.90 percent and 2.85 percent respectively, decreasing by 44 bps and 78 bps respectively compared to the beginning of the year. The spread between the highest and lowest of the daily weighted rates was 210 bps in 2019, up 26 bps from the previous year.

2.1.2.3 The share of O/N interbank lending registered a further growth

In 2019, the maturity structure in the interbank lending market was still dominated by short-term maturities. The trading volume of O/N interbank lending accounted for 91.42 percent of the total, up 1.29 percentage points from 2018 and 5.34 percentage points from 2017. The trading volume of 7-day interbank lending products accounted for 6.63 percent, down 0.76 percentage points over the previous year. The share of interbank lending with maturities between 14 days and 3 months was 1.83 percent, down 0.47 percentage points from the previous year. The share of interbank lending transactions with a maturity of more than 3 months was 0.12 percent, down 0.06 percentage points from a year earlier. The trading of interbank lending was more concentrated on O/N products, a reflection of the fact that interbank lending played a stronger role in financial institutions' balancing O/N positions.

Figure 2.4 Maturity structure of interbank lending in 2019



2.1.2.4 Bilateral transactions of joint-stock commercial banks and city commercial banks thrived

In 2019, the participants in the interbank lending market were mainly banking financial institutions, the trading volume of which accounted for 86.77 percent of the total. Specifically, joint-stock commercial banks, city commercial banks and large-scale commercial banks recorded a trading volume of RMB 128.45 trillion, RMB 47.48 trillion and RMB 38.53 trillion respectively, accounting for 42.36 percent, 15.66 percent and 12.71 percent respectively. Joint-stock commercial banks and city commercial banks, as two types of major participants in the interbank lending market, played the role of intermediaries for financial connectivity in the market through active borrowing and lending transactions.

Throughout the year, the major net lenders in the interbank lending market were large-scale commercial banks, policy banks and joint-stock commercial banks, with a net lending volume of RMB 25.84 trillion, RMB 11.09 trillion and RMB 10.24 trillion respectively, accounting for 50.75 percent, 21.79 percent and 20.11 percent respectively; the major net borrowers were securities companies, city commercial banks and financial companies, with a net borrowing volume of RMB 25.84 trillion, RMB 14.43 trillion and RMB 7.44 trillion respectively, accounting for 50.76 percent, 28.35 percent and 14.62 percent respectively.

2.1.3 Outlook of the interbank lending market

In 2020, the interbank lending market is expected to achieve steady and sound development. First, with more reasonable market stratification and gradually optimized trading structure, the fundamental role of monetary policy transmission platforms will be further leveraged. Second, market infrastructures will be improved and the efficiency of capital clearing will be raised, so as to better provide liquidity management tools and services for financial institutions. Third, concurrent and ex post market administration will be enhanced to strengthen prevention of market risks and ensure the stable development of the market.

2.2 Bond repo market

In 2019, the PBC continued to practice the sound monetary policy. The liquidity in the banking sector remained adequate at a reasonable level and the performance of bond repo market was overall stable. The trading volume of bond repo kept expanding, and the repo rates went down overall with smaller fluctuations. The maturity structure remained stable with short-term products playing a dominant role, transactions with interest rate bonds represented a larger share of the total, and the capital inflow demand of non-banking financial institutions increased markedly.

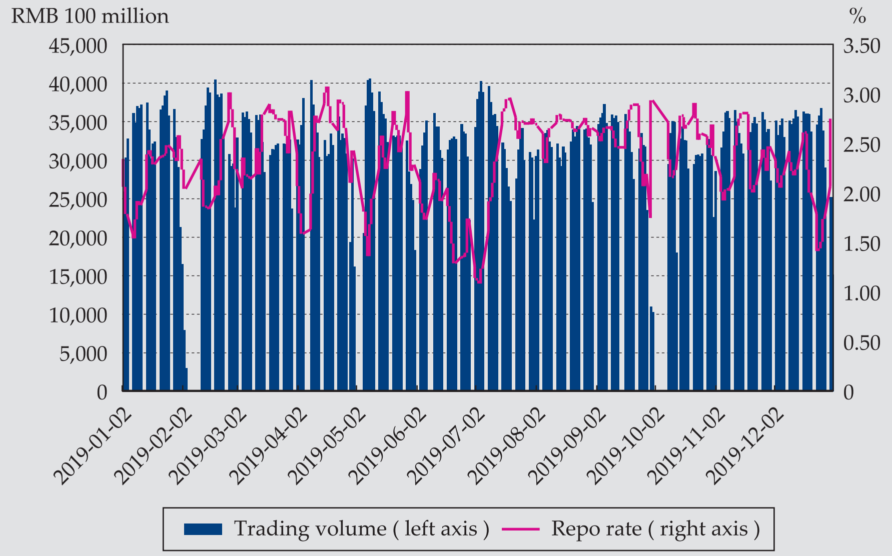
2.2.1 Performance of the bond repo market

In 2019, the cumulative turnover of the bond repo market was RMB 1,058.65 trillion, up 11.0 percent year on year. Specifically, the cumulative turnover of the interbank bond repo accounted for 77.42 percent of the total, up 1.6 percentage points from the same period of the last year; and the cumulative turnover of the exchange-traded bond repo represented 22.6 percent of the total, down 1.9 percentage points from a year earlier.

2.2.1.1 Performance of the interbank bond repo market

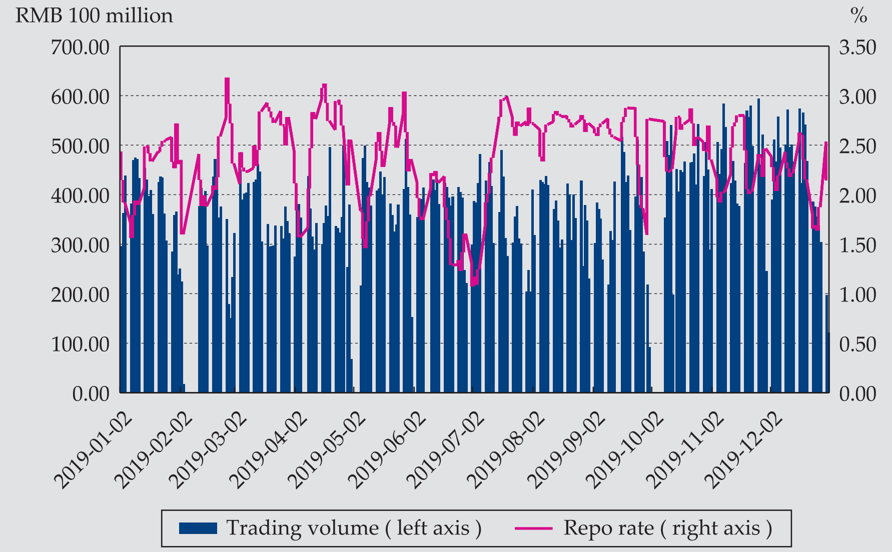
In 2019, the cumulative turnover of the interbank bond repo was RMB 819.63 trillion, up 13.4 percent year on year, a deceleration of 3.8 percentage points compared with the previous year. In particular, the cumulative turnover of pledged repo stood at RMB 810.09 trillion, up 14.3 percent year on year; and the cumulative turnover of outright repo was RMB 9.54 trillion, down 31.9 percent year on year. The share of the trading volume of pledged repo in the bond repo market further increased to 99 percent.

Figure 2.5 Volume and price of interbank pledged repo market in 2019



(Source: CFETS)

Figure 2.6 Volume and price of interbank outright repo market in 2019



(Source: CFETS)

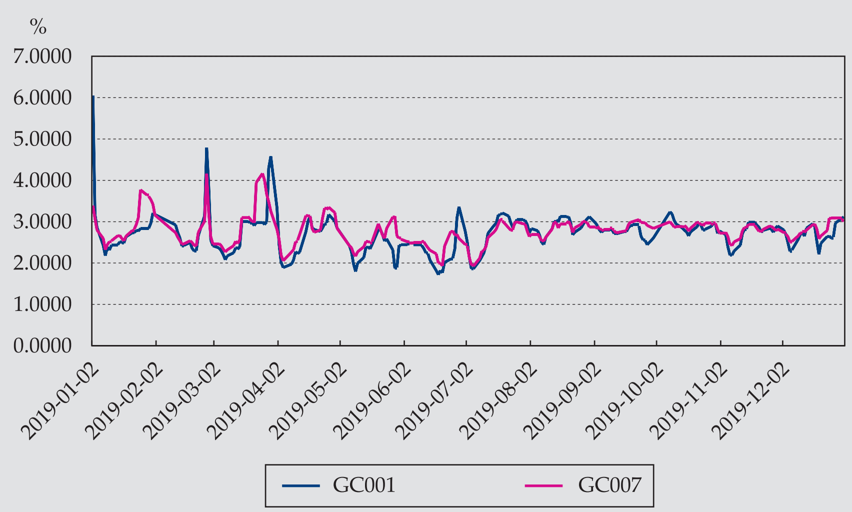
In 2019, the interbank bond repo market saw a general downtrend of the terminal interest rate, with smaller fluctuations compared to the previous year. The weighted average rate of pledged repo was 2.30 percent, down 36 bps year on year; the spread between the highest and lowest of the rate was 200 bps in 2019, down 98 bps from the previous year. The weighted average rate of outright repo was 2.35 percent, down 65 bps year on year; and the spread between the highest and lowest of the rate was 211 bps in 2019, down 203 bps from the previous year. The interest rate spread between pledged repo and outright repo shrank to 5 bps, down 36 bps from 2018.

2.2.1.2 Performance of the exchange-traded bond repo market

In 2019, the cumulative turnover of exchange-traded bond repo was RMB 239 trillion, up 3.5 percent year on year. Specifically, the cumulative turnover of bond repo of the SSE was RMB 215.37 trillion, up 1.6 percent year on year; and the cumulative turnover of bond repo of the SZSE was RMB 23.64 trillion, up 24.4 percent year on year. The cumulative turnover of pledged repo was RMB 233.27 trillion, up 3.2 percent from the previous year; and the cumulative turnover of pledged agreement-based repo was RMB 2.43 trillion, down 19.1 percent year on year.

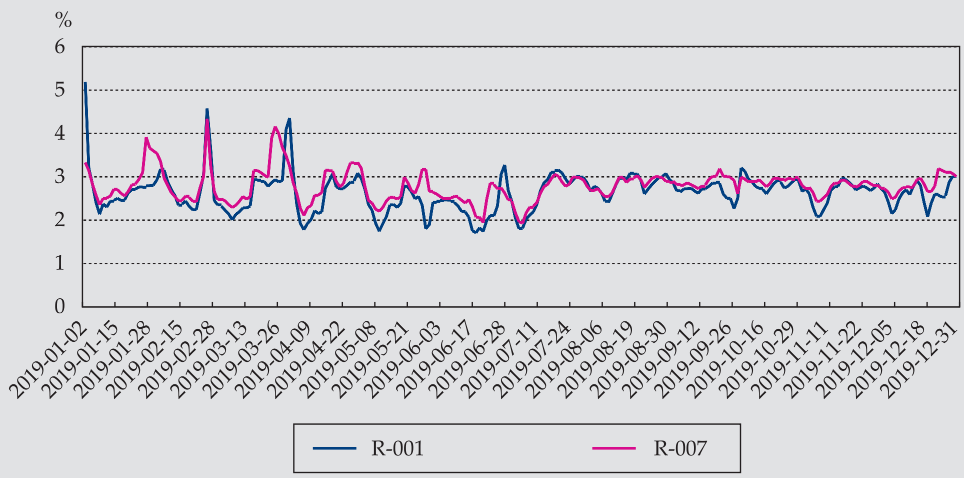
The interest rate of exchange-traded pledged bond repo was overall on a decline. For the SSE, the average 1-day fixing repo rate and the average 7-day fixing repo rate was 2.69 percent and 2.77 percent respectively, down 62 bps and 70 bps respectively from the previous year; and for the SZSE, the weighted average rate of 1-day repo and 7-day repo was 2.64 percent and 2.80 percent respectively, down 66 bps and 72 bps respectively from a year earlier.

Figure 2.7 Movements of pledged fixing repo rates of the SSE in 2019



(Source: SSE)

Figure 2.8 Movements of pledged repo rates of the SZSE in 2019



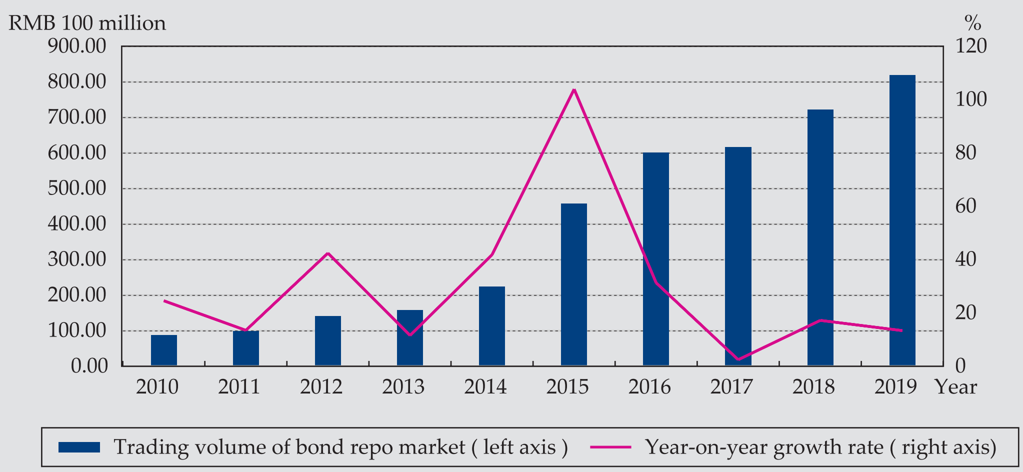
(Source: SZSE)

2.2.2 Main features of the bond repo market

2.2.2.1 The trading volume of interbank pledged repo continued to rise

In 2019, the trading volume of the interbank bond repo market increased by RMB 239.02 trillion from a year earlier. The trading volume of pledged repo increased by 14.3 percent year on year, a slower pace compared to the 20.5 percent growth of the previous year; the trading volume of outright repo continued to fall since 2018, decreasing by RMB 4.46 trillion from a year earlier and down 31.9 percent year on year.

Figure 2.9 Scale and growth rate of interbank market bond repo trading volume from 2010 to 2019

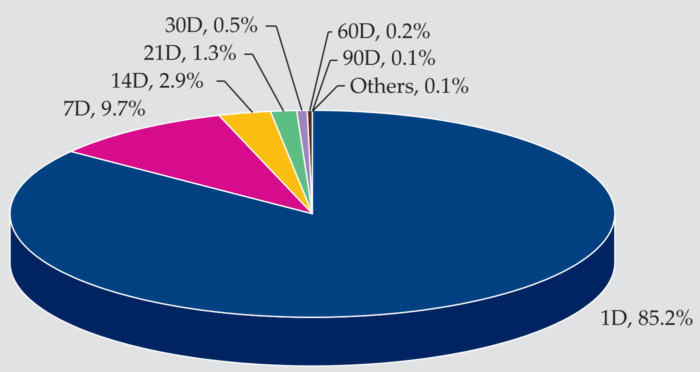


(Source: CFETS)

2.2.2.2 Short-term products played a dominant role in the maturity structure, making up an increased proportion of the total

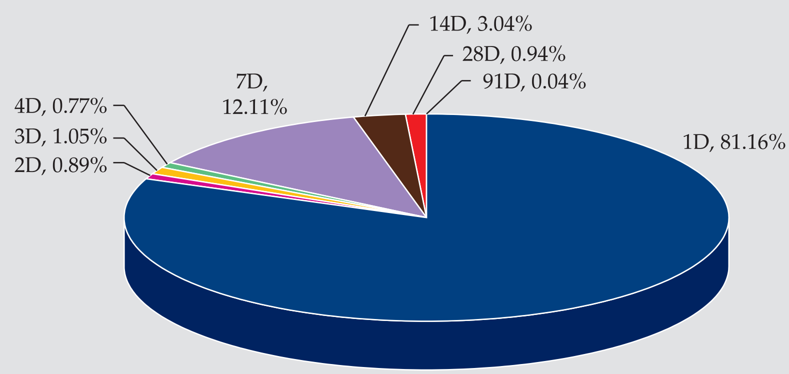
In the interbank market, the maturity structure was overall stable, with short-term products playing a dominant role and making up an increased proportion of the total. The annual weighted average maturity of pledged repo was 2.5 days, 0.3 days fewer than that of the previous year; the share of pledged repo transactions with a term of up to 7 days was 94.88 percent, up 1.2 percentage points from 2018. In the exchange-traded repo market, pledged repo transactions with a term of up to 7 days in the SSE and the SZSE markets accounted for 96.0 percent and 98.9 percent of the total respectively, up 0.2 percentage points and 7.1 percentage points from a year earlier respectively.

Figure 2.10 Maturity structure of pledged repo transactions in the interbank bond market in 2019



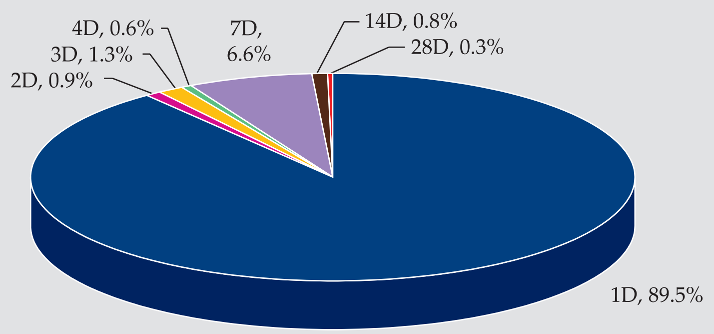
(Source: CFETS)

Figure 2.11 Maturity structure of pledged repo transactions in the SSE market in 2019



(Source: SSE)

Figure 2.12 Maturity structure of pledged repo transactions in the SZSE market in 2019



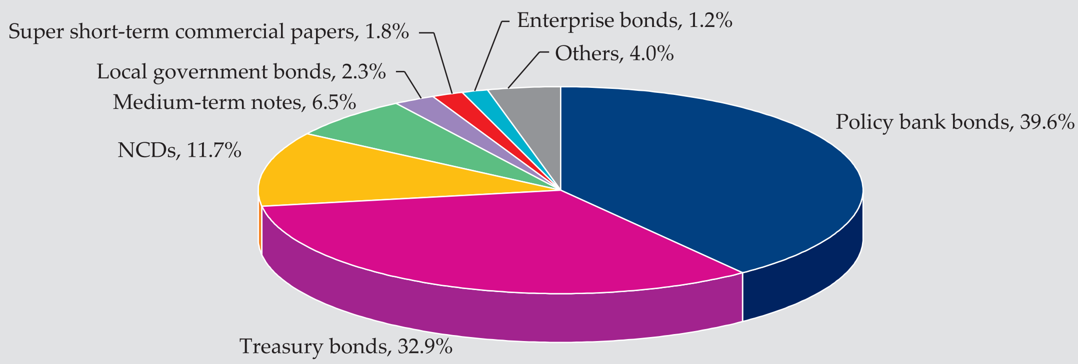
(Source: SZSE)

2.2.2.3 Transactions with high credit rating bonds accounted for an increased share of the total

In the interbank repo market, transactions with high credit rating bonds as pledges accounted for an increased share of the total. In the pledged repo market, transactions with interest rate bonds represented around 73 percent of the total, an increase of 3 percentage points year on year; among transactions with interest rate bonds, those with AAA-grade bonds accounted for 72 percent of the total, up about 7 percentage points over the previous year. In the outright repo market, the share of transactions with interest rate bonds grew 14 percentage points year on year to 80 percent; among transactions with interest rate bonds, those with AAA-grade bonds accounted for approximately 81 percent of the total, an increase of around 20 percentage points year on year.

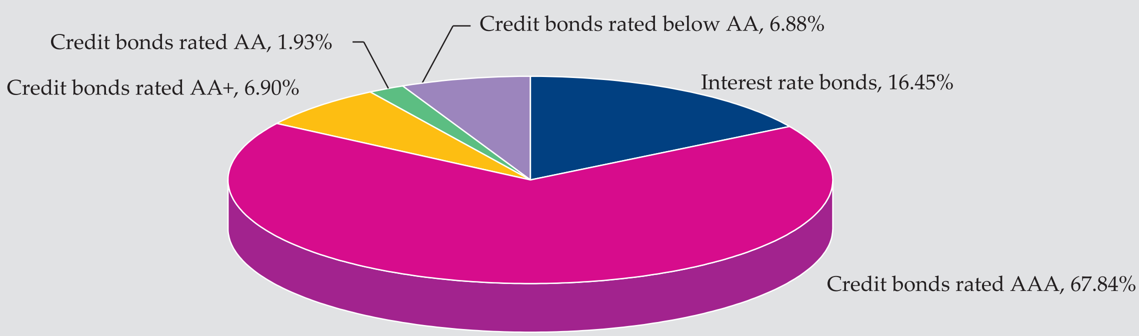
The structure of pledged bonds in the exchange-traded repo market continued to improve. Among the pledged bonds traded in the SSE, interest rate bonds accounted for 16.45 percent of the total, down 2.9 percentage points year on year; AAA-grade credit bonds accounted for 67.84 percent, up 5.6 percentage points year on year; and interest rate bonds and AAA-grade credit bonds together accounted for 84.29 percent of the total, up 2.7 percentage points over the previous year. Among the pledged bonds traded in the SZSE, interest rate bonds accounted for 15.44 percent of the total, up 3.9 percentage points year on year; AAA-grade credit bonds accounted for 75.03 percent, up 13.9 percentage points year on year; and interest rate bonds and AAA-grade credit bonds together accounted for 90.47 percent of the total, up 17.9 percentage points over the previous year.

Figure 2.13 Structure of pledged bonds for pledged repo transactions in the interbank market in 2019



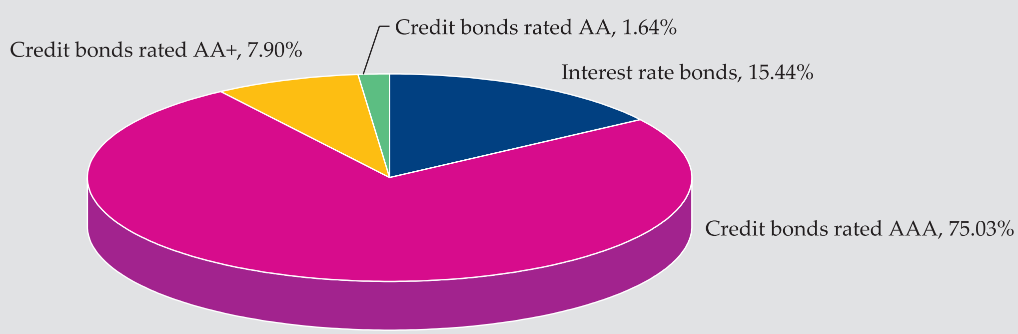
(Source: CFETS)

Figure 2.14 Structure of pledged bonds for pledged repo transactions in the SSE market in 2019



(Source: SSE)

Figure 2.15 Structure of pledged bonds for pledged repo transactions in the SZSE market in 2019



(Source: SZSE)

2.2.2.4 Interest rate fluctuations continued to diverge among repo markets

In 2019, the interest rate fluctuations diverged in the interbank bond repo market. The standard deviation of the daily weighted average rates of pledged repo was 0.44, up 0.07 year on year; and the standard deviation of the daily weighted average rates of outright repo was 0.44, down 0.09 year on year.

The interest rates of the exchange-traded repo market became more stable. In the SSE market, the standard deviation of the 1-day pledged fixing repo rates was 0.47, down 0.94 year on year; the standard deviation of the 7-day pledged fixing repo rates was 0.35, down 0.75 year on year. In the SZSE market, the standard deviation of the daily weighted average rates of pledged repo was 0.34, reporting a year-on-year decline of 0.65.

2.2.2.5 Non-banking financial institutions and their products were major borrowers in the repo market

In 2019, from the perspective of capital inflow, the largest net borrowers in the interbank repo market were securities companies, fund companies and investment products, with a net borrowing of RMB 69.37 trillion, RMB 44.70 trillion and RMB 21.89 trillion respectively. As of end-2019, in the SSE repo market, asset management products, proprietary trading by securities companies, and insurance ranked top three in terms of outstanding net capital inflow, accounting for 24.30 percent, 20.91 percent and 13.88 percent respectively. In the SZSE repo market, proprietary trading by securities companies, segregated fund accounts and publicly offered funds were the top three items in terms of outstanding capital inflow, representing a share of 37.07 percent, 20.31 percent and 12.24 percent respectively.

In 2019, from the perspective of capital outflow, the top three net lenders in the interbank repo market were large-scale commercial banks, policy banks and joint-stock commercial banks, with a net lending of RMB 112.21 trillion, RMB 90.07 trillion and RMB 64.86 trillion respectively. In addition, the capital outflow of small and medium-sized banks increased, reporting a cumulative lending of RMB 309 trillion with a year-on-year growth of 21 percent, and recording a net lending of RMB 32 trillion with a year-on-year decline of 60 percent. As of end-2019, in the SSE repo market, general legal persons, publicly offered funds and individuals ranked top three in terms of outstanding net capital outflow, accounting for 50.43 percent, 15.49 percent and 14.79 percent respectively. In the SZSE repo market, individual investors, general institutions and publicly offered funds ranked top three in terms of capital outflow, accounting for 85.24 percent, 4.20 percent and 3.51 percent respectively.

2.2.3 Outlook of the bond repo market

Under the sound monetary policy, the liquidity of the banking system in China will continue to remain adequate at a reasonable level, the bond repo market will maintain stable development, and the repo interest rates will be kept at reasonably low levels. The maturity structure will still be dominated by short-term maturities. Types of investors will diversify further, and the capital demand of non-banking financial institutions and non-legal-person products will hold steady. The repo pricing mechanism and market systems will be improved, and the capability of the financial industry for serving the real economy will be constantly enhanced.

2.3 NCD market

The year of 2019 witnessed a marked shrinkage in NCD issuance, with interest rates going down and maturities becoming longer. Trading in the secondary market was on a decline, and market participants further diversified.

2.3.1 Performance of the NCD market

In 2019, a total of 418 institutions issued NCDs, down 93 over the previous year; 27,800 NCDs were issued, up 500 over the previous year; the issuance amount stood at RMB 17.93 trillion, down 15.10 percent year on year; the number of subscription entities was 3,383, down 295 over the previous year and involving a total of 39 types of institutions; the year-end outstanding volume was RMB 10.74 trillion, up 8.27 percent from the previous year.

In 2019, a total of 616,800 NCD transactions were concluded in the secondary market and the turnover decreased by 3.19 percent year on year to RMB 145.08 trillion. Specifically, the turnover of pledged repo transactions stood at RMB 94.39 trillion, up 1.64 percent year on year and accounting for 65.06 percent of the total; the transactions concluded via cash bond deals amounted to RMB 50.41 trillion, down 9.24 percent year on year and accounting for 34.75 percent of the total; the outright repo traded RMB 0.27 trillion, down 80.99 percent year on year and accounting for 0.19 percent of the total; and the bond lending transactions amounted to RMB 1.29 billion.

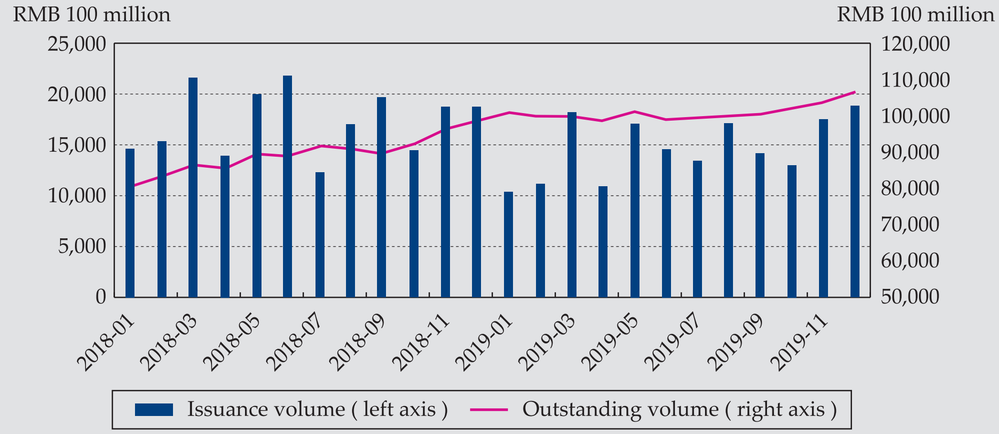
2.3.2 Main features of the NCD market

2.3.2.1 The issuance volume fell, with the outstanding volume remaining stable

In 2019, the issuance volume of NCDs fell, reporting a year-on-year decline of 15.10 percent. The average quarterly issuance volume was RMB 4.48 trillion, and the quarterly volumes grew quarter on quarter, registering RMB 4.03 trillion, RMB 4.32 trillion, RMB 4.55 trillion and RMB 5.03 trillion respectively for the four quarters. Since the issuing rates of NCDs stayed at record lows for a long time, issuers chose to extend the maturities of NCDs and thus decreased issuances of NCDs with short-term maturities which were designed to meet cross-quarter demands, in a bid to reduce debt levels and improve regulatory indicators.

In 2019, the outstanding volume of NCDs kept around RMB 10 trillion, with a significant negative growth only reported in June. At end-2019, the outstanding volume of NCDs amounted to RMB 10.74 trillion, hitting a record high. In terms of issuers, the outstanding volume of NCDs issued by large-scale state-owned banks grew remarkably, the outstanding volume of NCDs issued by joint-stock commercial banks remained stable and secured a moderate increase, the outstanding volume of NCDs issued by AAA-rated city commercial banks and rural commercial banks kept basically stable, and a marked decline was seen in that of low-rated NCDs.

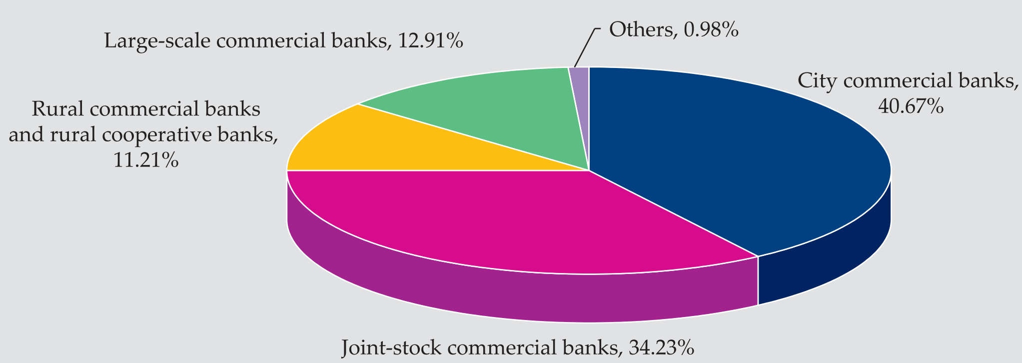
Figure 2.16 Monthly issuance of NCDs in 2019



(Source: CFETS)

In 2019, city commercial banks, joint-stock commercial banks and large-scale commercial banks were top three NCD issuers, accounting for 40.67 percent, 34.23 percent and 12.91 percent of the total respectively, down 0.72 percentage points, down 5.28 percentage points, and up 4.80 percentage points respectively over the previous year. Rural commercial banks and rural cooperative banks represented 11.21 percent of the total, up 1.03 percentage points over 2018.

Figure 2.17 Structure of NCD issuers in 2019

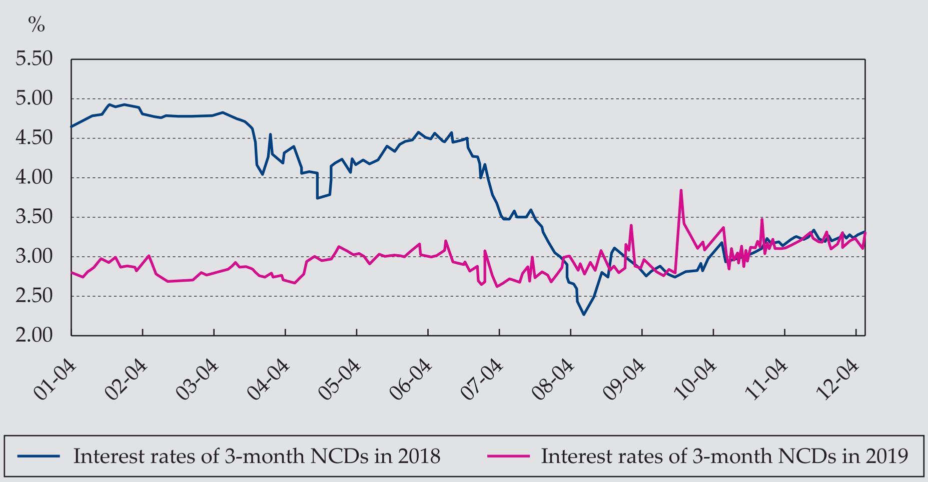


(Source: CFETS)

2.3.2.2 The issuing rates of NCDs declined overall, with smaller fluctuations

In 2019, the weighted average financing cost of NCDs decreased from 3.81 percent at the beginning of the year to 3.20 percent. The annual weighted average interest rate of 3-month NCDs reached a historical low at 2.97 percent, down 109 bps from the previous year. The issuing rate of 3-month NCDs of joint-stock commercial banks, as a market benchmark, ranged between 2.45 percent and 3.2 percent, moving significantly downwards compared to the previous year's range of between 3 percent and 5.05 percent and 130 bps narrower than the previous year.

Figure 2.18 Movement of interest rate of 3-month NCDs in 2018 and 2019

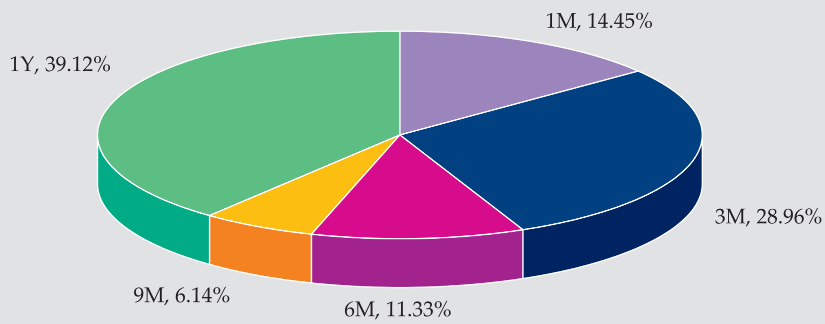


(Source: CFETS)

2.3.2.3 The share of NCDs with long-term maturities increased

In 2019, the share of NCDs with a 1-year maturity was 39.12 percent, up 18.76 percentage points from a year earlier. NCDs with 6-month and 9-month maturities accounted for 11.33 percent and 6.14 percent respectively, down 5.99 percentage points and 6.97 percentage points respectively over the previous year. The shares of NCDs with 1-month and 3-month maturities were 14.45 percent and 28.96 percent respectively, up 2.67 percentage points and down 8.48 percentage points compared with the previous year.

Figure 2.19 Maturity structure of NCDs in 2019



(Source: CFETS)

2.3.2.4 Funds and wealth management products were the largest net buyers of NCDs in the secondary market

In 2019, the quarterly turnover in the NCD secondary market stood at RMB 36.27 trillion on average, accounting for 23.66 percent of transactions in the cash bond market and ranking the second amongst all transactions. From the perspective of institution type, the top net buyer of NCDs was funds, with a net purchase of RMB 1.06 trillion, representing 27.94 percent of the total. They were followed by wealth management products and policy banks, which accounted for 15.47 percent and 12.45 percent respectively of the total. The top net seller of NCDs was city commercial banks, with a net sale of RMB 1.75 trillion, making up 46.37 percent of the total. They were followed by securities companies and joint-stock commercial banks, accounting for 26.39 percent and 18.22 percent of the total respectively.

2.3.3 Outlook of the NCD market

In 2019, the NCD market is expected to achieve orderly and sound development. Against the backdrop of reasonably adequate liquidity and lower market interest rates, the issuing rates of NCDs will be kept at low levels; the maturities may become longer; market systems will be further improved, the monitoring of issuer liquidity will be enhanced, and the information disclosure quality of NCD issuers, especially of small and medium-sized issuers, will be raised, so as to further promote the healthy development of the NCD market.

2.4 Bill market

In 2019, the performance of the bill market was overall stable. The total volume of bill businesses rebounded, the bill acceptance business grew steadily, the bill discount business registered a relatively fast growth, the market saw thriving transactions, the interest rates went down, the volume of central bank discounts increased remarkably, and the business and product innovation in the bill market was accelerated. Market credit diverged markedly, and risk prevention in the bill market was further strengthened. Overall, faced with the challenge of mounting downward economic pressure, the bill market played an important role in serving the development of real economy, especially of private businesses and small and medium-sized enterprises (SMEs).

2.4.1 Performance of the bill market

2.4.1.1 Bill acceptances grew steadily

In 2019, bill acceptances throughout the market amounted to RMB 20.38 trillion, up 11.55 percent year on year; outstanding bill acceptances at end-2019 stood at RMB 12.73 trillion, up 15.27 percent from the beginning of the year. By medium, e-bill acceptances added up to RMB 19.96 trillion, accounting for 97.94 percent of the total, and paper bill acceptances amounted to RMB 0.42 trillion, representing 2.06 percent of the total. Bankers' acceptances totaled RMB 17.36 trillion, accounting for 85.18 percent of the total; commercial acceptances amounted to RMB 3.02 trillion, making up 14.82 percent of the total. Bill acceptances accounted for 5.07 percent of AFRE, 0.2 percentage points higher than the previous year.

Figure 2.20 Volume of monthly bill acceptances from January 2018 to December 2019

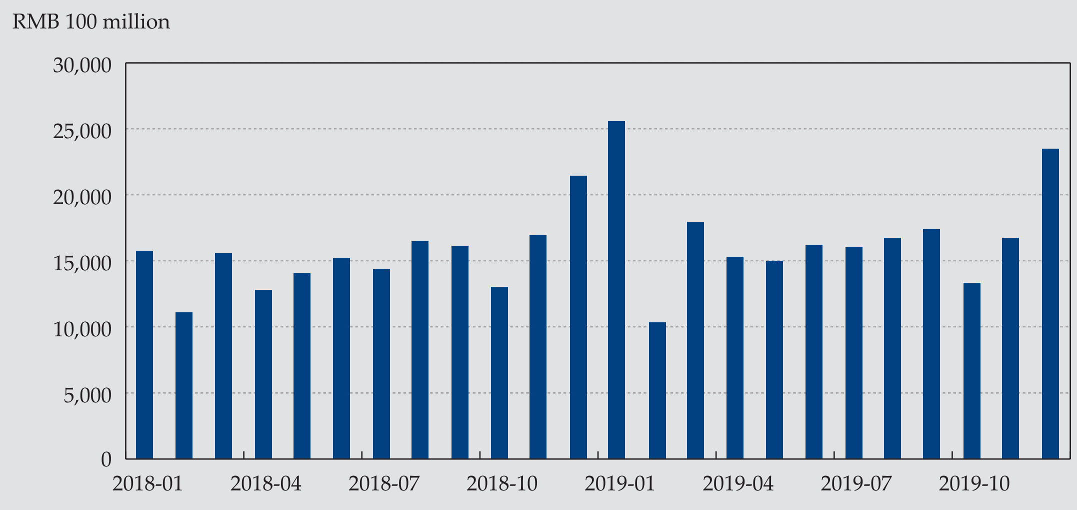
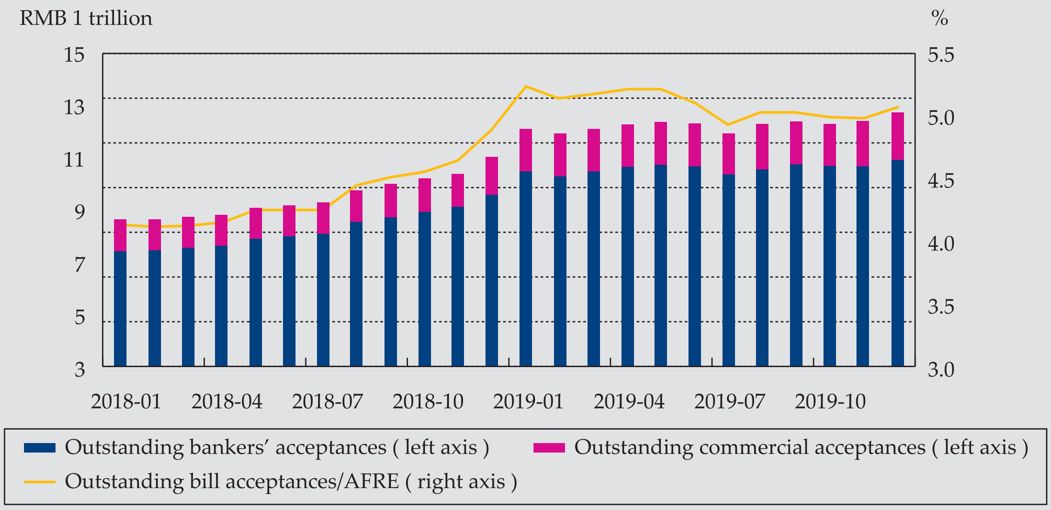


Figure 2.21 Bill acceptances' increased share in AFRE



2.4.1.2 Bill discount businesses rose rapidly

In 2019, bill discounts totaled RMB 12.46 trillion, a year-on-year increase of 25.33 percent; at end-2019, the outstanding balance of bill discounts registered RMB 8.18 trillion, up 24.03 percent from the beginning of the year. In particular, e-bill discounts amounted to RMB 12.38 trillion, accounting for 99.36 percent of the total; paper bill discounts stood at RMB 80 billion, representing a share of 0.64 percent in the total. Bankers' acceptance discounts totaled RMB 11.52 trillion, representing 92.46 percent of the total; commercial acceptance discounts amounted to RMB 0.94 trillion, accounting for 7.54 percent of the total. The increments of bill discounts made up 16.77 percent of new corporate lending, becoming an importance force to support the increase of corporate lending.

Figure 2.22 Volume of monthly bill discounts from January 2018 to December 2019

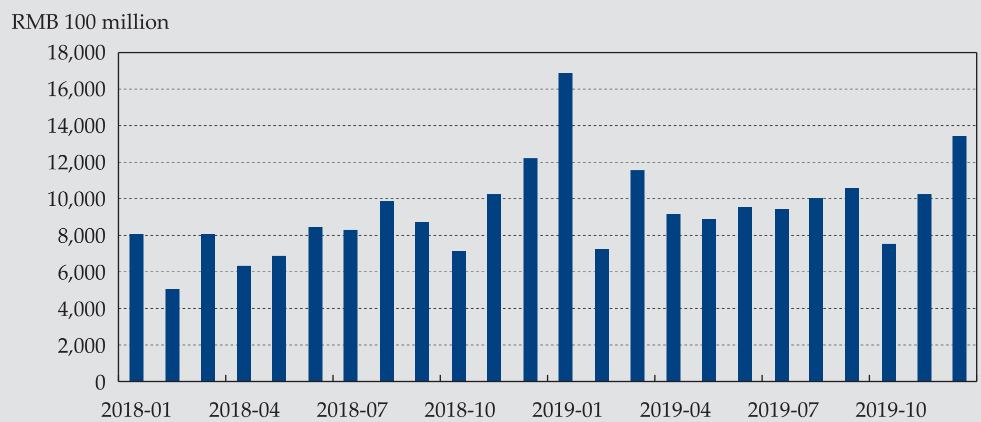
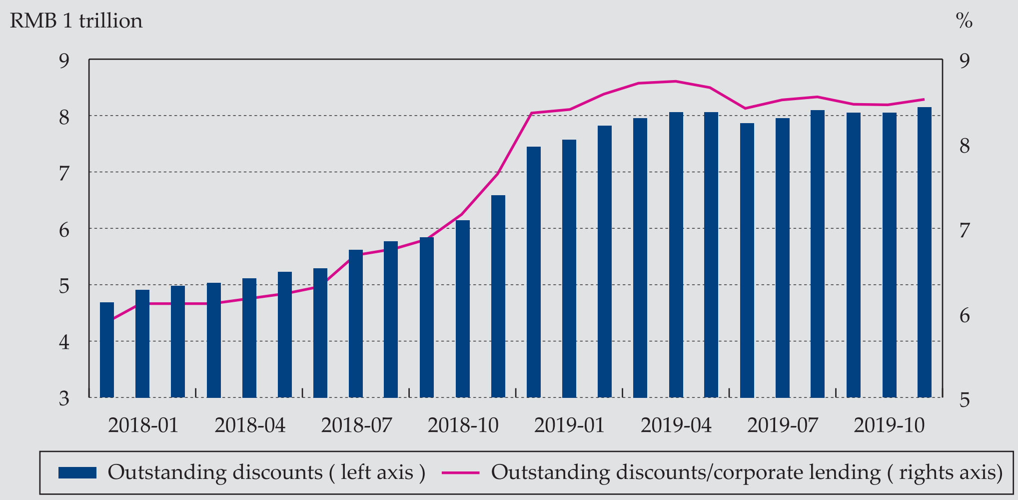


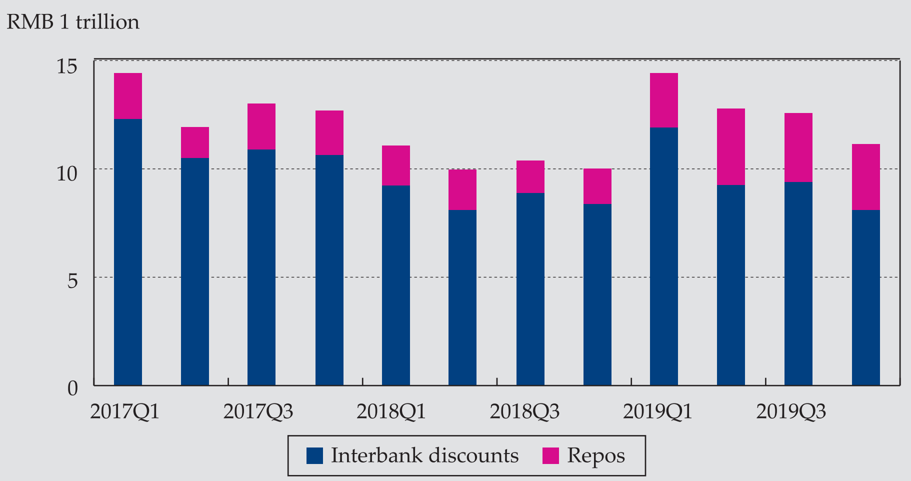
Figure 2.23 Outstanding discounts' increased share in corporate lending



2.4.1.3 Trading volume of bills edged up

In 2019, the trading volume of bill market was RMB 50.94 trillion, up 22.01 percent year on year. Specifically, the trading volume of interbank discounts was RMB 38.82 trillion, reporting a year-on-year increase of 12.11 percent; the trading volume of repos stood at RMB 12.12 trillion, reporting a year-on-year increase of 70.11 percent. By medium, e-bill transactions added up to RMB 50.84 trillion, accounting for 99.8 percent of the total; and transactions of paper bills amounted to RMB 0.1 trillion, representing 0.2 percent of the total. Overall, the trading volume of bills edged up.

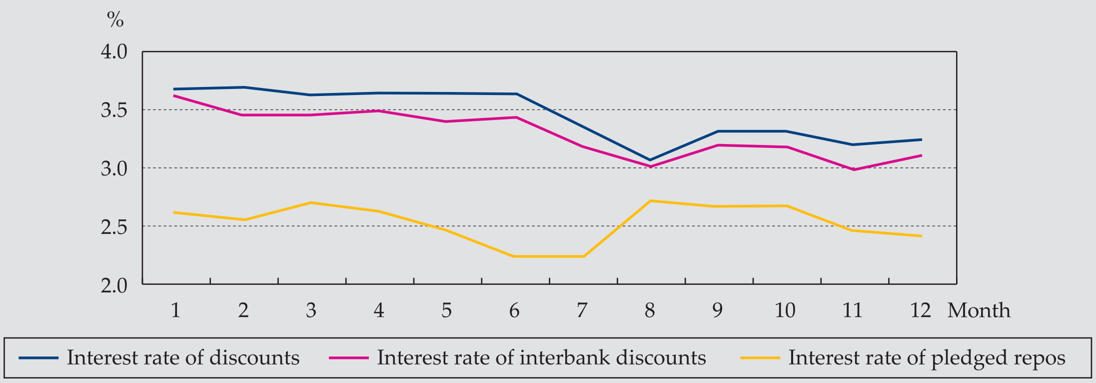
Figure 2.24 Remarkable increases in trading volume of bills



2.4.1.4 Bill interest rates generally dropped

In 2019, the weighted average interest rate of bill discounts, interbank discounts and pledged repos was 3.44 percent, 3.31 percent and 2.51 percent respectively, down 117 bps, 110 bps and 71 bps respectively year on year. The interest rates of the bill market overall fell, continuing the downtrend seen in 2018.

Figure 2.25 Monthly movements of bill interest rates in 2019



2.4.1.5 Central bank discounts expanded remarkably

In 2019, to cope with structural liquidity squeeze, the PBC continued to strengthen its support for central bank discounts. Based on the addition of RMB 200 billion of central bank discount quotas in 2018, the PBC increased the quotas in June 2019 by another RMB 200 billion, motivating financial institutions to support corporate financing through bill discounts and improving the financing environment of MSBs and private businesses. At end-2019, the outstanding volume of central bank discounts stood at RMB 471.378 billion, up 43.26 percent from the beginning of the year.

2.4.2 Main features of the bill market

2.4.2.1 Bills played a stronger role in supporting the development of private SMEs

In 2019, outstanding bill acceptances with micro, small, and medium enterprises (MSMEs) as issuers stood at RMB 8.89 trillion, accounting for 69.84 percent of the total; outstanding bill discounts with MSMEs as discount applicants amounted to RMB 6.66 trillion, representing a share of 81.39 percent in the total. In December, the average interest rate of MSME bill discounts was 3.29 percent, down 57 bps year on year, 106 bps lower than the benchmark lending rate and 86 bps lower than 1-year LPR of the month. Bills became an important financing channel to support the development of private SMEs.

2.4.2.2 Credit tranching of bills became prominent and the risk of excessive acceptances gradually emerged

In 2019, bill acceptances of state-owned commercial banks and joint-stock commercial banks accounted for 57.35 percent of total discounts in the market, 2.8 percentage points higher than that of last year; interbank discounts secured a share of 60.95 percent in the total, up 2.7 percentage points year on year; the interest rate of discounts was 3.13 percent, 48 bps lower than that of other types of bankers' acceptance discounts, with the spread 19 bps larger than the previous year. Meanwhile, as some financial companies had weak corporate governance systems and carried out acceptance businesses which exceeded their risk tolerance amid the financial hardships faced by conglomerates, credit risks occurred as a result of inability to or delay in making repayments on expired bills. In this way, the risk of excessive acceptances gradually emerged.

Figure 2.26 Comparison between bill discounts of state-owned and joint-stock commercial banks and other bankers' acceptance discounts

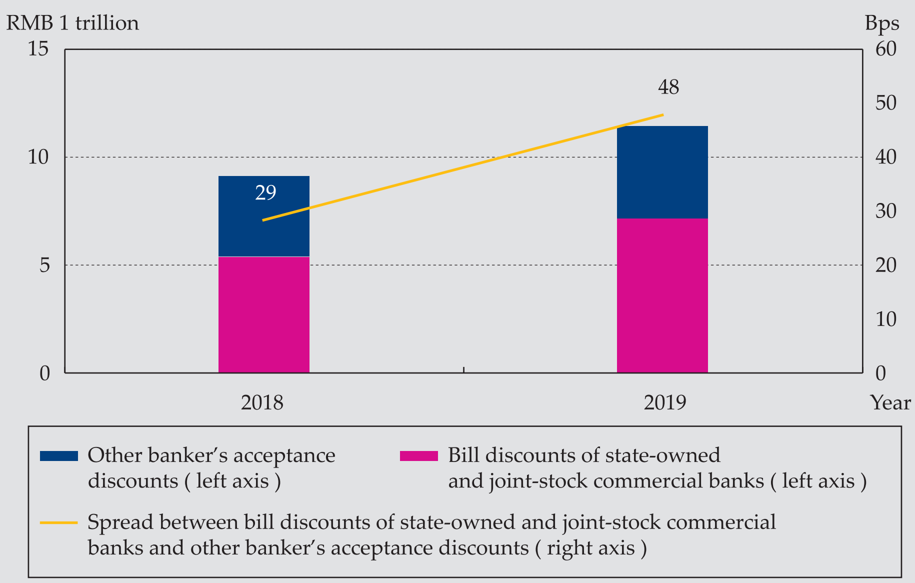


Figure 2.27 Shares of outstanding acceptances of different types of enterprises at end-2019

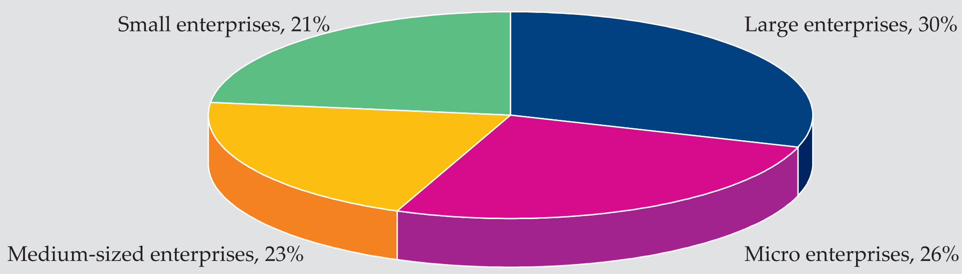
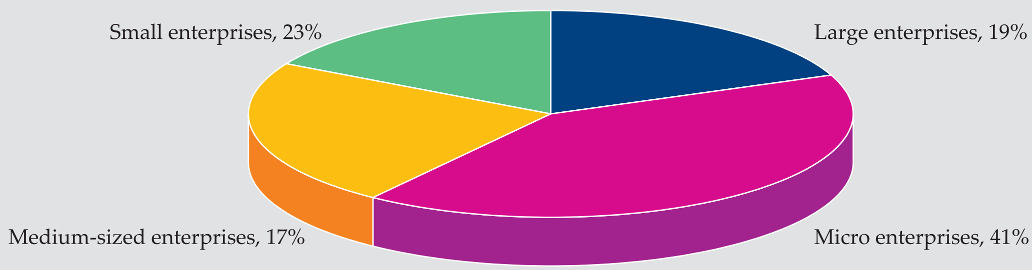


Figure 2.28 Shares of outstanding discounts of different types of enterprises at end-2019



2.4.3 Risk prevention, innovation and infrastructure development

2.4.3.1 Current risk profile of the bill market and risk prevention measures

In 2019, credit risks, liquidity risks and operational risks still persisted in the bill market. First, as bill financing grew rapidly, phenomena like bill arbitrage and funds circulating solely within the financial industry emerged again. Some commercial banks were subject to the trusteeship of other institutions as a result of their bill acceptance crisis. The cancellation of implicit repayment guarantees had a big effect on the bill market, with a particularly prominent impact on small and medium-sized banks, thus resulting in credit tranching in the bill market and bill liquidity risks of some small and medium-sized banks. Second, some corporate financial companies violated relevant rules by carrying out commercial acceptance businesses which exceeded their risk tolerance. As a result, a large number of bills in the market could not be accepted as scheduled, which led to credit risks and adversely affected the development of trade acceptance business. Third, there were occasions where some lawbreakers leveraged the e-bill system information to defraud payment recipient enterprises unfamiliar with bill businesses, which had a negative impact on the bill market. To address these problems, the PBC and other regulators took a series of measures, including establishing deposit insurance funds, organizing and conducting investigations and improving the functions of the bill system, thus effectively containing the spread and impact of various bill-related risks.

2.4.3.2 The standardized bill financial mechanism expanded both the width and depth of the bill market

In order to ease the liquidity pressure on small and medium-sized financial institutions, give full play to the role of bill financing and better serve SME financing and the development of supply chain finance, upon the approval of the PBC, the Shanghai Commercial Paper Exchange (SHCPE) began creating standardized bills, and successfully launched four issues of products which totaled around RMB 1.4 billion. The first three issues were standardized bills with discounted commercial acceptances accepted by Bank of Jinzhou as underling assets. Totaling approximately RMB 1.3 billion, the bills had maturities ranging from two to three months and subscription interest rates of 4.9 percent, 4.6 percent and 3.6 percent. The underlying assets of the fourth issue of standardized bills were undiscounted bankers' acceptances accepted by Bank of Jiangsu. With a total amount of RMB 100 million, the bills had a maturity of 349 days and subscription interest rate of 3.02 percent. The launch of standardized bills facilitated the innovation of the bill financing mechanism, and promoted the integrated development of bill market and bond market.

2.4.3.3 Infrastructure in the bill market was constantly improved

In 2019, in order to satisfy the business demand of participants in the bill market, the infrastructure of the market was gradually improved through updated system versions, optimized functions and enhanced services. First, the Direct Connect Interface function of the trading system was enriched and optimized. The *Standard of Direct Connect Interface of the Commercial Paper Exchange System (Version 2.2)* and the *Standard of Direct Connect Interface of the Commercial Paper Exchange System (Version 3.0)* were published, and relevant updated functions were launched into operation. Second, the Subsystem of Discount Connect was newly established, with the "Discount Connect" business successfully launched to realize the information matching and online operation of discount business nationwide. The central bank discount business system was improved by adding the features of central bank discount information addition and modification and real-time inquiries, which facilitated the approval procedures and optimized the transmission channel of central bank discount policies. Third, the functions of the Commercial Paper Exchange System (CPES) were improved. The improvements included: the addition of fields like the clearing modes of counterparties, acceptance banks and discount banks, and features of trusted bill inquiries and limit maintenance; improvements to non-trading business functions, optimization of functions like the release of enterprises' pledge, payment reminder and revocation of discount registration, and the addition of functions of recourse and unsettled bill inquiries, which were urgently needed by users; optimization of clearing and settlement functions, and realization of financial companies' online clearing on the Electronic Commercial Draft System (ECDS); and improved membership management, and the addition of functions like bulk management and display of operational progress. The infrastructure development of the bill market made operations more convenient and enhanced the capacity to guard against bill-related risks.

2.4.4 Outlook of the bill market

Against the backdrop of maintaining stable economic performance and practicing countercyclical adjustments in the macro policy, the bill market will uphold the underlying principle of pursuing progress while ensuring stability, focus on the supply-side structural reform and promote high-quality development. First, bills will return to the fundamental mission of serving and supporting and real economy, help to ramp up the development of the real economy, resolve the financing difficulties and lower the financing costs for private businesses and MSMEs. With domestic economy remaining resilient and external trade frictions being eased, the demand of enterprises for trade and bill issuance is expected to resume and thus support the continued growth of bill business. Second, with better regulated and more unified rules and clearer positioning of the bill market, various irregularities in bill business will continue to be curtailed to minimize the disturbances to the bill market. Third, with broader application of FinTech in the field of bill business, measures will be taken to constantly improve the business systems of the SHCPE, enhance their functions, enable vigorous support for the continuous launch of innovative bill products and keep strengthening the payment and trading functions of bills.

BOX 1 Tangible results were achieved in product innovation of the bill market

In 2019, as the bill market entered a new era characterized by national standardization, high safety and efficiency, transparent information and electronic operation, the SHCPE focused on the core missions of serving the real economy, guarding against financial risks and deepening financial reform. To that end, it leveraged FinTech to satisfy the new demands of enterprises and financial institutions for payment, financing and trading, actively promoted the high-quality development of the bill market, and launched a series of innovative products and services, such as "Bill Payment Connect" business, "Discount Connect" business and the yield curve of interbank discount of bankers' acceptances of city commercial banks, thus vigorously advancing the innovation and development of the bill market.

First, the "Bill Payment Connect" business was launched to enable MSBs and private businesses to use and vitalize bill assets in a safer and more convenient manner. Based on scenarios of supply chains and B2B e-commerce business, the "Bill Payment Connect" business is an online bill payment product offered by the SHCPE for enterprises. By incorporating bill payment into the business process of online platforms, the product operates in scenarios of online payment on B2B platforms to provide enterprises with safe, convenient and efficient online term-based payment tools for enterprises. The "Bill Payment Connect" business can address the problem of enterprises having a large number of high credit rating bills which are difficult to circulate in the market, thus becoming a "catalyst" and "adhesive" for the development of industrial Internet. On January 26th and May 25th, 2019, the SHCPE launched the core business functions of "Bill Payment Connect" in two phases. As of end-2019, 7 pilot institutions joined hand *with 23 platforms to sign agreements with 802 enterprises and initiated 7,462 bill payment transactions which totaled RMB 6.866 billion.*

Second, the "Discount Connect" business was released to ensure the "last mile" delivery of discount services and practically serve private businesses and MSBs. The business was launched in May 2019, offering a national discount service platform for enterprises and financial institutions. Commercial banks with sound internal control mechanisms and favorable bill business performance act as bill agencies to provide bill agency services like discount information consulting, price inquiry and match-making for bill-holding enterprises, thus enabling the information matching and online operation of discount business. The "Discount Connect" business can help to further unify the discount markets nationwide, and tackle problems such as low market information transparency, high costs of business handling and inefficient supply-demand matching. As of end-2019, five banks in the pilot project of bill agency provided bill agency services for a total of 2,720 discount applicant enterprises, and accepted 6,653 entrusted bills which amounted to RMB 9.819 billion in face value. Among them, the acceptance agreements for 5,130 bills, which totaled RMB 7.492 billion in face value, were reached via the "Discount Connect" business system.

Third, the yield curve of interbank discount of bankers' acceptances of city commercial banks was published to inform the valuation and estimation of bankers' acceptances of city commercial banks. In recent years, the SHCPE has made vigorous efforts to promote the building of an interest rate system in the bill market, with the aim of providing the bill market with a reference for pricing and valuation that went missing for long. Following the release of the first bill yield curve in 2018, namely the yield curve of interbank discount of bankers' acceptances of state-owned commercial banks and joint-stock commercial banks, the SHCPE officially launched the yield curve of interbank discount of bankers' acceptances of city commercial banks in December 2019. The yield curve further expands the scope of credit entities covered by bill yield curves, and provides a reference of valuation and pricing for over 90 percent of bills in the interbank discount market. It can help to improve the price transparency of bankers' acceptances of city commercial banks, guide the market through benchmark pricing, and further increase the liquidity of bill acceptances of small and medium-sized banks and vitalize relevant transactions.

BOX 2 New features of risks in the bill market and the building of risk prevention mechanism

With the founding of SHCPE and the advent of the electronic age for the bill market, measures need to be taken to examine the new changes and features of risks in the bill market, enhance the risk prevention mechanism of the market and build up a multi-dimensional risk prevention network.

1. Risks of the bill market demonstrated new changes

First, credit risks in the process of bill acceptance have been emerging. Since the beginning of 2019, there had been many cases in which some financial companies failed to make repayments on expired bills. It was also notable that the outstanding bill acceptances of some financial institutions accounted for a disproportionately large share of their total assets. Second, operational risks persisted despite the advent of the electronic age for the bill market. There still existed flaws in the internal control mechanisms of some market institutions, which led to bill-related risks associated with "falsified" identities, where some lawbreakers issued bills fraudulently in the name of banks or large enterprises. Third, price fluctuations in the bill market were increasingly normalized, which dictated higher demands for the managerial capacity of market institutions. As bills become more associated with other money market tools, bill prices fluctuate increasingly in line with market conditions. If market participants fail to take measures to cope with price fluctuations, the market will be extremely vulnerable to risks. Fourth, though regulation in the bill market was constantly strengthened, compliance risks remained prominent. In 2019, bill business regulators made continued efforts to tighten the regulation of bill business which was still a priority in regulatory actions, an indication that compliance risks were still marked. Fifth, there was regulatory vacuum in the endorsement and circulation of bills between enterprises. Pre-discount bills were mainly circulated between enterprises, and some private-sector intermediaries profited from the process, thus jeopardizing the less regulated environment. Sixth, reputational risks caused by some negative events had an impact on the innovation and development of the bill market. In early 2019, the interest rate of bill discounts was briefly lower than the interest rate of structured deposits, which sparked widespread discussions on whether enterprises had engaged in arbitrage through bill discounts. Some excessively negative comments, or those overstating the facts, compromised the innovation and development of the market.

2. Vigorous efforts should be made to build up a multi-dimensional prevention network for risk management of the bill market

The risks triggers in the bill market are complicated, varied and intertwined, which add to the difficulties of risk management. To improve the risk prevention mechanism of the bill market, measures should be taken to leverage the synergy forged by market participants, infrastructure and regulators, build up a multi-dimensional risk prevention network, ensure that various parties well assume their responsibilities for risk control, and thus enhance risk prevention in the bill market.

(1) Market participants should enhance their internal control to strengthen the first line of defense in risk prevention

Market participants should act in line with the need of business transformation and development, actively adjust the management structure of bill business, and improve the *bill business risk management mechanism by ramping up efforts on institutional construction, system construction and talent development. A mix of approaches, including market access, credit granting, limit, monitoring and reminder, should be used to enhance the control of credit risks. By consolidating system construction, enhancing the management of internal control and prudently granting the permission for e-bill business, market participants can raise their resilience against operational risks. Meanwhile, the requirements of refined management should be raised to proactively improve the capacity for gauging and analyzing market risks. The awareness for compliance management shall be reinforced to make bill business better aligned with regulations and laws. The positive publicity of the bill market should be stepped up to foster an upbeat environment in the bill market.*

(2) As an infrastructure of the bill market, the SHCPE shall fully leverage the role of the bill market as a "risk prevention center"

Steps should be taken to further consolidate the system building of the SHCPE and improve, optimize and upgrade system functions. The bill market risk monitoring indicator system should be improved, and a risk identification, analysis, evaluation and response mechanism should be constructed. Efforts should be made to explore the establishment of institutional arrangements for trade bill information disclosure, and promote the building of a commercial credit system. Bill market data products should be provided as a reference for market participants to track market changes. Under the premise of controllable risks, interest rate and credit derivatives, such as forward and swap, should be explored to satisfy participants' demand for hedging risks. Moreover, market participant capacity building and education shall be enhanced to advance industry self-discipline and actively guide market participants to seek transformation.

(3) Bill market regulators should enhance top-level designs and improve the bill market governance system

The positioning of the bill market should be further clarified, and the role of bills in payment, financing, investment, trading, etc. shall be fully leveraged. The management of bill business should be tightened, and strict controls shall be imposed on aspects like business access, acceptance limit and account management. The regulatory coordination for the bill market should be advanced to reach a consensus and jointly guard against risks in the bill market. In view of current market changes, measures should also be taken to amend and improve relevant laws and regulations, such as the Bill Law, and make clear the legal status of e-bills.

Chapter 3 Bond Market

In 2019, China's bond market maintained the good momentum of development in general. Bond issuance grew steadily, with a substantial growth in corporate debenture bond issuance and a decline in NCDs. The volume of cash bond transactions surged while the aggregate price index witnessed an overall increase. The number of investors, especially the overseas investors, experienced further growth, and the investors also held significantly higher positions. The proportion of bond defaults was generally moderate, with the majority of the default subjects being private businesses. Innovation in products and mechanisms and standardized management were continuously strengthened. The market accelerated its pace of opening-up and played a bigger role in serving the real economy and promoting the supply-side structural reform.

3.1 Performance of the bond market

3.1.1 Primary market

3.1.1.1 Bond issuance grew steadily

In 2019, a total of RMB 45.32 trillion of bonds were issued, up RMB 1.73 trillion or 3.1 percent① year on year, 4.6 percentage points lower than the previous year, of which RMB 38.03 trillion was issued in the interbank bond market (up 0.6 percent year on year, 2.3 percentage points lower than the previous year, and accounting for 83.9 percent of the total) and RMB 7.30 trillion was issued in the exchange market (16.1 percent of the total).

The three types of bonds with the largest volume of issuance were NCDs, corporate debenture bonds, and local government bonds, with issuances at RMB 17.97 trillion (down 14.8 percent year on year), RMB 9.73 trillion (up 33.3 percent year on year), and RMB 4.36 trillion (3.8 percent year on year) respectively.

① The total issuance volume of China's bond market was adjusted to RMB 43.96 trillion, and the year on year comparisons are made on that basis.

Table 3.1 Issuances of major bonds in 2019

Type of bond	Issuance (RMB 100 million)	YoY growth (%)	Type of bond	Issuance (RMB 100 million)	YoY growth (%)
Treasury bonds	40,091.00	13.2	Corporate debenture bonds	97,286.80	26.9
Local government bonds	43,624.30	4.7	Financial bonds	31,184.40	58.1
Government-sponsored agency bonds	3,720.00	47.0	NCDs	179,712.70	-14.8
CDB and policy bank bonds	37,401.00	11.0	Asset-backed securities (ABS)	19,668.30	8.1
International institution bonds	538.40	-40.1	Total	453,226.9	3.1

Notes: 1. Financial bonds include interbank and exchange-traded financial bonds. The former refers to financial bonds issued by 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-bank financial institutions such as auto-finance companies.

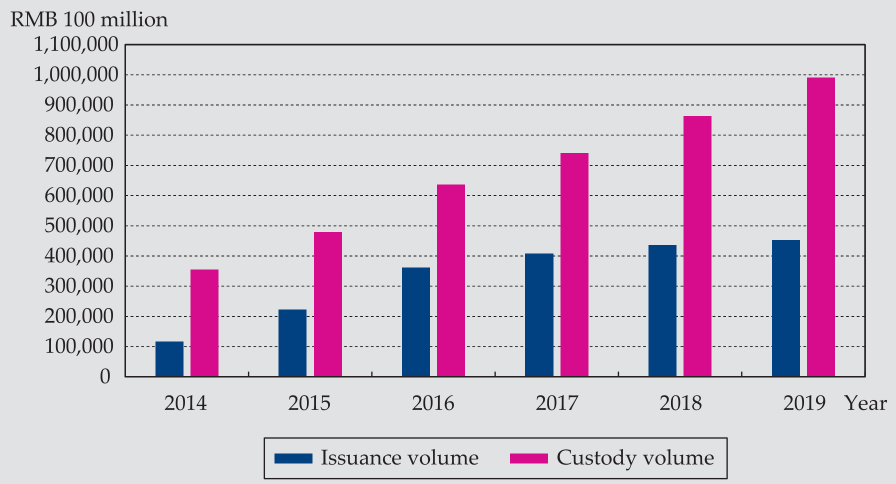
2. Corporate debenture bonds include debt financing instruments of non-financial enterprises, enterprise bonds and corporate bonds.

Source: China Securities Depository and Clearing Corporation Limited (CSDC), China Central Depository & Clearing Co., Ltd. (CCDC), and Shanghai Clearing House (SHCH).

3.1.1.2 Bond custody volume maintained steady growth

As of end-2019, the outstanding bond custody volume reached RMB 99.10 trillion, up 14.7 percent year on year, of which RMB 86.45 trillion was in the interbank bond market (up 14.2 percent year on year, accounting for 87.2 percent of total bond custody volume) and RMB 12.66 trillion was in the exchange market (up 18.3 percent year on year, accounting for 12.8 percent of the total). Corporate debenture bond custody reached RMB 21.75 trillion, up 17.3 percent year on year, accounting for 21.9 percent of the outstanding bond custody.

Figure 3.1 Bond issuance and custody volumes in the interbank bond market



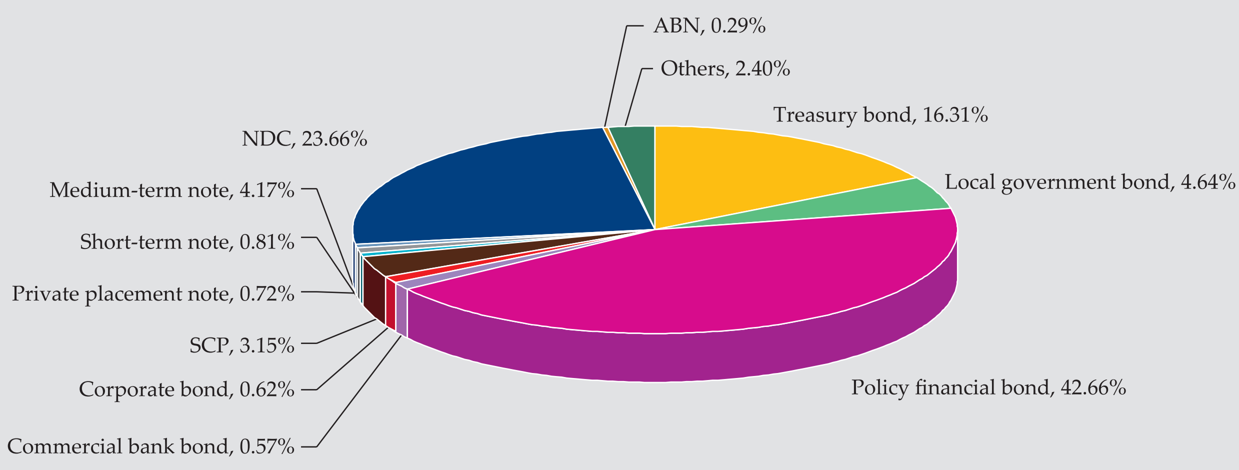
(Source: CCDC and SHCH)

3.1.2 Secondary market

3.1.2.1 Cash bond trading volume grew substantially

In 2019, cash bond transactions totalled RMB 217.10 trillion (up 38.6 percent year on year, 6.0 percentage points lower than the previous year), of which RMB 208.75 trillion was cash bond transactions in the interbank bond market (up 38.5 percent year on year, 8.1 percentage points lower than the previous year, accounting for 96.2 percent of the total) and RMB 8.35 trillion was traded at the exchanges (up 40.8 percent year on year, accounting for 3.8 percent of the total).

Figure 3.2 Trading structure of cash bond transactions in the interbank bond market in 2019



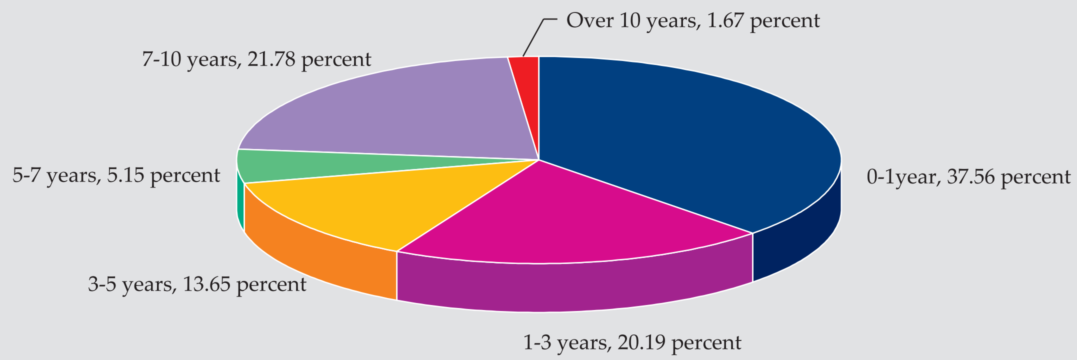
(Source: CFETS)

In terms of bond types in the cash bond transactions in the interbank bond market, the most traded three categories were policy financial bonds, NCDs, and treasury bonds, which accounted for 42.66 percent, 23.66 percent, and 16.31 percent (and together accounted for 82.63 percent) of the transaction volume respectively.

In terms of maturities of cash bond transactions in the interbank bond market, bonds with a maturity of less than 1 year, 1-3 years, 3-5 years, 5-7 years, 7-10 years, and more than 10 years① recorded trading volume of RMB 80.28 trillion, RMB 43.17 trillion, RMB 29.18 trillion, RMB 11.01 trillion, RMB 46.54 trillion, and RMB 3.58 trillion respectively, accounting for 37.56 percent, 20.19 percent, 13.65 percent, 5.15 percent, 21.78 percent, and 1.67 percent of the total.

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

Figure 3.3 Maturity structure of cash bond transactions in the interbank market in 2019

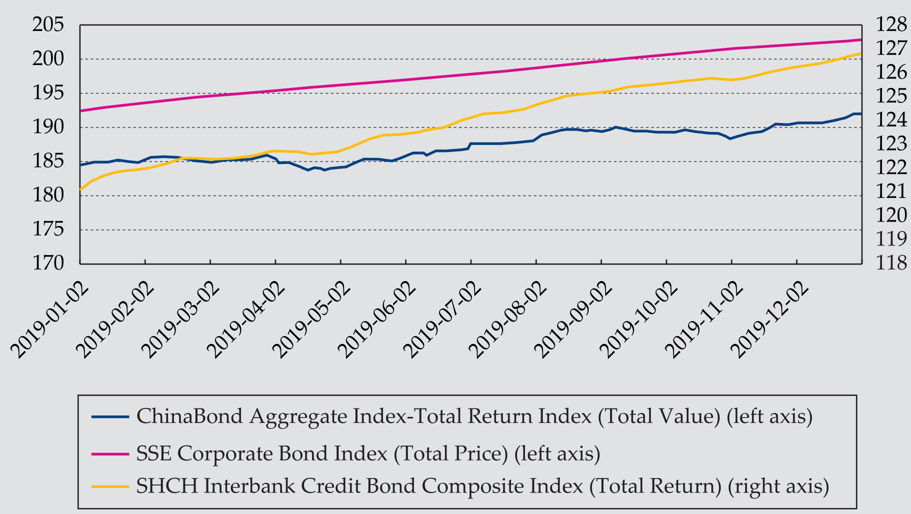


(Source: CFETS)

3.1.2.2 Bond price index generally went up

The bond price index generally went up. In early 2019, the ChinaBond Aggregate Index - Total Return Index (Total Value) witnessed adjustments amid volatility, and continued with an uptick trend from April to mid-August. Following fluctuations within a certain range, the index rose steadily from November until the end of the year, reaching its peak at 192.09, an increase of 4.4 percent from 184.07 at the beginning of the year. The Interbank Credit Bond Composite Index (Total Return) of SHCH registered 126.83 at the end of the year, an increase of 4.7 percent from 121.13 at the beginning of the year. The SSE Corporate Bond Index (Total Price) was 192.53 at the beginning of the year. It continued an uptick trend during the year, reaching 202.88 at the end of the year, up 5.4 percent from the beginning of the year.

Figure 3.4 Trend of interbank bond indexes in 2019



(Source: CCDC and SHCH)

3.1.2.3 Investor structure in the interbank bond market remained stable

The overall investor structure of the interbank bond market only changed slightly. At the end of 2019, bonds held by deposit-taking financial institutions posted RMB 49.61 trillion, accounting for 57.4 percent of the total outstanding bonds, roughly on the same level as the previous year. Bonds held by non-legal-person institutional investors reached RMB 25.53 trillion, accounting for 29.6 percent of the total, up 0.7 percentage points year on year. Among the bonds held by deposit-taking financial institutions, local government bonds took up the largest share, accounting for 36.9 percent. Among the bonds held by non-legal-person institutional investors, corporate debenture bonds took up the largest share, accounting for 35.9 percent.

3.1.2.4 Over-the-counter bond transactions in the interbank bond market tended to be more active

OTC bond transactions in the interbank bond market tended to be more active in 2019. Bonds distributed over the counter amounted to RMB 0.35 trillion, up 12.3 percent year on year. The cumulative OTC trading volume of bonds posted RMB 0.25 trillion, surging by 91.5 percent year on year. At end-2019, the custody balance in the OTC market posted RMB 0.85 trillion, up 9.2 percent year on year, accounting for 1.0 percent of the total custody balance in the interbank bond market. The major types of bonds traded over the counter were treasury bonds and policy bank bonds. The custody balance of treasury bonds in the OTC market reached RMB 0.82 trillion, up 11.7 percent year on year, accounting for 95.9 percent of the total custody volume in the interbank bond market.

3.2 Main features of the bond market

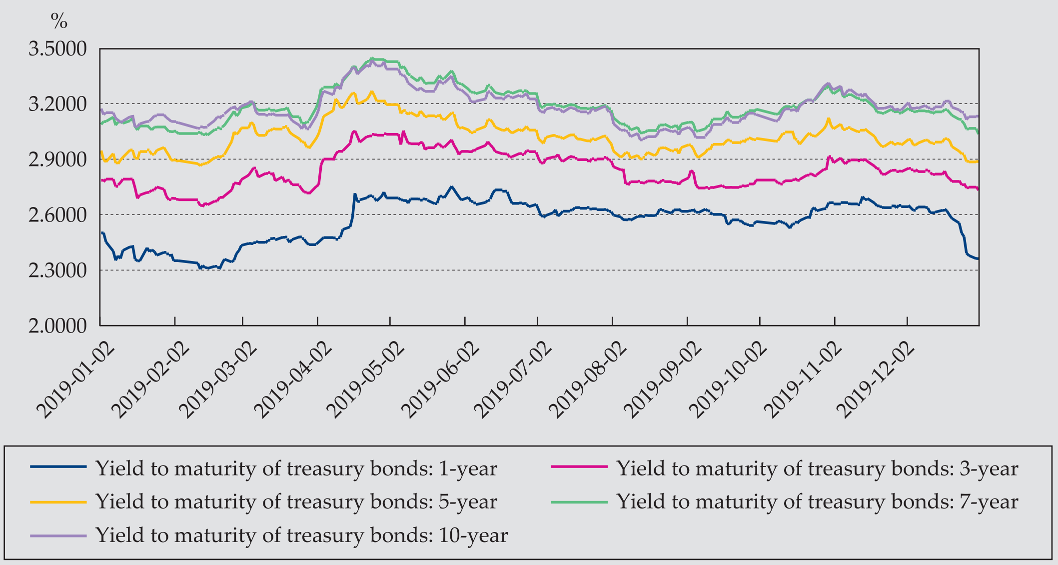
3.2.1 The market fluctuated in a tight range over the year

Due to the impact of the overall monetary easing, China-US trade frictions, see-saw of China-US economic and trade negotiations, and the increasing downward pressure on China's economy, yields in the bond market fluctuated in a tight range in 2019.

Yields in the interbank bond market generally fluctuated within a certain range, adjusting itself in Q1, rising before falling in Q2, remaining stable on the whole in Q3 and Q4, and slightly going downward at the year end. At the end of 2019, yields on treasury bonds with a maturity of 1-year, 3-year, 5-year, 7-year, and 10-year were 2.36 percent, 2.73 percent, 2.89 percent, 3.04 percent, and 3.14 percent respectively, falling 8 to 24 bps from a year earlier. Yields on AAA-rated short- to medium-term notes with a maturity of 1-year, 3-year, 5-year, 7-year, and 10-year were 3.18 percent, 3.43 percent, 3.71 percent, 3.96 percent and 4.20 percent respectively, falling 12 to 41 bps from a year earlier.

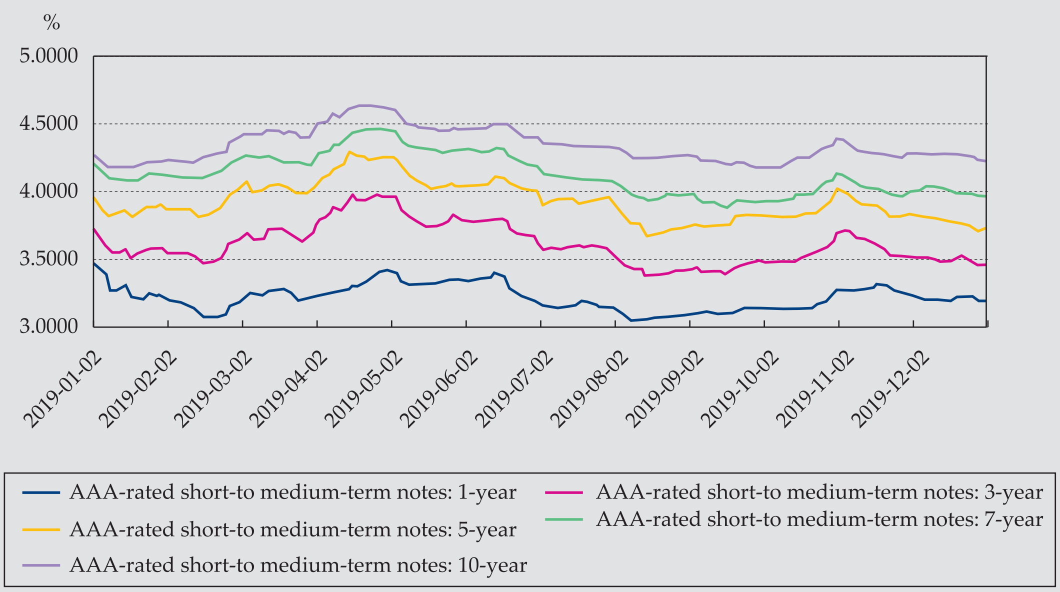
Yields in the exchange market went down amid fluctuations. Yields on corporate bonds dropped slightly in Q1 2019, moderately picked up at the end of Q2, and declined slowly in Q3 and Q4. At the end of 2019, yield to maturity of 3-year and 5-year CSI corporate bonds (AAA) were 3.42 percent and 3.72 percent respectively, down 46 and 37 bps from end-2018.

Figure 3.5 Changes in yields of treasury bonds with key maturities in 2019



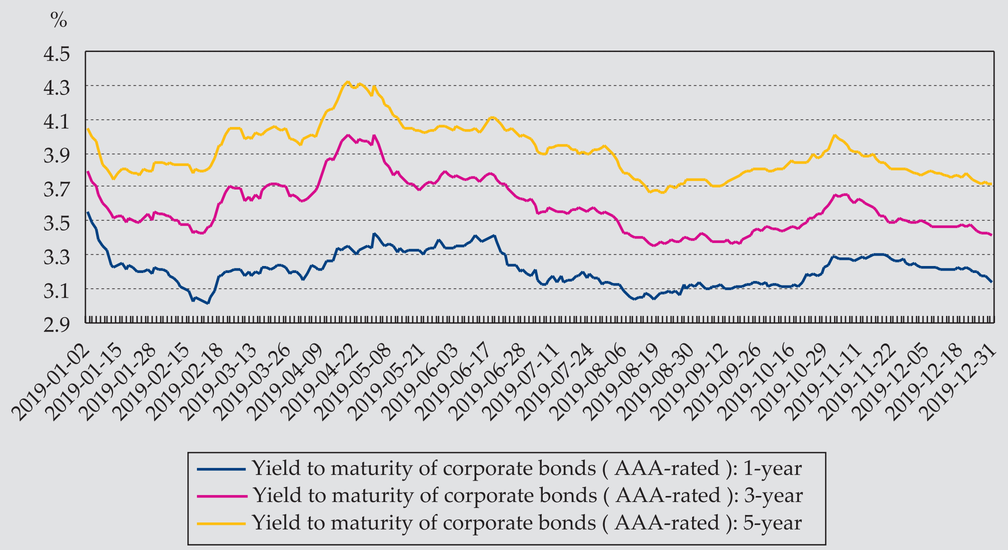
(Source: CCDC)

Figure 3.6 Changes in yields of AAA-rated short- to medium-term notes with different maturities in 2019



(Source: CFETS)

Figure 3.7 Changes in yields of exchange-traded corporate bonds in 2019



(Source: SSE)

3.2.2 The issuance of credit bonds increased significantly

In 2019, the issuance volume in China's bond market stood at around RMB 45.32 trillion, an increase of 3.1 percent year on year. In particular, the issuance of corporate debenture bonds increased substantially to RMB 9.73 trillion, an increase of 33.3 percent year on year. Debt financing instruments of non-financial enterprises and corporate bonds hit RMB 6.80 trillion and RMB 2.57 trillion, accounting for 69.9 percent and 26.4 percent of total issuance of corporate debenture bonds, up 17.4 percent and 57.3 percent year on year respectively.

In 2019, the issuance volume of NCDs stood at RMB 17.97 trillion, down 14.8 percent from 2018 and falling below the level in 2017. NCDs accounted for 39.8 percent of bonds issued in 2019, down 8.6 percentage points from the previous year.

3.2.3 Bond trading volume grew substantially

In 2019, cash bond transactions totalled RMB 217.10 trillion, up 38.6 percent year on year, of which RMB 208.75 trillion was cash bond transactions in the interbank bond market (up 38.5 percent year on year) and RMB 8.35 trillion was traded at the exchanges (up 40.8 percent year on year).

In 2019, the cumulative turnover rate in the interbank bond market was 219.1 percent, an increase of 38 percentage points year on year. The three most frequently traded categories were policy bank bonds, NCDs and book-entry treasury bonds, with turnover rates of 589.15 percent, 470.06 percent, and 236.68 percent, a change of 231.33 percent, -91.77 percent, and 90.68 percent year on year, respectively. In specific, the trading volume of NCDs reached RMB 50.04 trillion (down 9.2 percent year on year), accounting for 23.6 percent of total bond trading volume in 2019 (down 13.2 percentage points from the previous year).

Table 3.2 Changes of turnover rates in the interbank bond market between 2019 and 2018①

Unit: %

Type of bonds	2019	2018	Difference from prior year (percentage point)
Book-entry treasury bonds	236.68	146.00	90.68
Local government bonds	48.01	24.84	23.17
Policy bank bonds	589.15	357.82	231.33
NCDs	470.06	561.83	-91.77
Commercial bank bonds	63.85	25.14	38.71
Non-banking financial institutional bonds	47.98	53.82	-5.84
Corporate bonds	60.66	68.41	-7.75
Asset-backed securities	21.63	14.15	7.48
Medium-term notes	141.89	133.33	8.56
International institutional bonds	5.91	13.89	-7.98

Source: CCDC, SHCH, and CFETS.

3.2.4 The number of overseas investors grew rapidly

At end-2019, there were 796② overseas institutional participants in the interbank bond market, an increase of 220 year on year, or a remarkable growth of 38.2 percent. Bond custody of overseas institutions in the interbank market totalled RMB 2.20 trillion, up RMB 0.47 trillion or 27.4 percent year on year, accounting for 2.5 percent of the outstanding bond custody in the interbank market.

3.3 Innovation in the bond market

3.3.1 Continuous innovation of financial institution-related bonds

3.3.1.1 Commercial banks issued perpetual bonds

In January 2019, the PBC and CBIRC issued policies that encourage commercial banks to issue perpetual bonds. The PBC conducted CBS operations that improve market liquidity for

① Turnover rate formula: (cash bond trading volume/custody volume)×100 (percent).

② The statistics of overseas institutions has been changed from an account-based to entity-based approach.

perpetual bonds issued by commercial banks, and the CBIRC supported commercial banks in capital replenishment by permitting insurance institutions to invest in commercial banks' capital bonds without fixed terms. In January 2019, the Bank of China issued the first RMB 40 billion capital bond without fixed terms in the interbank market. As of end-2019, cumulative issuance of perpetual bonds by commercial banks reached RMB 569.6 billion, which opened up channels for commercial banks to replenish tier one capital and played an active role in enhancing these banks' capability to serve the real economy.

3.3.1.2 Securities companies issued financial bonds

In July 2019, with the PBC's approval, GF Securities publicly issued RMB 5 billion of financial bonds, the first financial bonds issued by securities companies in China. The funds will be raised for supplementing operating liquidity and providing liquidity for small- and medium-sized non-banking financial institutions. As of end-2019, securities companies issued 9 financial bonds, with a total size of RMB 52.5 billion. Previously, financial bonds were mainly issued by policy banks and commercial banks. More subjects in financial bond issuance will provide more medium- and long-term financing channels for securities companies, maintaining stable operations of the financial market by leveraging their role as liquidity bridges, and thus alleviating the liquidity issue of small and medium-sized non-banking financial institutions.

3.3.2 Green bonds speeded up innovation

In 2019, various innovative green bonds were successively issued, with an aim of providing better funding for eligible green projects or refinance these projects. In February 2019, the "2019 Green Bonds of Shenzhen Energy Corporation (Phase I)" was issued. As the first corporate bond facing both domestic and foreign investors (including those in "Bond Connect") in China, it is expected to play an active role in enriching green finance products, expanding financing channels for the real economy, reducing financing costs and contributing to the development of the Guangdong-Hong Kong-Macao Greater Bay Area (GBA). In June 2019, a 10-year special green bond of RMB 1 billion of Yichang Urban Construction Investment Holding Group Co., Ltd. of Hubei Province was officially approved by the National Reform and Development Commission. It was China's first special green bond for the ecological protection of Yangtze River in the field of transportation and the first one for China's multimodal transport projects. The fund raised will be used for the World Bank loan project in the Baiyang Bay Area, which realizes green and sustainable development to the greatest extent and brings about great benefits for environmental protection. In September 2019, China Longyuan Power Group Limited issued its RMB 500 million super short-term commercial paper for poverty alleviation, the first of its kind in the interbank market. The funds raised will be used to repay loans for wind power projects by Longyuan Guizhou Wind Power Company within Weining County of Guizhou Province — a state-level poverty-stricken county — as well as borrowings by subsidiary wind power companies of the issuer. In November 2019, CDB issued the first "Bond Connect" green financial bond under the theme of sustainable development. The funds raised will be used to support green projects especially for the ecological protection of Yangtze River and green development, such as the construction of forestry ecology and national forest reserve project in Chongqing, and better serve the protection of Yangtze River and high-quality development of the Yangtze River Economic Belt.

3.3.3 Bond indexes and relevant products witnessed new developments

3.3.3.1 Domestic bond indexes went global, providing support for the opening-up of the bond market

In February 2019, the Union Bright 10-year treasury bond and policy finance plus green bond ETF tracking the performance of "ChinaBond-10-Year Treasury and Policy Bank Green Enhanced Index" was officially launched at China's Taiwan Stock Exchange. In November 2019, on the occasion of the 10th anniversary of RMB internationalization, the "ChinaBond-ICBC RMB Bond Index" was globally published in Singapore, which further increased the international influence of the domestic bond market.

3.3.3.2 A series of bond indexes were published, enhancing financial support for the real economy

In 2019, the ChinaBond Pricing Center Co., Ltd. issued Beijing-Tianjin-Hebei-related bond indexes, high-quality corporate bond index, and credit debenture bond index of private businesses. The SHCH issued a series of credit bond indexes, including the China credit bond 0-3 year AAA-rated credit bond index, 3-5 year AAA-rated medium-term note index, SHCH 1-5 year medium- and high-rated selected credit bond index, SHCH 0-4 year 80 SOE bond index, SHCH high-rated SOE short-term index, as well as SHCH 1-3 year high-rated SOE medium-term note index. The introduction of these bond indexes provided more products relating to bond market prices, offered new bond price indicators and investment targets to market participants, attracted more investments into the bond market, and reduced financing costs of enterprises.

3.3.3.3 Yangtze River Delta-related bond indexes were published

In June 2019, the ChinaBond Yangtze River Delta-related bond indexes were published in Shanghai. These included Yangtze River Delta Composite Bond Index, Yangtze River Delta Local Government Bond Index, Yangtze River Delta Green Bond Index, Yangtze River Delta Corporate Debenture Bond Index, and Yangtze River Delta Medium- and High-Rated Credit Bond Index. It is not only the first bond index series that comprehensively presents the bond market in the Yangtze River Delta, but also the first application of ChinaBond index products at the regional level under the guidance of the integrated development of the Yangtze River Delta. By describing the features of bond market operations in the area from multiple dimensions, including the bond market as a whole, local government bonds, credit bonds, and green bonds, it is an innovative application of bond market pricing benchmark.

3.3.3.4 Pilot programs were carried out in open-end bond index securities investment funds

The PBC and CSRC jointly issued the *Notice on Effectively Carrying out Innovative Pilot Programs in Open-End Bond Index Securities Investment Funds*, which actively promoted the development of ETF and other index products, further facilitated bond market interconnection, and better served the needs of domestic and foreign investors.

3.3.4 Innovations speeded up in debt-equity swap of private placement notes

In February 2019, the first round of debt-equity swap debt financing instruments was registered and issued, with 1 enterprise issuing private placement notes of RMB 1 billion, among which RMB 0.9 billion was used to repay bank loans for implementing the debt-equity swap. The issuance of debt-equity swap debt financing instruments helps raise the share of direct financing, reasonably expand the size of bond market, and play an active role of debt financing instruments in the proper reduction of corporate leverage ratio.

3.3.5 Regulatory specifics became clearer in the asset securitization market, with active progress in product innovation

Starting from September 2019, the PBC incorporated "exchange-listed corporate asset-backed securities" into the "corporate bonds" indicator of AFRE. In the same year, the CBIRC issued the *Notice of the General Office of the CBIRC on Matters Concerning Asset-Backed Plan Registration* (Yinbaojianbanfa〔2019〕No.143) ,simplifying the approval system of asset-backed plans; the SSE introduced a series of policies that clarified conditions and arrangements of multi-tranche bond issuance; the Shenzhen Stock Exchange (SZSE) formulated guidance to listing examination and information closure of major fundamental assets such as PPP, receivables, financial leasing and infrastructure, unifying standards for market access, and information disclosure. In 2019, the size of asset securitization market continued to grow rapidly, with RMB 2.3 trillion of products issued throughout the year.

In 2019, asset-backed note (ABN) products made stable achievements in their innovation. First, ABN was used to create credit risk mitigation warrants (CRMW) and provide credit buffer in the financing of private businesses and MSBs in a market-oriented manner. In 2019, a total of 4 ABN warrants were created, supporting an issuance volume of RMB 767 million. Private businesses were encouraged to issue ABN based on high-quality assets, which lowered their financing threshold and improved financing accessibility. In 2019, a total of 33 private businesses were encouraged to issue ABN as the sponsor, with an issuance volume of RMB 74.566 billion. In addition, ABNs relating to leasing debts, supply chain, and receivables in banks' trade financing were also encouraged, which directly or indirectly supported the financing needs of private businesses and MSBs in a market-oriented manner. In 2019, the above ABN products (except for those with private businesses as the sponsor) represented an issuance of RMB 119.751 billion, relating to over 5,000 private, small- and micro- corporate financiers. Second, green ABN witnessed active progress in its innovation and development. In 2019, 9 green ABNs were issued, totaling RMB 12.973 billion, an increase of 127.56 percent year on year. Sponsors covered more industries, including financial leasing, energy, manufacturing and public utility. Third, "Bond Connect" ABN was promoted as an effort to serve the opening up of the market. In 2019, a total of 4 ABNs were issued to domestic and foreign investors through "Bond Connect". The issuance amount stood at RMB 6.076 billion, attracting investment of RMB 1.595 billion (accounting for 26.25 percent) from overseas institutions.

3.3.6 Bonds based on the LPR benchmark were issued

In August 2019, the PBC issued the PBC Announcement〔2019〕No.15, which decided to deepen the reform to strengthen the market's role in setting interest rates, raise the efficiency of interest rate transmission, and lower financing costs of the real economy by reforming and improving the LPR formation mechanism. Following this, bonds based on the LPR benchmark were successively issued. From September to November 2019, "Tongwei Group SCP 2019-IV" (the first floating rate bond based on the LPR benchmark), "Industrial Bank Credit Asset-Backed Securities 2019-IV" (the first floating rate credit ABS product based on the LPR benchmark), "Haitong Unitrust International Leasing ABN 2019-I" (the first ABN product based on the LPR benchmark), and the first floating rate bond based on the LPR benchmark by CDB, were successively issued. The issuance of floating rate bonds based on the LPR benchmark demonstrates an important move to facilitate innovative development in the bond market. This not only facilitated interest rate liberalization reform through improving the market influence and degree of marketization of LPR, but also satisfied diversified needs of investors by expanding the types of bond products.

3.4 Institutional construction

3.4.1 Administration of bond issuance market was further enhanced

3.4.1.1 Working mechanism of poverty alleviation negotiable instruments was improved

In 2019, the PBC and the National Association of Financial Market Institutional Investors (NAFMII) earnestly implemented policies on targeted poverty alleviation, constantly improved working mechanism of poverty alleviation negotiable instruments. The PBC guided the NAFMII in formulating and issuing the *Guidelines for the Poverty Alleviation Negotiable Instrument Business of Non-Financial Enterprises* (NAFMII Announcement〔2019〕

No.13) and the corresponding information disclosure forms, in order to further regulate work on poverty alleviation negotiable instruments. As of end-2019, the total issuance volume of poverty alleviation negotiable instruments reached RMB 41.45 billion, contributing to poverty alleviation in more than 100 poverty-stricken counties.

3.4.1.2 Financing channels for private businesses and small and medium-sized enterprises (SMEs) were further expanded

In February and April of 2019, the General Office of the CPC Central Committee and the General Office of the State Council issued *Several Opinions on Strengthening Financial Services for Private Businesses* (Zhongbanfa〔2019〕No.6) and *Guiding Opinions on Promoting the Healthy Development of Small and Medium-Sized Enterprises*. Both actively encouraged eligible private businesses to increase direct financing by further improving the bond issuance mechanism and launching support instruments of bond financing for private businesses. In addition, by selling CRMWs and offering credit enhancement services, a series of products were vigorously developed, including high-yield bonds, private placement bonds, special debt financing instruments for mass entrepreneurship and innovation, venture investment fund-related bonds, and special bonds for innovative and entrepreneurial enterprises. In 2019, a total of RMB 471.461 billion of debt financing instruments for private businesses was registered at NAFMII, and RMB 331.8 billion issued.

3.4.1.3 Issuance of credit derivatives-backed bonds witnessed steady development

In 2019, the PBC guided self-discipline organizations and infrastructure institutions in the interbank bond market to continuously improve self-discipline administrative services such as creation, launching, and record filing of credit risk mitigation (CRM) tools, and actively promote the development of support instruments of bond financing for private businesses, with a view to sending positive signals to the market and guiding market expectations. In 2019, the interbank bond market directly and indirectly[①] supported 65 private businesses to issue 104 debt financing tools, totaling RMB 55.4 billion, covering nearly 40 percent of the private businesses that issued debt financing tools in the period. Among these, there were 83 CRMWs targeting private enterprise bonds, with a notional principal of RMB 10.458 billion and supporting bond issuance of RMB 35.466 billion. The exchange bond market also further expanded the scope of support instrument for bond financing by private businesses, with synchronized placing of credit protection contracts and object debt issuance in the primary market, which

① Direct support takes bond financing instruments of private businesses as the subject, and encourages them to issue debt financing instruments by creating CRMWs and offering credit enhancement, among others. Indirect support refers to market participants such as lead underwriters encouraging private businesses to issue debt financing tools by creating CRMWs.

effectively motivated investors and reduced issuers' financing costs.

3.4.1.4 Policy financial bonds realized normalized, multi-channel issuance

In 2019, the Agricultural Development Bank of China (ADBC) and the Export-Import Bank of China (Eximbank) first issued policy financial bonds through the SSE bond issuance system, and the Eximbank also had its first bond issuance at SZSE, marking the initial establishment of normalized, multi-channel issuance mechanism of policy financial bonds. The issuance of exchange policy financial bonds effectively supplemented the interbank market, which helped expand the source of interest rate securities in the exchange market and enriched their types and term structure. In 2019, a total of RMB 163.12 billion policy financial bonds were issued in the exchange market.

3.4.1.5 System for bonds for innovation and entrepreneurship was improved

In August 2019, the PBC and CBIRC jointly issued *Opinions of the PBC General Administration Department and China Banking and Insurance Regulatory Commission on Supporting the Issuance of the Special Bonds for Innovation and Entrepreneurship by Commercial Banks* (Yinbanfa〔2019〕No.161), with a view to encouraging commercial banks to issue special bonds for mass entrepreneurship and innovation to expand the credit supply in both fields, tapping the creative potentials of various innovative entities, and promoting the economic restructuring and industrial upgrading. In 2019, a total of 6 financial bonds for innovation and entrepreneurship were issued in the interbank bond market, with a total volume of RMB 7.8 billion.

3.4.1.6 Channels for local government bonds were expanded, and system for local government bond issuance and financing support for projects was improved

In March 2019, the Ministry of Finance issued the *Notice on the Issuance of Local Government Bonds through the Over-the-Counter Markets of Commercial Banks* (Caiku〔2019〕No.11), which allowed general bonds and special bonds publicly issued by local governments to be issued within the jurisdiction through commercial banks' over-the-counter (OTC) market, and specified means of OTC issuance, arrangements of distribution period, and maximum issuance quota. In the same month, 6 pilot provinces participated in the first round of OTC issuance of local government bonds. This marked the official opening of primary local government bond market towards individual investors. At the same time, following book-entry treasury bonds, policy bank bonds and CDB bonds, local government bonds became the latest bond type eligible for OTC business in the interbank market. In order to regulate special bond issuance and financing support for projects, in June 2019, the General Office of the CPC Central Committee and the General Office of the State Council published the *Notice on Effectively Conducting the Issuance of Special Bonds for Local Governments and Ancillary Financing of Projects*. In 2019, local government bonds were distributed at the counter of 15 banks in 12 provinces, with total subscription of RMB

10.984 billion.

3.4.2 Bond market administration was continuously improved

3.4.2.1 Institutional framework of interbank bond market access administration was improved

In October 2019, the PBC issued the *Notice of the Financial Market Department of the People's Bank of China on Issues Concerning the Entry of Wealth Management Subsidiaries of Commercial Banks into the Interbank Bond Market* (Yinshichang〔2019〕No.153), according to which wealth management subsidiaries of commercial banks no longer file each wealth management product with the PBC. Instead, they only have to file once for market access as the asset managers. With the wealth management products of wealth management subsidiaries of commercial banks as the starting point, the *Notice* clarified the legal relationship in trading, custody, and settlement, adjusted corresponding service arrangements, and shifted the subject of asset managers' participation in the bond market from products to managers and custodians. The new guidance on asset management business was implemented by urging product managers to strictly perform their responsibility of active management, and custodians to earnestly take on their responsibility of independent custody through independent accounts, management and accounting.

In September 2019, the PBC Shanghai Head Office issued Announcement〔2019〕No.1. While it cancelled the requirement for qualified institutional investors to hand in the training certificate of bond investors at the filing stage in the interbank bond market, the Announcement required qualified institutional investors to enhance administration and training of bond investors and introduce corresponding regulations.

3.4.2.2 More banks were allowed to participate in cash bond transactions in the exchange bond market

With a view to further implementing the requirements of the CPC Central Committee and the State Council on strengthening the capacity of the financial industry to serve the real economy, in August 2019, the CSRC, PBC, and CBIRC jointly issued the *Notice on Relevant Issues Concerning the Pilot Program on Listed Commercial Banks' Participation in Bond Transactions on Stock Exchanges* (Zhengjianfa〔2019〕No.81), expanding the scope of banks eligible for cash bond transactions on exchanges to include policy banks, CDB, large state-owned commercial banks, joint-stock commercial banks, urban commercial banks, overseas banks operating in China's domestic market, and other banks listed domestically. Since its issuance, bond transaction volume via banks' self-owned funds grew remarkably in the exchange market.

3.4.2.3 Rules for verification of standard debt-based assets were specified

In October 2019, the PBC issued *Rules for Verification of Standard Debt-Based Assets (Exposure Draft)* to clarify the scope of and conditions for standard debt-based assets, and specify that institutions providing infrastructure services for debt-based assets, such as registration, custody, clearing, and settlement, should submit applications to the PBC for recognition of standard debt-based assets. Such policy regulated the investment of asset management products by financial institutions, enhanced investor protection, and facilitated healthy development of direct financing.

3.4.2.4 Support was available for market making of CDB bonds in the interbank market

With a view to further improving the market making system in the bond market, under the PBC's guidance, the CFETS, CCDC, and CDB worked together to launch the supporting mechanism for market making of CDB bonds and issued the operational rules and business specifics for supporting market making of RMB financial bonds issued by CDB. With tools such as buying and selling the bonds at any time, market makers in the interbank bond market were encouraged to make markets for publicly listed and circulating CDB bonds. The establishment of supporting mechanism for CDB bonds contributed to increasing the continuity of biddings for market making, improved liquidity of CDB bonds in the secondary market, satisfied investment and allocation needs of domestic and foreign institutions, completed the CDB bond yield curve that reflect supply-demand relations in the market, and gave better play to the bond market in price discovery. In December 2019, CDB conducted the first RMB 6 billion selling operation under the supporting business for market making of CDB bonds through the operational platform of market making support at the trading center. In addition, delivery versus payment (DVP) settlement was innovatively introduced in order to effectively improve business efficiency, reduce market makers' capital burden, and reduce position risks.

3.4.3 Risk prevention and default disposal were strengthened

3.4.3.1 Approaches to bond default disposal grew diversified

In December 2019, the PBC published the Announcement〔2019〕No.24 to push forward the building of mechanism for transferring matured defaulted bonds in interbank bond market, in a bid to raise the efficiency of bond default disposal and clear out defaults in the market. In that month, the PBC, National Development and Reform Commission (NDRC) and CSRC jointly released the *Notice on Issues Concerning Disposal of Defaults on Corporate Debenture Bonds (Exposure Draft)* to specify the principles of bond default disposal, give full play to the core role of trustees and the bondholders' meeting system in bond default disposal, and enrich the market-oriented approaches to bond default disposal, allowing the issuer to conduct debt restructuring through bond replacement and extension on the premise of equality and voluntariness, while intensifying the combat against issuer's debt escapes and revocation. Under the guidance of responsible authorities, the NAFMII, CFETS, SHCH, CCDC, and stock exchanges therefore introduced a series of measures to dispose defaulted bonds in a market-based and standardized manner.

3.4.3.2 Structured bond issuance became regulated

To further regulate corporate bond issuance, safeguard the order of the bond market and protect the legitimate rights and interests of the investors, the SSE and SZSE released the *Notice on Matters Concerning Regulating Corporate Bond Issuance* (Shangzhengfa〔2019〕No.115, Shenzhengshang〔2019〕No.821) to specify that issuer is not allowed to subscribe the bond it issues directly or indirectly during issuance. Subscription of relevant bonds by the directors, supervisors, senior management, and shareholders holding over 5 percent of the shares and other related parties of the issuer belongs to the important matters for disclosure, and the issuer is obliged to disclose such subscription in the issuance result circular. Underwriting institutions are required to verify the information concerning structured issuance and note down their verification opinions in the underwriting summary report.

3.4.3.3 Anonymous high-yield bond auction business was officially launched

In July 2018, the X-Auction business for anonymous bond auction was launched in the interbank market where the CFETS organizes market participants upon the demands of the market to carry out centralized, anonymous transaction of bond in the local-currency transaction system of CFETS at specific time. It helped transfer low-liquidity bonds and defaulted bonds upon maturity and dispose bonds with repo defaults. In 2019, the CFETS organized and conducted 18 X-Auctions. Well recognized by the market institutions, this business encouraged the low-liquidity, high-yield bonds to circulate in the secondary market, further improved market transparency, and perfected the price discovery mechanism in the interbank bond market, thus providing effective means to prevent and diffuse financial risks and serve the real economy.

3.4.3.4 Regulation and control over government debt risks was further enhanced

In June 2019, the NDRC released the *Notice on the Application, Filing and Registration Requirements for Foreign Debt Issuance by Local State-Owned Enterprises*, which clarified the obligations of local state-owned enterprises (SOEs) to repay foreign debts as independent legal persons and that local governments and their agencies should not directly use or promise to use fiscal funds to repay foreign debts of local SOEs, nor provide guarantee for the foreign debt issuance by local SOEs. Besides, to advance the building of a national unified information disclosure platform for local government debts, on December 31st, 2019, the Ministry of Finance (MOF) launched China Electronic Local Government Bond Market Access (WWW.CELMA.ORG.CN) for pilot operation, which regularly discloses information about the quota, outstanding amount, economic and fiscal profile, bond issuance, and duration management of local government debts, therefore helps foster the self-disciplinary mechanism for market-based financing.

3.4.3.5 Inspection on corporate bond risks was practiced

In February 2019, the NDRC published the *Notice on Implementing Work Concerning Supervision and Inspection of Corporate Bond Duration and Risk Check on Payment of Principal and Interest in 2019* (Fagaibancaijin〔2019〕No.187). The *Notice*, first of all, demanded special inspections on the payment of principal and interest in each year, use of raised funds, efficiency of fund-raising project operation and the collateral assets (if any) of corporate bond. Secondly, it clarified the NDRC's duty in carrying out all-round risk check in the corporate bond field of the year 2019, so as to help resolve the risks in a market-based and law-based way and protect the legitimate rights and interests of the bond holders. Thirdly, it required to conduct "double random" spot check on the duration of corporate bonds while strengthening routine supervision on principal underwriters with lower rank in credit assessment with projects they underwrite being investigated more intensively.

3.4.3.6 Credit risk management and control were stepped up

In 2019, the CCDC introduced the pledged business for interbank credit-granting, which added the use of bond collateral to the traditional counterparty-based credit management and introduced professional third party as collateral management agency, to properly lower the credit risks of the counterparty while keeping the actual risk control. In this way, the business optimized the management of interbank credit-granting of financial institutions and effectively mitigated and dissolved the credit risks of small and medium banking institutions. The SSE and SZSE strictly practiced the principle of "incorporation into regulation immediately after declaration", with the responsibilities and requirements of issuer and intermediary during the review clearly defined. They also earnestly implemented the on-going supervision over the duration, reviewed the regular reports and temporary information disclosure, and paid attention to the operation and repayment capability of the issuer. The NAFMII made overall planning of risk management over market entities from aspects including institutional construction, personnel allocation, risk prevention and disposal, compliance supervision and guidance, to guide the principal underwriter to have a timely mastery of the business operation, financing, credit reporting and lawsuit involvement of the enterprise, enhance risk monitoring and prevention and assist the enterprise with huge risks to formulate repayment measures in a timely manner.

3.4.3.7 Template of Investor Protection Provisions was published

In April 2019, the NAFMII modified and published the *Template of Investor Protection Provisions (2019)* to strengthen the market credit risk prevention of debt financing instruments and upgrade the investor protection mechanism. The revision added protection provisions for investors of three categories, optimized four scenarios that trigger provisions, and set out more detailed disposal mechanism in five provisions, covering multiple aspects including governance structure, operational behaviors, fiscal performance, investment and financing, and credit enhancement. It effectively enriched the toolkit to protect investors with more diversified relief measures for them. In 2019, among publicly issued debt financing instruments, 39.6 percent followed the market-based principle to autonomously add insurance policy in the prospectus for all-round protection of the investor, so as to further boost market confidence, guarantee smooth financing of the enterprises and increase the stability of direct financing channels.

3.4.4 Information disclosure and credit system in the bond market were enhanced

3.4.4.1 Information disclosure of credit rating sector was further regulated

In November 2019, the PBC, NDRC, MOF and CSRC jointly published the *Interim Administrative Measures on Credit Rating Sector*, which defined the policy orientation for the regulated development of the sector and formed a sound, unified institutional framework for regulation. The credit rating sector was formally included in the unified supervision and regulation, which was conducive to the shift of China's financial market to high-quality development. To enhance the self-discipline management of credit rating business, further regulate information disclosure of credit rating agencies (CRAs) and strengthen the administration of conflict of interests, the NAFMII released the *Rules for Information Disclosure on Credit Rating Business for Debt Financing Instruments of Non-Financial Enterprises in the Interbank Bond Market, and the Administrative Rules for Conflict of Interests in Credit Rating Business for Debt Financing Instruments of Non-Financial Enterprises in Interbank Bond Market*.

3.4.4.2 *Guidelines for Information Disclosure of Irregular Report for Assets-Backed Securities* was released

In November 2019, the SSE and SZSE released the *Guidelines for Information Disclosure of Irregular Report for Assets-Backed Securities* to address the issues of the information disclosure of irregular reports for ABS being less timely, effective and targeted, with the applicability, disclosed content and validity period for such disclosure clearly defined. It played an important role in improving the information disclosure system for the ABS within the duration, protecting the legitimate rights and interests of investors, and elevating the capability to discover, prevent and control risks of market players such as ABS program managers and investors.

3.4.4.3 Information disclosure of issuers was further regulated

In 2019, the PBC worked with the NDRC and CSRC to release the *Administrative Measures for Information Disclosure of Corporate Debenture Bonds (Exposure Draft)* and two supporting files, namely the *Requirements for Formulating Prospectus of Corporate Debenture Bonds (Exposure Draft)* and *the Requirements for Formulating Regular Report of Corporate Debenture Bonds (Exposure Draft)* to unify the content, requisite, frequency and other information for disclosure concerning all types of corporate debenture bonds. These documents facilitated the unification of standard for information disclosure of corporate debenture bonds, with the quality and transparency of corporate information disclosure improved and mechanism of investor protection further solidified. They also specified scenarios for bond default disclosure, improved the market-based restraint mechanism, thus promoting the continued sound development of China's bond market.

3.4.4.4 Credit rating of corporate bond principal underwriters and credit rating agencies continued to improve

In 2019, under the guidance of the NDRC, the CDCC continuously improved the credit rating indicator system for principal underwriters of corporate bonds, for instance, the indicator of number of quality corporate bonds underwritten was added into the 2018 rating system to guide the principal underwriters to boost support for direct financing from high-quality enterprises. Meanwhile, the results were more substantially applied. For underwriters who rank among the last ten for two consecutive years or those failing to independently principal underwriting corporate bonds, their qualification to act as the principal underwriter of high-quality corporate bonds will be restricted.

3.5 Opening-up of the bond market

3.5.1 Opening-up policies were constantly improved

3.5.1.1 Supporting system of bond issuance by overseas institutions was improved

In January 2019, the NAFMII released the *Guidelines on Debt Financing Instruments of Overseas Non-Financial Enterprises (Trial)* to further clarify the arrangements on the information disclosure, use of proceeds, intermediaries and other aspects for overseas non-financial enterprises to issue Panda Bonds. As of end-2019, great achievements have been made in the issuance of Panda Bonds. In China's bond market, 214 Panda Bonds were issued, totaling RMB 375.07 billion in issuance and RMB 253.74 billion in custody balance. In particular, issuance in the interbank market posted RMB 250.9 billion, with a custody of RMB 168.3 billion.

COLUMN Further improve the issuance system of Panda Bonds

In February 2005, the Interim Measures for the Administration of Renminbi Bond Issuance by International Development Institutions was released by the PBC, MOF, NDRC and CSRC, which, however, was applicable to very limited issuers, namely only international development institutions.

In recent years, the issuance system for Panda Bonds was constantly improved. In September 2018, the PBC and MOF jointly issued the Interim Measures for the Administration of Bond Issuance by Overseas Institutions in the Interbank Bond Market (hereinafter referred to as the Measures), and the Interim Measures for the Administration of Renminbi Bond Issuance by International Development Institutions was officially abolished. The Measures incorporated the international development institutions, foreign governmental institutions, overseas financial institutions and non-financial enterprises into unified management as the issuer, and further clarified the conditions and registration procedures for bond issuance by overseas institutions in China's interbank bond market. It regulated issues such as information disclosure, issuance registration, custody and settlement, opening of RMB capital account, funds transfer, and investor protection. The Measures offered a clearer system for overseas issuers on issuance of Panda Bonds in the interbank market.

In January 2019, the NAFMII issued the Guidelines on Debt Financing Instruments of Overseas Non-Financial Enterprises (Trial) (hereinafter referred to as the Guidelines), which applied to the issuance of debt financing instruments by overseas non-financial enterprises in the interbank market. The Guidelines further clarified the core institutional arrangements for the issuance of Panda Bonds by non-financial enterprises in terms of information disclosure, use of proceeds, intermediaries, etc., which was conducive to the development of the Panda Bond market into a market with transparent rules, efficient mechanisms and standardized processes. In terms of information disclosure, the Guidelines clarified the requirements for registration documents, information disclosure documents for the issuance and the duration, major issues, timing and language of disclosure for overseas enterprises. These arrangements fully took into account the common practice in the international market and the reality in the domestic market and achieved a balance between protecting investors and mobilizing foreign institutions to issue bonds. With regard to the use of proceeds, the Guidelines defined the use of proceeds from Panda Bonds for non-financial enterprises. The funds raised by Panda Bonds can be used within or outside China in accordance with relevant laws, regulations and regulatory requirements, and the account opening, cross-border remittance, information reporting and other matters concerning the proceeds shall comply with the relevant provisions of the PBC and the SAFE. In respect of regulation over intermediaries, the Guidelines followed the principles of "investors independently assuming risks as the premise" and "intermediaries playing their due roles as the basis". Investors are supposed to independently assess the value of investments and bear risks themselves while intermediaries and their staff should be diligent and responsible, strictly abide by the code of practice and professional ethics, fulfill their obligations pursuant to regulations and agreements, and assume corresponding legal responsibilities.

3.5.1.2 Investment quota limit on QFII and RQFII was lifted

In September 2019, the SAFE announced to remove the quota restriction on QFII and RQFII. Upon the lift, qualified foreign institutional investors could make investments in securities compliant to regulation through inward remittance by themselves after registration, which further facilitated their allocation of RMB-denominated assets.

3.5.1.3 Credit rating sector opened up

In January 2019, S&P Ratings (China) Co., Ltd. was allowed to conduct credit rating business on all types of bonds in China's interbank market and issued its first credit rating report on July 11th. In July 2019, the FSDC Office of the State Council released 11 measures for further opening up the financial industry, which further specified that "foreign-funded institutions will be permitted to conduct credit rating business on all types of bonds in China's interbank and exchange bond markets". Such move would encourage more eligible globally influential foreign credit rating agencies(CRAs) to enter Chinese market.

3.5.1.4 Foreign banks were permitted to be category-A principal underwriter of debt financing instruments

According to the 11 measures for further opening up the financial industry released by the FSDC Office in July 2019, foreign institutions would be permitted to obtain category-A principal underwriting licenses in the interbank bond market. In August 2019, the NAFMII organized the assessment on category-A principal underwriting business by foreign banks. The results qualified Deutsche Bank(China) and BNP Paribas(China) to be category-A principal underwriters of debt financing instruments for non-financial enterprises. Permitting foreign banks to conduct category-A principal underwriting business would provide more tools for foreign institutions to serve China's real economy, and bring in more overseas investments to finance domestic enterprises through bond issuance.

3.5.1.5 Facilitation was provided for overseas investors to invest in China's market

Among the 11 measures for further opening up the financial industry released by the FSDC Office in July 2019, China would further facilitate the investments of overseas institutional investors in the interbank bond market. In 2019, the PBC actively promoted the implementation of the following measures to facilitate the investments in Chinese markets by overseas investors. First of all, the construction of custodian bank was advanced to help effectively align the institutions and rules of domestic bond markets with the international system. Secondly, the investment procedures and cycle for central bank institutions were substantially simplified and shortened, and the *Guidelines on Investment in China's Interbank Market for Overseas Central Bank Institutions* was updated to improve the capability of serving overseas central bank institutions as the investment agent. Thirdly, the PBC worked with the SAFE to formulate the *Notice on Issues Concerning Further Facilitating Investment by Overseas Institutional Investors in the Interbank*

Bond Market, which permitted an overseas entity who invests in China's interbank bond market via both QFII/RQFII and direct investment channel to file with the PBC only once.

3.5.2 Market pricing and trading mechanism became more flexible and sound

3.5.2.1 Functions of the "Bond Connect" were further improved

In 2019, the functions of the "Bond Connect" were further improved. Firstly, 13 domestic dealers for the "Bond Connect" were added to a total of 47, improving the market liquidity. Secondly, streaming of indicative prices was launched to support the "Bond Connect" dealers to make market to overseas investors. Thirdly, the list trading function was introduced which enabled overseas investors to complete the inquiry and trading to purchase and sell multiple bonds at one time, further improving the trading efficiency and helping index investors with fast RMB asset allocation.

3.5.2.2 Settlement cycle of bond trading for overseas institutional investors was extended

In August 2019, the CFETS, CCDC and SHCH jointly released an announcement to add the option of T+3 to existing settlement cycle options of T+0, T+1 and T+2 for overseas investors to invest in the interbank bond market, making it more convenient for overseas investors to track the index and allocate RMB-denominated bond assets.

3.5.2.3 Non-transactional bond transfer and fund transfer services between accounts under the same overseas entity became available

In October 2019, the PBC worked with the SAFE to formulate the *Notice on Issues Concerning Further Facilitating Investment by Overseas Institutional Investors in the Interbank Bond Market*, which allowed the same overseas entity to conduct non-transactional bond transfers between its bond accounts under the QFII/RQFII item and the item of direct investment, and allowed the direct transfer between its fund accounts. This move would improve the interbank market system further, making it easier for overseas institutional investors to invest and helping the financial markets in China open up in a wider and deeper manner.

3.5.2.4 Exchange rate risk management for overseas institutions under the account of bond investment was optimized

In November 2019, the SAFE released the *Notice on the Issues Concerning Improving the Management of Foreign Exchange Risks of Overseas Institutional Investors in the Interbank Bond Market (Exposure Draft)*[①], which allowed overseas institutional investors to use domestic RMB-foreign exchange derivatives to manage the foreign exchange risk exposures arising from investment in the interbank bond market under the hedging principle, and to participate

① In January 2020, the SAFE officially released the *Notice on the Issues Concerning Improving the Management of Foreign Exchange Risks of Overseas Institutional Investors in the Interbank Bond Market*.

in foreign exchange derivatives trading via prime brokerage mode or through direct investment. The increased channels to hedge foreign exchange risks for overseas institutions further facilitated their foreign exchange risk management.

3.5.3 The opening-up and integration into global market were constantly deepened

3.5.3.1 Overseas institutions participated more in the interbank market

In 2019, another 220 overseas institutional investors got access to the bond market, with 205 via the scheme of "Bond Connect". Overseas institutions became remarkably active in trading, with annual cash bond transactions of RMB 5.3 trillion, up 66 percent year on year. As of end-2019, bond custody of overseas institutions in the interbank market totaled RMB 2.2 trillion, up 27.4 percent year on year; overseas issuers in the interbank market included foreign governmental institutions, international development institutions, financial institutions, and non-financial enterprises, with the issuance of RMB-denominated bonds reaching RMB 250.9 billion.

3.5.3.2 Progress of China's bond market's inclusion into the global mainstream bond indexes sped up

Since April 1st, 2019, China's treasury bonds and policy bank bonds denominated in RMB have been officially included in the Bloomberg Barclays Global Aggregate Index. In September 2019, JP Morgan announced that from February 28th, 2020, nine RMB-denominated highly liquid Chinese government bonds would be included in its GBI-EM suite. Under these circumstances, overseas investors, especially overseas passive asset management products, constantly increased their allocation of Chinese bond assets. Throughout the year, a total of 251 overseas products tracking global bond indexes managed by 59 asset managers had registered to enter the market.

COLUMN Chinese bond market is gradually included in global mainstream bond indexes

As the second largest bond market worldwide, the global influence of Chinese bond market is growing and the market further opens up. Since 2019, Chinese bond market had been gradually included in the global mainstream bond indexes.

At present, three main globally influential index compilers are Bloomberg, FTSE Russell and JP Morgan. From April 1st, 2019, Bloomberg Barclays Global Aggregate Index (BBGA) started adding RMB-denominated Chinese treasury bonds and policy bank bonds within 20 months step by step. RMB-denominated bonds will become the fourth largest currency component, following the US dollar, euro and Japanese yen, after full inclusion, accounting for over 6 percent of the total market value of BBGA. In September 2019, JP Morgan of the US announced that from February 28th, 2020, nine RMB-denominated highly liquid Chinese government bonds *would be included in its Government Bond Index-Emerging Markets (GBI-EM) suite in a 10-month process that will see the Chinese treasury bond's weighting rise to the maximum cap of 10 percent in the index. FTSE Russell had also listed China into the "watchlist" of its World Government Bond Index (WGBI), which is the most widely tracked index of the company, and scheduled in September 2020 to officially announce the decision over whether to include Chinese treasury bonds or not.*

The inclusion of Chinese bonds in the global major indexes, as an important outcome of the opening-up of the bond market, represents the rising status of China in the global financial market and also the international investor's confidence in Chinese market. It is conducive to enhancing the representativeness and attraction of these indexes and enabling more rational allocation of bond assets for global investors.

3.5.3.3 Information of green bonds was shared in a wider scope

In March 2019, the SHCH, SSE and SZSE reached agreements with the Luxembourg Stock Exchange (LuxSE) respectively, thus further broadened the scope for sharing the green bond information. Among them, the SHCH signed agreement with the LuxSE to provide synchronized information disclosure service home and abroad for green bond issuers. The SZSE cooperated with the LuxSE to launch the Green Fixed Income Information Channel. The SSE signed the supplementary agreement on the green fixed income information channel with the LuxSE to display the information of green bonds on China's platform. As of end-2019, the SSE and SZSE displayed 25 green bonds on the information channel totaling RMB 33.51 billion. The broader sharing of green bond information could help improve the international influence of green fixed income products of China's capital market, promote the two-way connectivity of green product services, deepen the cross-border cooperation in green finance sector, thus driving the global development of green finance.

3.5.3.4 New progress was made in issuing treasury bonds, sovereign bonds and central bank bills overseas

In 2019, the PBC issued 12 sets of central bank bills in Hong Kong, raising RMB 150 billion with an increasingly rich variety of maturity, and gradually established the regular mechanism for the issuance of central bank bills in Hong Kong. The MOF issued six sets of RMB treasury bonds, raising funds of RMB 12 billion, a year-on-year increase of 20 percent, and successfully issued sovereign bonds of USD 6 billion. RMB treasury bond of RMB 2 billion was issued in Macao for the first time, which was well received by the offshore market and would promote the development of characteristic financial industry in Macao. The MOF also issued sovereign bonds of EUR 4 billion in France, being the first time in 15 years for Chinese government to issue euro sovereign bonds, which was actively subscribed by investors, reflecting the positive expectation of global capital market in the outlook of Chinese economy.

3.6 Outlook of the bond market

First of all, the quality and efficiency in serving the real economy will be raised. The management system of bond issuance will be further optimized with the innovation of bond products advanced. Support to bond financing of private businesses will be boosted, and financial institutions including commercial banks will be continuously supported to issue capital bonds and improve the capability of credit supply. Secondly, supporting system and infrastructure will be improved to raise the issuance efficiency of bond. As the new *Securities Law* puts into practice, the requirements for corporate bond issuance are lifted, so implementing the registration-based system with information disclosure at its core will markedly simplify the review procedure and improve the bond issuance efficiency, conducive to corporate financing and market-based operation of bonds. Thirdly, the innovation of bond market products and instruments will be accelerated to elevate the efficiency of resource allocation in the bond market, increase the liquidity of bonds and create more opportunities of financing for enterprises. Fourthly, interconnectivity in the bond market will be advanced to facilitate the domestic and overseas investors. Major efforts are made to strengthen institutional connection between the interbank market and exchange bond market, to coordinate the supervision and regulation over important financial infrastructure and to further advance the unification of qualification requirements for rating business in the bond market. Fifthly, institutional and mechanism construction will be strengthened to sustainably improve the capability of risk prevention. Specifically, the expectation of bond market will be stabilized; the dynamic monitoring of default risks will be performed; the market-based disposal rules for bond transfer, replacement and extension will be improved; and the bond escape and revocation will be severely cracked down. Sixthly, the system will be continuously optimized to promote the opening-up of the bond market at a higher level. To be specific, the type and amount of overseas investors will be expanded; efforts will be made to gradually help domestic settlement agent banks to transit into custodian banks; channels for overseas institutional investors to enter China's exchange bond market will be expanded; and the formulation of administrative measures for Panda Bonds in the exchange market will be explored. The bond market will focus on three major tasks of serving the real economy, preventing and controlling financial risks and deepening the financial reform. It will further strengthen the institutional construction and product innovation with two vehicles of innovation-driven development and reform-and-opening-up, propel the high-quality development of the market and give a better play to the resource allocation.

BOX 3 The commercial banks issue capital supplement bonds without fixed terms

Regulatory capital of commercial banks refers to the funds that commercial banks own, or can permanently use, which plays an important role in maintaining the normal operation and resist the systemic financial risks. Under current regulatory framework, it includes the Common Equity Tier 1 capital (CET1), additional Tier 1 capital (AT1) and Tier 2 capital. The perpetual bonds, or capital bonds without fixed terms, do not have fixed terms to maturity, or their maturity is the duration of the institution. Therefore, they can to some extent absorb the loss and be classified as AT1. In international practice, the perpetual bonds are common instrument for commercial banks to supplement their AT1.

In recent years, influenced by many factors, commercial banks have faced increasing capital restraint. From a macro perspective, the international regulatory standards become more stringent, and domestic regulatory rules keep improving, therefore, commercial banks are required to reserve ample regulatory capital. Micro speaking, factors including the fast growth of risk-weighted assets, the capital occupation caused by business transition, and the systemic significance upgrade also add up to their pressure to replenish capital.

To ensure that commercial banks can sustainably support the real economy, the FSDC proposed to issue perpetual bonds to replenish Tier 1 capital. Issuing perpetual bonds by commercial banks can be beneficial in three aspects. Firstly, it is conducive to capital replenishment for commercial banks as well as the optimization of capital structure and the robust, sustainable development. Secondly, it can further increase the credit supply to the real economy, boost financing support to MSBs and private businesses, prevent and diffuse financial risks, thus better serving the real economy. Thirdly, it is beneficial to increase the variety of products in the bond market, therefore to satisfy the preference of different investors, help build a multi-layer capital market and promote the in-depth development of the market.

To support the issuance of perpetual bonds, the PBC and CBIRC have introduced several measures. On one hand, the PBC launched CBS. With this tool, primary dealers of open market operations can trade their perpetual bonds issued by eligible banks for central bank bills from the PBC. It can increase high-quality collaterals for financial institutions holding banks' perpetual bonds, raise the liquidity of perpetual bonds, and strengthen the market's willingness to purchase such bonds, therefore supporting the banks to replenish capital by issuing perpetual bonds. On the other hand, the CBIRC permitted insurers to invest in the capital bonds without fixed terms issued by commercial banks, which enables wider allocation of insurance funds and supports the capital replenishment of commercial banks.

In 2019, a total of 15 commercial banks successfully issued perpetual bonds with a cumulative amount of RMB 569.6 billion. Among them, 3 small and medium-sized banks issued RMB 14.6 billion, apart from state-owned large banks and joint-stock commercial banks. Issuance by small and medium-sized banks is of great significance, and more small and medium-sized banks will replenish capital through this channel in the future. As of end-2019, the commercial bank's capital adequacy ratio of CET1 and the capital adequacy ratio were 11.95 and 14.64 percent respectively, up 0.37 and 0.44 percentage points year on year, while the AT1 witnessed marked growth.

BOX 4 Advance the building of bond default disposal mechanism

In 2019, the PBC, CSRC and other authorities, in line with the market-based and law-based principle, guided the NAFMII to improve relevant systems, give full play to the core role of trustees and the bondholders' meeting system in bond default disposal, promote the interbank bond market trading platform, bond custodian and settlement institutions and exchanges to conduct matured defaulted bond transferring business, and continuously improve the bond default disposal mechanism.

1. Improve the bond default disposal mechanism

The NAFMII organized the market participants to formulate the Guidelines on Default and Risk Resolution of Debt Financing Tools of Non-Financial Enterprises in Interbank Bond Market (Zhongshixiefa〔2019〕No.161), the Guidelines on Custodian Business of Debt Financing Tools of Non-Financial Enterprises in Interbank Bond Market(Trial) and its supporting documents (NAFMII Announcement〔2019〕No.24) and the Rules on Holders' Meeting of Debt Financing Tools of Non-Financial Enterprises in Interbank Bond Market (Amendment) (NAFMII Announcement〔2019〕No.25), which were released and put into effect on December 27th, 2019. These regulations focused on the default disposal in the interbank market, providing institutional support for the sound disposal mechanism of debt financing defaults, definition of disposal approaches to bond defaults and diversified market-based disposal means. In June 2019, the CCDC released the Guidelines on Collateral Default Disposal Business (Trial) to regulate the procedure of collateral disposal after the bond default. The market participants, if encountering bond defaults when engaging in business that uses the bond under custody of the CDCC as the performance guarantee, may entrust the company to conduct collateral default disposal (including negotiated transfer, auction, and sell-off) for the realization of the real rights of security. In August 2019, the first auction for collateral default disposal was completed where *the pledgee disposed the pledged bonds to the full amount and the funds gained from the auction exceeded the amount of debt to repurchase the underlying assets (penalty interest included), which effectively guaranteed the rights and interests of the pledgee. In 2019, the CFTES and Beijing Financial Assets Exchange (CFAE) piloted in transference services for defaulted bond upon maturity through anonymous auction and dynamic pricing respectively. As of end-2019, a total of four auctions for defaulted bond upon maturity were carried out in the interbank bank by anonymous auction, covering 13 underlying bonds, and 20 transference quotes were published by means of dynamic pricing, covering 8 underlying bonds, with a total face value of RMB 0.94 billion.*

In the exchanges, in May 2019, the SSE and SZSE released the Notice on Issues Concerning Providing Transference and Settlement Services for Specific Bonds During Listing (Shangzhengfa〔2019〕No.59) and Notice on Issues Concerning Providing Transference and Settlement Services for Specific Non-Publicly Offered Bonds During Listing (Shangzhengfa〔2019〕No.60) to foster the institutional arrangements for transference in line with the characteristics of specific bonds and the demands of market-based risk resolution. It created market conditions for all parties concerned in the risk resolution, and provided platforms for the exploration of the market-based, law-based default disposal mechanism. Throughout 2019, the exchanges had offered transference services for 115 specific bonds with a trading turnover of RMB 3.093 billion and a total face value of RMB 6.141 billion for transferred bonds.

2. Enhance the disposal mechanism of repo transaction defaults

In June 2019, the CFETS released the Detailed Rules on the Implementation of the National Interbank Funding Center for Repurchase Default Disposal (Trial) to clarify the procedure of repo defaulted collateral disposal business, effectively prevent the local risks from spreading, safeguard the interests of non-defaulting parties and maintain the market confidence. In 2019, the CFETS received altogether over 60 applications for auction on repo default disposal, organized 16 rounds of anonymous auctions for repo default disposal in 14 auctions, and saved the loss for non-defaulting parties in nearly 100 pledged repo transactions. Besides, the multi-round auction was introduced into the mechanism to innovatively address the difficulties in disposing collaterals with low credit levels under the premise of keeping risks controllable. In the meantime, the SHCH drafted the Detailed Rules on the Implementation of the Shanghai Clearing House for Bond Repurchase Default Disposal (Trial) and the Detailed Rules on the Implementation of the Shanghai Clearing House for Bond Repurchase Auction Disposal (Trial) (Qingsuansuofa〔2019〕No.94) to clarify the scope, approach and procedure for default disposal, and specify the right of creditor to apply for disposal, so as to safeguard the rights and interests of the creditors. The detailed *rules for repo default disposal are conducive to the efficiency improvement and rebounds in confidence and willingness for financing of the sponsors. It will help restore the financing ability of small and medium institutions and alleviate the blocked transmission of liquidity. In September 2019, the CFAE issued the Detailed Rules on the Implementation of Beijing Financial Assets Exchange for Bond Repurchase Default Disposal (Trial) (Beijinsuofa〔2019〕No.118), specifying that the non-defaulting party in the repo transaction can entrust the CFAE to dispose the repo bonds concerned through market-based auctions by dynamic pricing.*

Chapter 4 Stock Market

In 2019, the Chinese stock market saw overall sound operation. The total financing volume of the SSE and SZSE increased sharply, the secondary market picked up vitality, the overall market saw less fluctuation, and major indexes of the SSE and SZSE went up in general. Major reforms were implemented, for instance, the establishment of STAR Market and the pilot program of registration-based system, to steadily advance the reform and innovation of the capital market. The two-way opening-up of markets, institutions and products was continuously deepened to steadily promote opening-up at a higher level. Measures to enhance the quality of listed companies and serve the high-quality development of the real economy achieved notable results, with the “barometer” function of the capital market further developed. Initial progress was secured in firmly guarding against risks, strengthening regulation and preventing and defusing risks in key areas of the capital market.

4.1 Performance of the stock market

4.1.1 Share issuance and financing

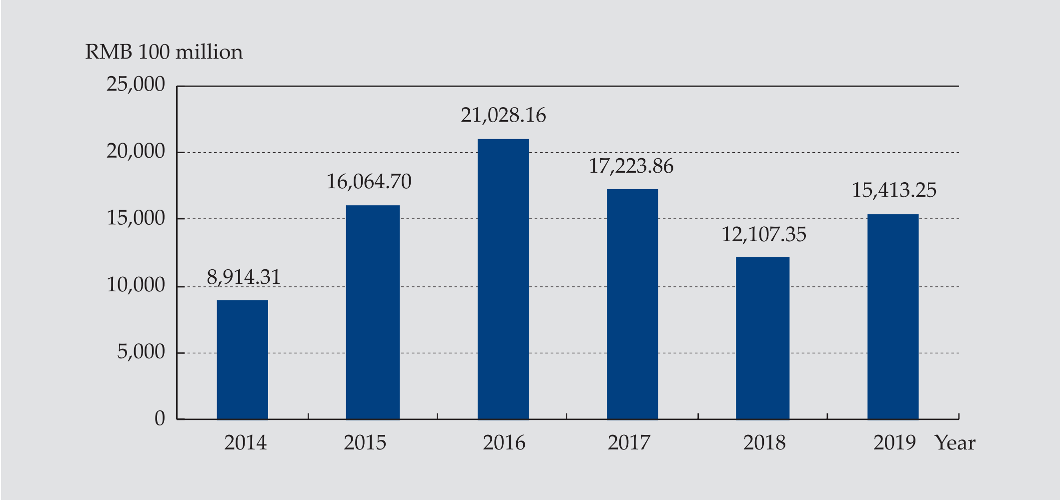
In 2019, the total financing volume of the SSE and SZSE increased sharply[①]. A total of 637 enterprises raised funds on the SSE and SZSE through IPO, additional shares issuance, share allotment, preferred stocks issuance, convertible bond issuance and exchangeable bond issuance, up 25.15 percent from the previous year, with a total financing volume of RMB 1,541.325 billion, up 27.30 percent. The volume of funds raised through IPO on the SSE and SZSE saw a big rise. Among these enterprises, 203 raised funds through IPO, up 93.33 percent year on year and the total financing volume of IPO stood at RMB 253.248 billion, up 83.76 percent year on year. A total of 248 enterprises issued additional shares, down 7.12 percent from the previous year, and the volume was RMB 679.82 billion, down 9.64 percent.

Issuance of preferred stocks, convertible bonds and exchangeable bonds increased, while share allotment decreased. A total of six listed companies issued preferred stocks, one fewer than the previous year, with an issuance volume of RMB 255 billion, up 88.92 percent. Besides, 106 listed companies issued convertible

① The SSE and SZSE markets in Chapter 4 refer to China’s A-share markets. The data comes from Wind Info, unless otherwise specified.

bonds, up 37.66 percent, with a volume of RMB 247.781 billion, up 131.33 percent year on year. A total of 62 listed companies issued exchangeable bonds, up 63.16 percent year on year, with a volume of RMB 83.138 billion, up 49.39 percent. A total of 9 listed companies completed share allotment, 40 percent lower than the same period last year, involving a volume of RMB 13.388 billion, down 41.36 percent year on year.

Figure 4.1 Total financing volume in the stock market from 2014 to 2019



4.1.2 Stock trading and holding

Throughout the year, turnover of A-shares on the SSE and SZSE totaled RMB 127.36 trillion, a remarkable year-on-year increase of 41.34 percent, including RMB 53.1 trillion from SSE Main Board, up 32.22 percent year on year, RMB 1.3 trillion from SSE STAR Market, with an average daily turnover of RMB 12 billion, RMB 46.56 trillion[①] from SZSE Main Board, up 24.74 percent year on year, RMB 31.07 trillion from SZSE SME Board, up 52.56 percent year on year, and RMB 23.16 trillion from SZSE ChiNext Board, up 45.79 percent year on year. Trading volumes by institutional investors accounted for 23.99 percent and 20.38 percent of the total in the SSE and SZSE markets respectively, while those of individual investors accounted for 76.01 percent and 79.62 respectively. Individual investors dominated stock trading in both SSE and SZSE markets.

As of end-2019, the stock negotiable market value of A-shares owned by institutional investors in the SSE market stood at RMB 23.9 trillion, accounting for 79.41 percent, down 0.97 percentage points from the previous year; the market value held by individual investors in the SSE market was RMB 6.19 trillion, accounting for 20.59 percent, up 0.97 percentage points

① The SZSE market data comes from the central database of the Shenzhen Stock Exchange, unless otherwise specified.

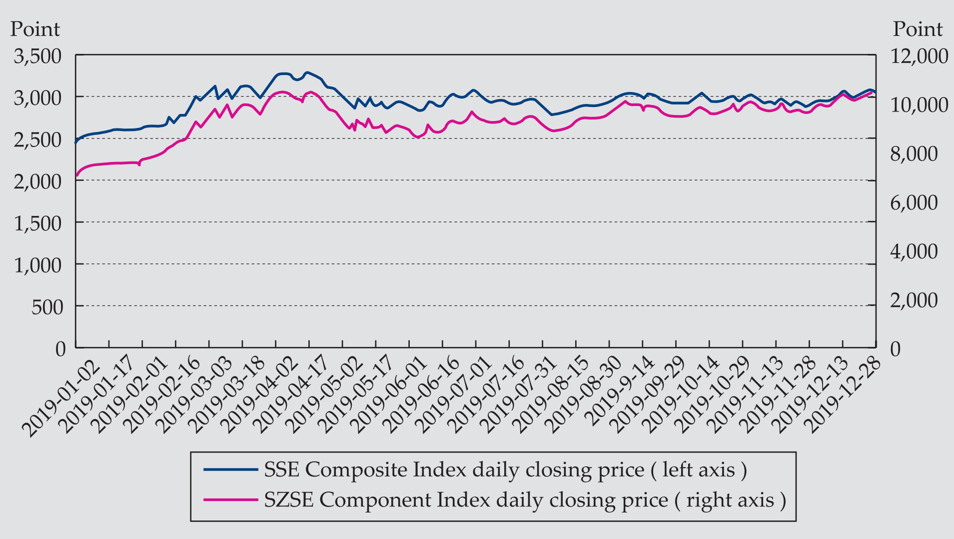
from the previous year; the negotiable market value of A-shares owned by institutional investors in the SZSE market stood at RMB 11.23 trillion, accounting for 56.45 percent, increased by 3.69 percentage points from the previous year; and the market value held by individual investors in the SZSE market was RMB 8.66 trillion, accounting for 43.55 percent. Institutional investors dominated stock holding in both SSE and SZSE markets.

4.1.3 Stock indexes and market fluctuations

In 2019, major SSE and SZSE indexes went up across the board. In particular, the SSE Composite Index went up amid fluctuations after bottoming out at the beginning of the year, with a yearly high of 3,288.45 points and the biggest increase of 31.9 percent. The SSE Composite Index gained 22.3 percent in 2019, closing the year at 3,050.12 points. The SZSE Component Index, the SZSE SME Board Index and the ChiNext Board Index all went up amid fluctuations, and closed at 10,430.77, 6,632.68 and 1,798.12 points respectively at the end of the year, rising by 44.08 percent, 41.03 percent and 43.79 percent in the year.

In 2019, the stock market was less volatile. In particular, the yearly change of the SSE Composite Index reached 34.7 percent, down 12 percentage points from the previous year. The SSE Composite Index experienced a change of above 1 percent for as many as 66 days, 16 days fewer than the previous year. The volatility of asset returns and time varying volatility of A-shares in the SZSE in 2019 were 39.39 basis points and 47.09 basis points respectively, down 14.83 percent and 0.24 percent from the previous year, being the low level in the past decade.

Figure 4.2 Movements of SSE and SZSE Main Boards indexes in 2019



(Source: Wind Info)

4.2 Main features of the stock market operation

4.2.1 Financing structure was continuously optimized with greater support to sci-tech enterprises

In 2019, a total of 123 enterprises made IPOs on the SSE, 66 more than the previous year and raised RMB 184.4 billion, up 113 percent. Among these enterprises, 70 were listed on the SSE STAR Market and raised RMB 82.4 billion, accounting for 45 percent.

Since 2019, a total of 78 enterprises made IPOs on the SZSE, 30 more than the previous year and raised RMB 64.588 billion, up 25.86 percent. Among these enterprises, 47 were high-end technology companies and raised RMB 41.059 billion. As of end-2019, among the 2,205 listed enterprises on the SZSE, over 1,000 were high-tech enterprises with a total market value of over RMB 20 trillion. The SZSE also worked with the Ministry of Science and Technology to launch a service platform for investment and financing of innovation and entrepreneurship, to provide financing services for more than 10,000 innovative and high-tech enterprises. According to incomplete statistics, over 1,100 enterprises have successfully raised funds via the platform, raising funds of more than RMB 35 billion.

4.2.2 The focus of market operations shifted upward, and large-cap stocks outperformed small- and mid-cap stocks

In 2019, the SSE and SZSE markets saw valuation recovery, and the sentiment was gradually digested by the markets. SSE large-cap, blue-chip stocks were the top gainers, and the SSE 50 Index, SSE 100 Index and SSE 150 Index, which represent large-, mid- and small-cap stocks, increased by 33.6 percent, 26.5 percent and 21.5 percent respectively. As of end-2019, in the SSE STAR Market, over 90 percent of the enterprises saw higher closing prices than their offering prices, with an average increase of 82.4 percent and a median increase of 67.8 percent.

The SZSE Component Index, SZSE SME Board Index and the ChiNext Board Index went up amid fluctuations throughout the year, with an increase of over 40 percent for each, while the SZSE SME Innovation Index, SZSE 700 Index and SME Prime MKT Index rose less than these three indexes, by 26.86 percent, 27.68 percent and 34.11 percent respectively. The median price rise/fall of list enterprises with a market value over RMB 100 billion, a market value of RMB 50 billion to RMB 100 billion, a market value of RMB 10 billion to RMB 50 billion and a market value below RMB 10 billion stood at 72.92 percent, 85.13 percent, 56.57 percent and 22.41 percent respectively. Large-cap stocks (enterprises with a market value over RMB 50 billion) outperformed small- and mid-cap stocks (enterprises with a market value below RMB 50 billion).

4.2.3 Market operation displayed different features by phases, and risk appetite was first high and then grew stable

Throughout 2019, the stock market rose rapidly, fell back sharply and then experienced price shocks and consolidation. In the first quarter, against the backdrop of relatively favorable internal and external environments, the market saw valuation recovery, higher risk appetite of investors and big gains in stock indexes. After May 2019, due to escalating risks of China-US trade disputes and the market's demand for accumulated endogenous adjustment, the market price saw a callback, risk aversion mounted and the indexes fell from their highs. From the second half of 2019, because of increasing downward pressure on China's macroeconomy, repeated China-US trade frictions, as well as the implementation of countercyclical policy domestically, the market went up amid shocks, risk appetite of investors remained stable and the prices gradually rose. At end-2019, upon the conclusion of the China-US phase-one economic and trade agreement and adoption of the revised Securities Law, market expectations were stable, investor confidence was stabilized and indexes enjoyed sustained rise.

4.2.4 Opening-up of the stock market was continuously advanced with greater influence of professional institutions in the market

With the two-way opening-up of the capital market and the interconnectivity of stock markets and the implementation of other policy measures, and as A-shares were included in MSCI's and FTSE Russell's indexes, the inclusion factor of A-shares in overseas indexes was further raised. As of end-2019, value of circulating shares held by foreign capital through QFII, RQFII and Shanghai Stock Connect in SSE accounted for 4.03 percent of the total free float market cap, higher than 3.16 percent in 2018; in 2019, consolidated trading volume of foreign capital in SSE accounted for 5.58 percent of the total trading volume in SSE, higher than 4.37 percent in 2018. Value of circulating shares held by foreign capital in SZSE accounted for 4.48 percent of the total free float market cap, higher than 3.11 percent in 2018; in 2019, consolidated trading volume of foreign capital in SZSE accounted for 3.95 percent of the total trading volume in SZSE, higher than 2.79 percent in 2018. As of end-2019, the total free float market cap of A-shares owned by institutional investors in the SSE market accounted for 79.41 percent, which remained at a high level; the total free float market cap of A-shares owned by institutional investors in the SZSE market accounted for 56.45 percent, up 3.69 percentage points from the previous year. Institutional investors, including foreign investors, had a greater influence in the SSE A-share market and SZSE A-share market.

4.3 Reform and innovation of the stock market

4.3.1 STAR Market was established, and the pilot registration-based system was launched

On November 5th, 2018, Chinese President Xi Jinping announced that "we will launch a science and technology innovation board at the Shanghai Stock Exchange and experiment with a registration system for listed companies. We will also support Shanghai in cementing its position as an international financial center and a hub of science and innovation, and steadily improve the fundamental institutions of its capital market." On June 13th, 2019, the SSE STAR Market was officially launched, and the pilot registration-based system was implemented smoothly. As of end-2019, 70 companies listed on the SSE STAR Market, with a total of RMB 82.4 billion funds raised, maintaining the accessibility of financing. The median third-quarter revenue growth of companies on the SSE STAR Market stood at 21.7 percent and the median net profit growth was 26.1 percent, both significantly higher than that on the SSE Main Board during the same period. STAR firms' growth was impressive. Since the launch, SSE STAR Market has witnessed smooth trading. New stocks enjoyed relatively sufficient game in the first five days after the IPO, while prices moderated their rise/fall fast and the turnover rate quickly dropped to a more reasonable level. Price limits were rarely seen without big price swings. The pricing system was efficient.

4.3.2 Rules for share repurchase and material asset restructuring of listed companies were revised

In January 2019, the SSE officially promulgated the *Detailed Rules for Listed Companies Implementing Share Repurchase* (hereinafter referred to as the *Repurchase Rules*). Based on the *Repurchase Rules*, the SSE improved the system of sales of repurchased shares, intensified the restrictions on shareholding reduction and disclosure obligations during the repurchase period for special market participants, regulated matters such as changing the purpose of repurchased shares. On the one hand, the measures such as increasing the share repurchase situations, expanding the sources of repurchase funds and appropriately simplifying the implementation procedures paved the way for the listed companies to repurchase shares more flexibly and conveniently. On the other hand, to tackle potential violations, such as "dishonest" repurchase, a dual prevention mechanism combining market constraints and regulatory interventions was established so as to ultimately facilitate the formation of a long-term, win-win and sustainable market mechanism.

On October 18th, 2019, the CSRC officially issued and implemented *the Decision on Amending Measures for the Administration of the Material Asset Restructuring of Listed Companies* (hereinafter referred to as the *Restructuring Rules*). The *Restructuring Rules* mainly covers the following modifications. First, it simplifies criteria for the determination of listed companies' asset restructuring and listing, and removes the indicator of "net profits". Second, it reduces the calculation period under the "initial aggregate principle" to 36 months. Third, assets in relation to high-tech industries and strategic emerging industries in compatible with national strategies are allowed to list on the ChiNext Board through restructuring and listing, while other assets are forbidden to do so. The listed companies on the ChiNext Board should follow the provisions in the

Restructuring Rules and other regulations in restructuring the material assets. Fourth, it resumes the supporting financing for asset restructuring and listing. Fifth, more contents are added to performance compensation agreement and promised regulatory measures for material asset restructuring to enhance accountability. In addition, it arranges for the orderly linkup of regulatory rules for STAR firms' M&A and simplifies disclosure requirements on the designated media. Based on the *Restructuring Rules*, in December 2019, the SSE issued the *Business Guidelines for Information Disclosure on the Material Asset Restructuring of Listed Companies*, which greatly simplified the requirements for information disclosure，reduced the information disclosure costs for the companies and improved the efficiency of M&A and restructuring. The SZSE implemented market-oriented reforms in M&As and restructurings of material assets, with 150 restructurings disclosed throughout the year and a trading volume of RMB 513.426 billion, up 8.62 percent year on year. A total of 97 material asset restructuring were completed with a trading volume of RMB 432.573 billion (excluding supporting financing), up 87.50 percent year on year. M&As and restructurings yielded positive results.

4.3.3 The fund market was innovated and developed

In 2019, multiple ETFs that serve national strategies and facilitate reform and innovation were successfully listed on the SSE, including two SOE Restructuring ETFs, three SOE Innovation Driven ETFs, three Belt and Road ETFs, the first Yangtze River Delta ETF and Bosera CSI Sustainable Development 100 ETF. Throughout 2019, 193 ETFs were listed, up 44 percent year on year, with market value of RMB 596.3 billion, an increase of 37 percent from the end of 2018. The annual turnover of the SSE ETF market reached RMB 6.8 trillion. ETF market embraced 2.6 million investors, doubling from 2018. The trading volume of the SSE ETF market topped the Asian market and its market scale ranked the second.

In 2019, new ETFs were listed on the SZSE successively, including Yinhua SOE Struct Reform ETF, ChinaAMC CSI Sichuan SOE Reform ETF, Fullgoal CSI Central-SOE Innovation Driven ETF, Hony Horizon CNI Leading Private-owned Enterprises 100 ETF, Guangdong-Hong Kong-Macao Greater Bay Area-themed ETFs and other products that meet the demand of the real economy, facilitate innovation-driven development and SOE reform, support the development of private businesses, and serve the national strategies such as Guangdong-Hong Kong-Macao Greater Bay Area construction. Substantive progress has been made in the development of cross-market bond ETFs with physical redemption, which effectively facilitates the interconnectivity and coordinates development of the interbank bond market and the exchange market. The first batch of domestic commodity futures ETFs, including ChinaAMC Soybean Meal Futures ETF, CCB Principal Asset Management Esunny ZCE Energy & Chemical Futures ETF, and Dacheng Fund Non-ferrous Metal Futures ETF were listed on the SZSE, providing investors with tools to improve asset allocation with commodity futures. In 2019, 70 ETFs were listed on the SZSE fund market with market value of RMB 115.7 billion, an increase of 32 percent and 58 percent respectively from 2018. The annual turnover of the SZSE ETF market reached RMB 1.9 trillion.

4.3.4 Market regulation was strengthened

4.3.4.1 Regulation over information disclosure of listed companies was enhanced

In 2019, a total of 1,200 risk statements were disclosed by listed companies as required by the SSE. The SSE drew attention to or performed inspections on the stock trading of listed companies for 570 times, which included the cases that caused great public concerns, such as the missing management of *ST Shanghai Zhongyida Co., Ltd. and China Lantian's acquisition of Eastern Gold Jade. The SSE enhanced review of key issues in regular reports, paid close attention to companies with both high assets and high liabilities and improper earnings management, and enhanced the transparency of financial disclosure. The SSE vigorously curbed the hype around industrial hemp and blockchain, strengthened regulation of M&As and restructurings, closely followed "dishonest" M&As and restructurings with "high valuations, expected performance and goodwill", which significantly reduced the hype on M&As and restructurings. The SSE advanced the special program for improving the quality of listed companies, increased training of listed companies, enhanced supervision on the major shareholders, directors, supervisors, and senior executives of listed companies, and urged compliance. The SSE enhanced the co-movement between both review and enquiry on regular information disclosure and on-site inspections, and advanced "penetrating" verification. The SSE firmly safeguarded the market order.

In 2019, the SZSE sent 3,100 letters of all kinds for regular supervision, including letters of concern on abnormal trading behaviors and letters of inquiry on regular report review, issued 190 letters of concern to intermediaries such as accounting firms, and handed over 90-plus clues, covering financial accounting, compliance and corporate governance of listed companies, so as to eradicate malicious concealment, news jacking, speculation and other behaviors in listed companies' announcements that would reflect badly on the market. Throughout the year, the SZSE handled 33 cases on disclosure violation of material matters, punished listed companies and the persons in charge in 48 such cases, guided listed companies to improve their quality of information disclosure and disclose information in a truthful, accurate, and complete manner.

4.3.4.2 Supervision on violations of rules and regulations in the market was strengthened

In 2019, the SSE comprehensively performed its duties as a regulator, enhanced the whole-process regulation on transactions and strictly cracked down on illegal actions. First, taking the advantage of real-time, panoramic and penetrating monitoring on transactions, the SSE identified and eradicated abnormal transactions and illegal actions in a timely and decisive fashion. Second, the SSE focused on the priorities of regulation, inspection and enforcement, verified and reported clues of insider trading and market manipulation in an accurate and efficient manner, and supported law enforcement agencies with the investigation and punishment over big and important cases that were new in mode, wildly influential and most harmful, such as the case of market manipulation by Luo Shandong, and maintained a tough stance on illegal actions. Third, the SSE invested extensively in technological supervision resources, integrated artificial intelligence, big data, cloud computing and other advanced technologies into the surveillance system for transactions, built a technological regulatory system with front-line regulation as the core and data mining as the tool, and elevated the efficiency of inspection on illegal actions, to greatly facilitate technological empowerment of regulation.

In 2019, the SZSE issued 215 disciplinary action decisions, up 39.61 percent from 2018. The regulation mainly focused on listed companies' occupation of proceeds, illegal guarantee, disclosure violation of material matters, failure to fulfill the commitments and other illegal behaviors. In terms of regulation on trading, the SZSE took self-discipline regulation measures on 1,504 abnormal trading behaviors throughout the year, checked 372 material matters of listed companies, and provided clues for 176 alleged illegal cases. First, the SZSE continued to implement strict regulation based on laws and regulations. In 2019, the SZSE further improved its self-discipline system and commenced the revision of rules such as the *Guidelines for the Standard Operation of Listed Companies*, and enriched the regulatory basis for the "rule-based" disciplinary actions. Second, the SZSE focused on targeted oversight over the "key few." For illegal cases of listed companies dominated by key entities such as the controlling shareholders, de facto controllers and chairmen of the board, the SZSE highlighted the accountability of decision-makers and key persons in charge for illegal actions, and continued to pursue more just and fair disciplinary actions. Third, the SZSE further expanded the punishment spectrum. The SZSE, for the first time, suspended the stock pledge and repo transactions of nine members who violated the rules in the stock pledge transactions for three to nine months to guard against potential pledge risks and achieve the "full coverage" of regulations. Fourth, the SZSE still took listed companies and persons liable in charge as regulatory focuses. In 2019, the SZSE took disciplinary actions against 112 listed companies and 693 persons liable, an increase of 31.76 percent and 13.42 percent respectively over last year. In the year, a total of 13 directors, supervisors and senior management members who committed serious violations were publicly determined as unsuitable to relevant positions, and members of SZSE were punished by suspending trading authority for the first time.

4.3.4.3 Efforts were made to ensure that members assume their intermediary responsibilities

In 2019, the SSE released the *Rules of SSE for*

Management of Members (Revised in 2019) to improve the system for members' management of customers, strengthen self-discipline management of members, and enhance investor protection. Meanwhile, the SSE constantly improved the system of key monitored accounts, set up supporting mechanisms and facilitated members in coordinated regulation, so as to deliver better regulatory synergy.

In 2019, the SZSE gave full play to members' role as "gatekeepers" of the securities market. First, the SZSE revised and released the *Member Management Rules*, required members to enhance management of customer transaction behaviors, ensure "ex-ante Know-Your-Customer, on-going transaction monitoring and ex-post abnormalities reporting", to further specified members' responsibilities. Second, the SZSE released the *Reference for Members' Monitoring of Customer Stock Trading Behaviors (Trial)* to support members to improve their transaction monitoring system and give full play to the self-regulatory role of the industry. Third, the SZSE initiated on-site inspection on 5 members' management of customer transaction behaviors and off-site inspection on 97 members. Meanwhile, the SZSE organized special trainings on customer management for securities companies and promoted members to earnestly fulfill their responsibilities. Fourth, the SZSE increased penalties for illegal actions, took disciplinary actions against 9 members who violated the rules in the stock pledge transactions, and took 14 self-discipline regulation measures on 13 members due to customer and system management violations.

4.3.4.4 Advanced technologies were adopted to empower market oversight

In 2019, the SSE, based on its big data platform, comprehensively integrated the data of trading volume and position, account opening, trading terminal and previous supervision, as well as Internet public opinions, companies' announcements and other information in the surveillance system, giving full play to the joint analysis of the oversight big data. Besides, the SSE used big data processing, smart analysis and other new technologies, such as machine learning, knowledge mapping and text mining, which further improved data visualization, operational automation and model intelligence of technological surveillance.

In 2019, the SZSE comprehensively improved technology-based regulation and smart oversight, realized remote market analysis and monitoring in real time, and monitored the risks and violations of innovative businesses in a timely manner. In terms of risk identification, regulatory technologies were adopted by the SZSE to help with risk identification covering multi-tiered market entities, which effectively reduced the work of monitoring numerous long-tail institutions and improved the efficiency of risk identification. As for regulation on trading, the SZSE steadily advanced the building of a new surveillance system that takes advantage of big data technologies including steam computing, data mining and visualization, and explored the intelligent applications, such as warning on connected account consolidation, investor profile and securities profile. On supervision over listed companies, the SZSE launched its self-developed program “corporate portrait” in phase I and II, which realized the cross-comparable analysis of information disclosure, public opinions and reported information, so as to prevent and mitigate risks in advance. For identifying related parties, “corporate portrait” included huge amounts of data of market entities with over 55 million records, and the data sources were gradually expanded. It supported functions such as search for relations of natural persons and analysis of capital groups, so as to effectively identify hidden related party relationship of market entities.

4.3.5 Multiple measures were taken to forestall and defuse major financial risks

4.3.5.1 Stock pledge risks were prevented and resolved

First, the risks were dealt with in a classified way, listed companies where controlling shareholders pledged a large proportion of shares were prioritized, and a special working mechanism was established to update ledgers on a regular basis and dynamically identify risks. Second, breakthroughs were made in handling individual cases, actual difficulties in the bailout were learnt through multiple ways, and policy space was created to form a diversified bailout model. Third, special trainings and seminars were organized and one-to-one bailout services were provided to give prioritized support to those well compliant companies with core business that were in difficulties, and help them defuse risks in a market-based, and law-based manner. Fourth, targeted oversight over the “key few” were strengthened, occupation of proceeds was strictly supervised. Meanwhile, the guidelines for formats of announcements on shares pledge was revised to guide the shareholders of listed companies to prudently conduct high-proportion pledges.

As of end-November, 2019, the outstanding financing through stock pledged repo on the SZSE and SSE stood at RMB 942.9 billion, down 11.8 percent from end-Q2, continuing the downward trend since February 2018. The total market value of the pledged stocks of the stock pledged repo markets in Shenzhen and Shanghai was RMB 1.8 trillion, accounting for 3.3 percent of the entire A-share market capitalization, down 0.6 percentage points from end-Q2 and down 2.9 percentage points from the peak value at end-2017. The business scale of stock pledged repo constantly declined and the overall market risks were greatly reduced.

4.3.5.2 Prudent measures were taken to address risks associated with delisting of listed companies

Comprehensive investigation of companies that might be suspended from listing was carried out, and information disclosure and risk alert were strengthened. Positive publicity of compulsory delisting was promoted to enhance market entities’ understanding of the delisting mechanism and further prevent and defuse risks associated with delisting of listed companies. The SSE and SZSE strictly enforced the delisting system and effectively checked the delisting exit to facilitate the timely elimination of the "zombie enterprises" and "shell companies", strive to cultivate the market ecology of the survival of the fittest, urge the listed companies to concentrate on the core business and improve operations, and maintain the healthy development of the securities market. In particular, the SSE made proper decisions to approve the voluntary delisting of *ST Shanghai Potevio Co., Ltd. and the compulsory delisting of *ST Hareon Solar Technology Co., Ltd., terminate the listing of shares in *ST Dalian Dafu Enterprises Holdings Co., Ltd., terminate the listing of shares of Beijing Huaye Capital Holdings Co., Ltd., and suspend the listing of the shares of *ST Shanghai Zhongyida Co., Ltd. and *ST Jiangsu Protruly Vision Technology Group Co., Ltd. Meanwhile, the SSE managed well the supervision on bankruptcy reorganization of five listed companies and released delisting risk warning announcements. The SZSE made decisions on mandatory delisting of seven companies that triggered the conditions of mandatory delisting, five more than the previous year. In particular, the SZSE made a decision on mandatory delisting of *ST Changsheng Bio-technology which committed major violations, which was the first in the market, and terminated the listing of shares of four companies, including *ST Sino Great Wall Co., Ltd., because their closing prices were continuously lower than the par value. Regular delisting mechanism of listed companies was gradually improved.

4.3.5.3 Risk resolution plans were improved

In 2019, the SSE revised and released the *SSE Administrative Measures of Risk Management (Revised in 2019)*, incorporating the best practices of risk management and the realities. On risk resolution, the SSE formulated the *SSE System for Prevention and Control of Major Risks* to specify the definition of major market risks, the objectives and principles of risk prevention and control, organizational structure of risk prevention and control, risk monitoring and early warning and counter-cyclical adjustments. Meanwhile, the SSE formulated the *SSE Emergency Plan for Prevention and Control of Major Risks* to guide the urgent analysis of major risks arising from big swings in the market, and major risks in related business lines, market institutions or related markets, and the emergency response for risk prevention and control.

In 2019, the SZSE set up the Risk Management Committee, organized and coordinated prevention and control of inter-agency, cross-product, and cross-market risks, and coordinated the SZSE's risk management work. The SZSE formulated and released the *Guidelines for Preparation of Emergency Plan*, covering the trial implementation of critical emergency plan review mechanism and coordinated arrangements of emergency exercise, to strengthen professional management of risk emergency plans. Regular and special risk assessment measures were released to improve the regular risk assessment mechanism, prevent and control cross-market risks and international risk spillovers, conduct stress tests, enhance risk assessment mechanism for innovative business, and organize special inspections on operational risks, so as to ensure the soundness of the risk prevention and control system.

4.3.5.4 Statistics and monitoring of the securities market were improved

First, the statistics and monitoring index system of the market was improved and the R&D of monitoring and early warning models was advanced. The SSE Business Climate Index based on multiple risk indicators was established according to the researches on the fundamentals, investor sentiment and the liquidity of the market. The alarm threshold of the proportion of financing purchases was calculated in a timely manner, ETF trading was closely followed, and new business analysis indicators such as options were developed and designed in advance. The R&D of risk warning model was advanced and the TRL and several warning indexes were calculated. Second, the dynamic risk monitoring was strengthened and pre-evaluation of innovative business was enhanced. The mechanism for dynamic risk monitoring was established. The mechanism for intraday quick response and hot issues tracking was optimized, and the prediction and study of sensitive periods and critical periods was strengthened. Priorities were given to the flow monitoring of overseas funds, leveraged funds, and incremental funds. Analysis and research on trading behaviors was enhanced. Pre-evaluation of risks of innovative business was consolidated and response plans were established in advance to ensure the smooth launch of innovative business. Third, a unified risk monitoring platform was gradually set up to improve the smart risk management. Big data technologies, such as data mining and text mining, were used to develop risk monitoring systems for market operations, stock pledges, margin trading and bond defaults, and continuously advance the building of risk management information system. Therefore, a unified risk management and monitoring and early warning platform was built step by step, with smart risk management improved. Risk monitoring of key businesses was informationized, standardized and modularized, with the focus on risks and problems, so as to effectively support risk monitoring, prediction and forward-looking judgments. The multi-tiered, multidimensional index system of risk prevention and control and early warning was continuously optimized to enhance the capacity of risk monitoring and early warning.

4.4 The two-way opening-up of the stock market

4.4.1 Interconnectivity mechanism was further improved

4.4.1.1 China-Japan ETF Connectivity was launched

On June 25th, 2019, the SSE successfully introduced the first batch of ETFs for China-Japan ETF Connectivity scheme. Four SSE-JPX ETF Connectivity products tracking the Nikkei 225 Index and Tokyo Stock Price Index (Topix) respectively were listed on the SSE on that day and raised a total of RMB 1.521 billion initially. The Japan Exchange Group

(JPX) also listed four ETFs under the China-Japan ETF Connectivity scheme to invest in China's domestic stock markets. The products performed well with stable operation since the establishment of the scheme. Such a scheme is the first initiative to enable the pragmatic cooperation between China and Japan's capital markets. China and Japan's market characteristics and the demand for cross-border investment were taken into account to form this innovative business model for interconnectivity. It effectively exploited the strengths of China and Japan's capital markets, which facilitated the joint development of relevant institutions in both countries and achieved mutual benefit and win-win results. China-Japan ETF Connectivity constituted a major innovation and breakthrough in SSE's internationalization endeavor.

4.4.1.2 The Shanghai-London Stock Connect was officially launched at the London Stock Exchange

On June 17th, 2019, Global Depository Receipts (GDR) under the Shanghai-London Stock Connect was officially available during the 10th China-UK Economic and Financial Dialogue. On the same day, China's Huatai Securities, a listed company on the SSE, became the first issuer with USD 1.69 billion of GDRs on the Main Board of the London Stock Exchange Group (LSEG) via the Shanghai-London Stock Connect mechanism. Huatai Securities issued 82.515 million global depositary receipts, equivalent to 825.15 million A-shares, which was LSEG's largest GDR offering since 2012 and the largest cross-border financing of Chinese financial institutions in the past two years. Since its GDR issuance, Huatai Securities has ranked the second among Asian companies in terms of the total turnover of securities (including stocks, bonds and GDRs) issued on the LSEG, second only to South Korea's Samsung. Its GDRs have been one of the most highly traded Asian securities on the LSEG.

4.4.1.3 WVR companies were included in the list of eligible securities for Hong Kong Stock Connect

To protect the legitimate rights and interests of investors, the SSE, the SZSE and Hong Kong Exchanges (HKEX) fully assessed and discussed on whether to include companies with weighted voting rights (WVR), a new type of listed companies, in the list of eligible securities for Hong Kong Stock Connect, with particular focus on the specialties of such companies in internal governance and stockholder's rights, as well as the feasibility to launch on the Hong Kong market, and finally drafted the specific requirements of including WVR companies in the list of eligible securities for Hong Kong Stock Connect. The SSE revised the *Implementation Measures of SSE on Shanghai-Hong Kong Stock Connect Business*, and the SZSE revised the *Implementation Measures of SZSE on Shenzhen-Hong Kong Stock Connect* in October 2018.

On October 28th, 2019, the first eligible WVR companies, namely Xiaomi Corporation (1810.HK) and Meituan Dianping (3690.HK), were successfully included in Hong Kong Stock Connect. Meituan Dianping shares rose by 3.48

percent on its first day of trading in Hong Kong, ended at HKD 93.7, and touched a high of HKD 97.15 (by 7.29 percent). Xiaomi Corporation hit a high of HKD 9.48 (by 4.64 percent) on that day with shares up 1.43 percent to close at HKD 9.19.

4.4.2 The capital market further opened up

4.4.2.1 MSCI increased the inclusion factor of China A-Shares, China A-Shares were included in FTSE Russell's FTSE Global Equity Index Series with two increases of inclusion factor and in S&P DJI's global benchmark indexes with an emerging market classification

MSCI quadrupled the inclusion factor for China A-Shares from 5 percent at end-2018 to 20 percent in May, August and November 2019 in three steps and the mid-caps were added with a 20-percent factor. As of November 2019, its resulting overall index weight in A-shares became approximately 4 percent. In June 2019, all sizes of China A-Shares, including those of large, mid and small cap companies were included in FTSE Russell's flagship FTSE Global Equity Index Series (GEIS) benchmarks for the first time. The inclusion factor was increased from 5 percent to 15 percent in September 2019. FTSE Russell also decided to further increase the inclusion factor to 25 percent in March 2020. In September 2019, S&P DJI added China A-Shares to global benchmark indexes with an emerging market classification at a 25 percent partial inclusion factor. Global providers of benchmarks MSCI, FTSE Russell and S&P DJI all added China A-Shares to their global benchmark indexes and increased its inclusion factor, indicating that international investors had greater demand for allocation to Chinese shares, and that China's A-shares were widely acknowledged by international investors. Increasing inclusion factor of China A-Shares by global providers of benchmarks helped attract more foreign long-term funds into China's markets, continuously improve mix of investors in China A-Shares, and enhance corporate governance of listed companies in China's A-share market. It further facilitated internationalization of China's A-share market and increased the efficiency of resource allocation, so as to promote the stable and sound development of China's capital market.

4.4.2.2 Foreign ownership limits on securities, fund management and futures companies were removed

On July 20th, 2019, the FSDC Office of the State Council released the *Measures for Further Opening Up the Financial Sector*, and the removal of foreign ownership limits on securities, fund management and futures companies was advanced by one year to 2020. On October 11th, 2019, the CSRC specified that foreign ownership limits on foreign-invested futures companies, fund management companies and securities companies would be fully removed by January 1st, 2020, April 1st, 2020, and December 1st, 2020, respectively. As of end-2019, three foreign-owned securities joint ventures, namely Nomura Orient International Securities, JP Morgan Securities and UBS Securities, were approved by the CSRC to set up in China. Morgan Stanley was the first to receive approval from the CSRC to take a majority stake in its China securities joint venture, Morgan Stanley Huaxin Securities Company Limited. JP Morgan Chase became the first foreign company to take full control of its onshore Chinese mutual fund joint venture, China International Fund Management Co., Ltd.

4.4.2.3 Quota restrictions on QFII and RQFII were removed

On September 10th, 2019, upon approval of the State Council, the SAFE announced to remove the quota restrictions on QFII and RQFII. Foreign institutional investors with corresponding qualifications only need to go through registration procedures to remit funds independently to make securities investment in accordance with the regulations. The limitations on the pilot countries and regions of RQFII were also lifted. In December 2019, in order to implement the requirements of fund management and risk prevention of domestic securities investments made by QFII/RQFII after eliminating restrictions on the investment quota, the SAFE drafted the *Regulations on Fund Management of Domestic Securities Investment by Foreign Institutional Investors (Exposure Draft)*, and solicited public opinions. As of end-December, 2019, a total of 293 qualified foreign institutional investors had received quotas amounting to USD 111.396 billion, and a total of 223 RMB qualified foreign institutional investors had received quotas amounting to USD 694.102 billion.

4.4.3 The capital market was further opened up in a steady way

4.4.3.1 Pilot project for the listing of red-chip enterprises on the STAR Market was carried out

In March 2019, the CSRC issued the *Preparation Rules No.24 for Information Disclosure by Companies that Issue Securities Publicly: Special Provisions on the Financial Report Information of Red-Chip Enterprises Listed on the STAR Market under Innovative Pilot Program* (CSRC Announcement〔2019〕No.8) to stipulate that red-chip companies publicly offering stocks or depositary receipts shall specify fiscal year start dates in their public offering arrangements, which shall not be changed at will once it is adopted. Companies that choose not to use the calendar year as their fiscal year shall provide and disclose sufficient reasons. Red-chip enterprises may disclose financial report information according to the Accounting Standards for Business Enterprises (ASBEs) of China, or the accounting standards that are recognized by the Ministry of Finance and have equal force with the China ASBEs, or disclose financial report information according to the *International Financial Reporting Standards (IFRS)* or the *Generally Accepted Accounting Principles of the United States (US GAAP)*, and at the same time provide information for the difference and adjustments according to the China ASBEs. Where a red chip enterprise prepares a financial report according to the ASBEs of China when applying for the public offering of stocks or depository receipts in China for the first time, its reference to the ASBEs shall remain unchanged after the listing on China's markets. The SSE also formulated *the Guidelines on the Financial Report Information Disclosure of Red-Chip Enterprises Listed on the STAR Market under Innovative Pilot Program* to specify financial indicators related to the financial information of red-chip companies, and their information adjusted and regulating process.

4.4.3.2 "Full circulation" reform of the H-shares was promoted

The CSRC, upon approval of the State Council, has fully implemented the H-shares full circulation program since 2019. In November 2019, the CSRC promulgated the *Guidelines on Application for "Full Circulation" of Unlisted Domestic Shares of H-Shares Listed Companies* (CSRC Announcement〔2019〕No.22), catalogue of application materials for "full circulation" of H-shares companies and key points for review. Eligible H-shares listed companies and companies that prepare to go public on the Stock Exchange of Hong Kong Ltd. (SEHK) can apply for "full circulation" in accordance with the laws and regulations, and convert their non-tradable shares into H-shares circulated on the SEHK upon approval of the application. On December 31st, the SZSE and the CSDC, fully referring to pilot experiences, jointly issued the *Detailed Rules for "Full Circulation" Business of H-Shares*. According to the *Rules*, domestic shareholders of H-shares companies are allowed to increase their holdings of the company's shares, and on the basis of providing nominal holder services during the pilot program, other services related to corporate behavior, such as cash dividends payment, rights issue, public distribution and corporate takeover are added. CSDC (Hong Kong) is responsible for overseas businesses of H-shares full circulation, while CSDC is responsible for domestic business. Previously, during the pilot program, domestic securities firms made trades via the securities trading accounts opened by the CSDC in Hong Kong, and currently domestic securities firms are able to directly entrust Hong Kong securities companies for trading H-shares. Investor education was carried out according to the requirements of brokerage management. On the basis of pilot experiences, the steady progress of H-shares "full circulation" reform is favorable for unifying benefits of all types of shareholders of H-shares companies and improving corporate governance, helping domestic companies gain development by making use of both domestic and overseas markets and their resources, as well as the development of Hong Kong's capital market.

4.4.4 International investor services and international cooperation were elevated to a higher level

Regarding international investor services, in 2019, the SSE further improved its systematic, institutionalized, and diversified system for international investor service. With market research, English information platform, and basic communication materials at its core, the system embraced a professional, service-oriented architecture combining exchanges, marketing, training, research and innovation in mechanism. With the view to building a systematic system and institutionalized mechanism for international investor service, efforts were made in holding the first Shanghai Stock Exchange Global Investors Conference in 2019. The SEE provided diversified and more targeted international investor services, such as holding regular global investor conferences, overseas roadshow in key regions and scaling up investment research for foreign investments. In 2019, SSE's international investor service team communicated with 148 batches of foreign investors, and provided diversified international investor services with a focus on encouraging foreign investors to participate in the STAR Market, supporting the inclusion of A-shares into global indexes and improving the QFII regime. In 2019, the SZSE improved the Shenzhen-Hong Kong Stock Connect mechanism and encouraged listed companies to improve their management system of foreign investors, so as to further enhance the capability to serve the foreign investors. First, the SSE completed the Shenzhen-Hong Kong Stock Connect mechanism and further improved the cross-border and cross-market regulatory cooperation mechanism. Second, in response to trading halts that the foreign investors complain about, the SSE continued to regulate the trading suspension and resumption of listed companies and improve the market operation mechanism. Third, the SZSE enabled investors to subscribe SZSE Level-2 real-time market data from Hong Kong, provided English service of "Interaction Easy", and set up special zone for Hong Kong Stock Connect on the "Analysis Easy", so as to further encourage foreign investors to participate more in the market. Fourth, the SZSE carried out regular global roadshows and online roadshows to facilitate the normalized foreign investor relations management of listed companies. As of end-2019, the SZSE held 14 rounds of global roadshows on Shenzhen-Hong Kong Stock Connect overseas, and worked with domestic and foreign securities companies to invite foreign investors to visit the listed companies and held reverse roadshows on a regular basis.

In terms of international cooperation, in 2019, the SSE signed a memorandum of understanding (MOU) with Tehran Stock Exchange (TSE) and Bombay Stock Exchange (BSE), and renewed the MOU with Swiss Stock Exchange (SIX). The SSE in 2019 collaborated with 51 foreign stock exchanges. Meanwhile, the SSE held China-Russia Capital Markets Forum, Hungarian Investment Roadshow and Brazil Capital Market Roadshow to expand cooperation and enhance the global network of exchanges for the coordinated development. As of end-2019, the SZSE's global network V-Next platform involved 41 countries and basically covered all ASEAN countries and touched upon the world. In 2019, the SZSE conducted international cooperation activities of various forms with Laos, Cambodia, Kenya, Bangladesh, Pakistan and other countries, including capital market cooperation communication seminar, capital market forum, project agreements with stock exchanges. The SZSE actively gave play to its geographic advantage, advanced and established a multi-tiered cooperation network covering ASEAN and South Asian countries. It proactively promoted collaboration on commercialized, transparent and sustainable technologies and enhanced strategic cooperation, so as to facilitate China's securities technology systems to go global and fully engage in the building of capital markets of countries along the Belt and Road. In June 2019, the SSE and the SZSE jointly initiated the Shanghai International Center for Communication and Cooperation between Exchanges (SICCCE) to facilitate communications, information sharing and pragmatic cooperation between exchanges. The opening ceremony of the SICCCE was held at the 11th Lujiazui Forum. In October 2019, the SICCCE held the 2019 International Workshop for Stock Exchanges. Attending the workshop were representatives from 10 exchanges in such countries as Serbia, Azerbaijan, Kazakhstan, Mongolia, Vietnam, Pakistan and Kenya, who shared development experiences in their own markets and discussed the measures for developing the capital market via the SICCCE platform. The workshop contributed to various forms of cooperation between three foreign exchanges and China's exchanges, including the signing of MOU. The SICCCE also worked with various academic institutions and think tanks to carry out research on global capital markets, including topics of RMB internationalization and the exchanges support for overseas financing of the Belt and Road Initiative (BRI) projects.

4.5 Outlook of the stock market

First, the market-based and law-based regulatory system will be continuously improved to build a more standardized capital market in the future. The oversight on investor's trading, listed companies' behavior and fulfillment of intermediaries' responsibilities will be upgraded. Legal system of China's capital market will be further completed based on the implementation of the new *Securities Law*. Second, the regulatory philosophy with information disclosure as its core will be continuously strengthened to further enhance the capability of technological regulation and build a more transparent market. To pilot registration-based IPO system on the STAR Market further enhanced the regulatory philosophy with information disclosure as its core, and accelerated the development of a new regulatory model based on the building of digital ecosystem of the capital market, so as to make regulation more efficient. Third, the market will be further opened to foreign investments and better connected with the world, the institutional opening-up of the capital market will be steadily advanced, and the opening-up of the market will be faster. Forth, the capital market will better serve the real economy in a more efficient way. Guided by the new development philosophy, the normalized issuance of IPOs will be maintained in a scientific and reasonable way to push forward refinancing reform, accelerate the implementation of innovative pilot projects that facilitate the development of MSMEs, continuously improve the quality of listed companies, and give more play to the leading role of the markets in resource allocation.

BOX 5 Facilitate institutional innovation of the STAR Market and enhance the institutional construction of the capital market

The steady launch of the STAR Market demonstrates that basic institutional innovations of the capital market have been effective in 2019, and provides first-hand experience for the extension of the registration-based system to the whole markets, and further bolsters the institutional reform of the stock market. Major institutional innovations for the STAR Market are as follows:

First, during the issuance, registration-based system with information disclosure as its core was introduced to ensure that "real companies" are constantly registered for listing on the STAR Market and the market actors hold the right to decide. The sponsorship system was introduced to form a sponsoring mechanism featuring incentive compatibility.Second, during the listing, the SSE fully considered the features of sci-tech innovation enterprises, set a more inclusive listing standard, and expand its coverage to unprofitable companies, WVR companies and red-chip companies. Third, during the trading, no daily price change limit is set within the first five days after listing on the STAR Market, and a daily price fluctuation of 20 percent is allowed on the STAR Market after the first trading week. Meanwhile, a price cage mechanism was set up and eligibility management of investors was carried out to facilitate price discovery while curbing excessive moves at the same time. Fourth, for the delisting, the STAR Market set a stricter standard, enhanced delisting implementation and timely delisted empty and fake companies from the market, which serves as a reverse deterrence and a strong binding force for listed companies.

The STAR Market is a pilot ground and weathervane for the basic institutional reform of China's capital market and shoulders the important task of exploration, guidance and demonstration. The STAR Market carries great responsibilities in the basic institutional reform of China's capital market. It will continue to improve basic regime, consolidate the existing regime and explore new systems to work out best practices of STAR Market that can be duplicated and extended for the reform of China's capital market.

First, it will continue to improve various innovation regimes of the STAR Market. For the primary market, registration-based system with information disclosure as its core will be completed, with the pricing for listings improved and intermediaries' responsibilities firmly assumed. Responsibilities will be delegated to the market for corporate screening and pricing, and the supply and demand of shares will be determined by the market. Institutional supply will be increased to further support "hard and core technology" companies and attract quality sci-tech innovation enterprises with the *capability to make critical core technological breakthroughs or great potentials to get listed on the STAR Market. For the secondary market, trading mechanism will be continuously improved, with supporting mechanism for market stability completed and margin trading mechanism optimized to facilitate balance between buyers and sellers, enhance the market's resilience to major shocks and speculation, and stabilize the market. A long-term investor system will be established and the role of long-term funds in discovering price and stabilizing market will be given into full play. Further exploration will be made in price limits of shares, pricing mechanism, margin trading mechanism and eligibility management of investors, and the function of price discovery will be intensified. The STAR product line will be enriched where ETFs and options based on STAR shares or indexes will be launched upon research, and diversified risk management tools will be offered. In terms of listed companies, continuous regulation on the listed companies will be enhanced and improved with the focus on information disclosure. The role of market forces in allocating resources in refinancing and M&A will be given into full play. Delisting standard and implementation will be strictly regulated to cultivate the market ecology of the survival of the fittest with orderly listing and delisting and facilitate metabolism in the market. Legal supervision will be improved, the cost of violations of laws and regulations will be increased, and the mechanism for investor protection will be completed.*

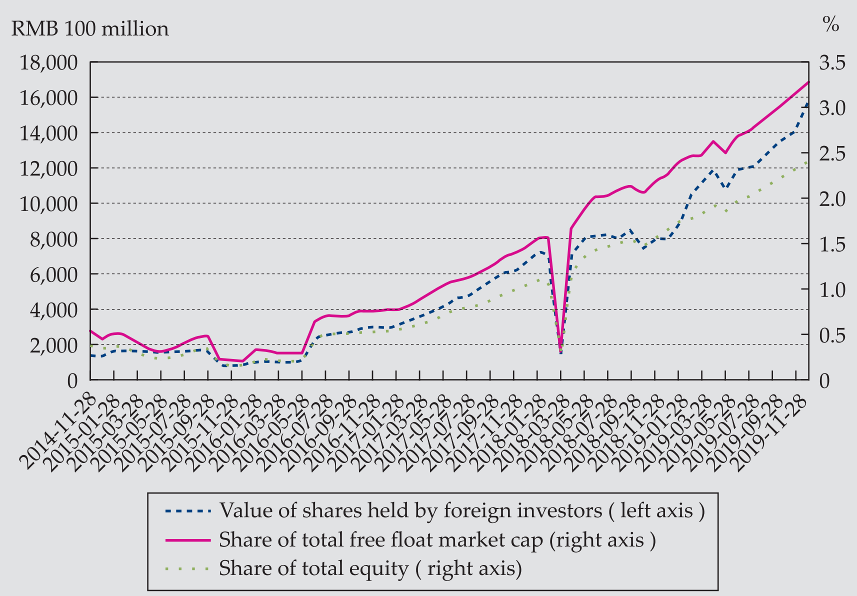
Second, more innovations will be made in STAR Market reform to promote the basic institutional reform of China's capital market. For the primary market, the new sponsorship system will be followed and evaluated to find the best solution for improving the sponsors' quality and pricing efficiency for new listings. Institutional investors' capability of professional inquiry will be given into full play and market-oriented IPO pricing will be more efficient. For the secondary market, innovations in trading mechanism will be explored to further optimize the structure and efficiency of price discovery regime, reduce chances of regulatory arbitrage trading and its disturbance, and enhance the market's resilience to internal and external shocks. In terms of listed companies, by taking into accounts the external financing and expansion of sci-tech innovation enterprises, the refinancing and M&A of those companies will be more convenient and flexible, and the role of market forces in allocating resources will be fully leveraged. Means to reduce the original stake will be optimized and the non-public transfer mechanism will be explored. Judicial supply will be increased, the class action regime will be improved and the investor protection will be strengthened.

BOX 6 A-share market becomes more internationalized

1. Value of shares held by foreign capital in China's A-share market greatly increased

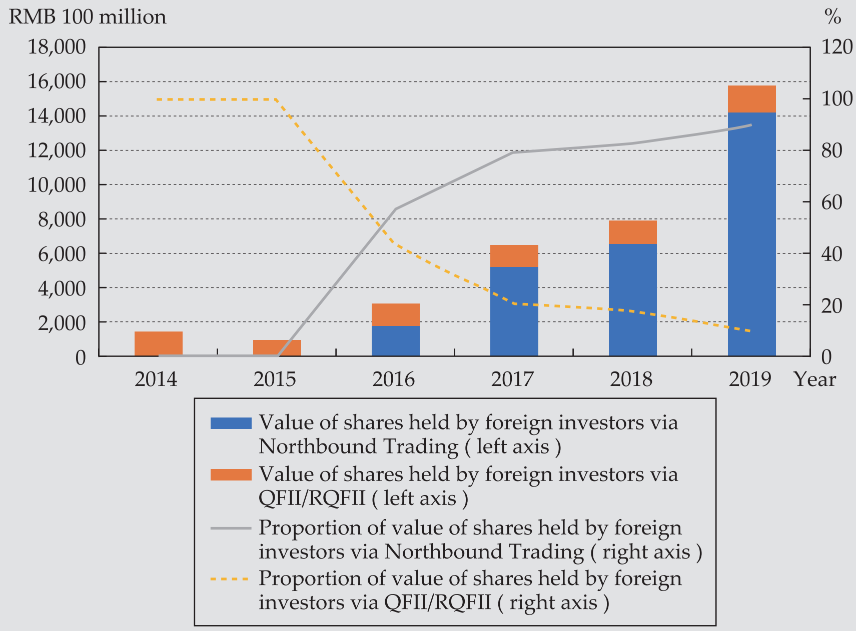
In recent years, China's stock market has become more internationalized. More and more A-shares are held by foreign capital through QFII, RQFII, Shanghai Stock Connect, Shenzhen-Hong Kong Stock Connect and other interconnectivity mechanisms. Data show that from November 2014 to December 2019, the value of shares held by the foreign investors increased significantly from RMB 142.531 billion to RMB 1.578338 trillion, with RMB 786.318 billion newly added in 2019, up 99.28 percent year on year (see Figure 4.3). In particular, shares held by foreign investors via Northbound Trading totaled RMB 1,422.017 billion, a year-on-year increase of 117.44 percent, accounting for 90.10 percent of the total value of shares held by foreign investors (see Figure 4.4)[1].

Figure 4.3 Changes in value of shares held by foreign investors, its share of total free float market cap and its share of total equity



① The data in Box 6 comes from Wind Info.

Figure 4.4 Changes in value of shares held by foreign investors via Northbound Trading, value of shares held by foreign investors via QFII/RQFII, and their proportions



2. Positions of institutional investors in the A-share market overlap with foreign investors

Based on their positions, foreign investors preferred blue-chip companies and leaders in every sector. As of end-2019, the top 20 listed companies whose shares were most held by foreign investors were Kweichow Moutai, Midea Group, Ping An Insurance, Gree, Hengrui Medicine, Wuliangye, China Merchants Bank, Conch Cement, Bank of Ningbo, Ping An Bank, China International Travel, Yangtze Power, Yili, Shanghai Airport, Haier Smart Home, Huatai Securities, Hikvision, Bank of Beijing, Haitian Flavouring and Food and Vanke-A, which are either blue-chip companies or leaders in their sectors (see Figure 4.5).

In Q3 2019, the top 20 listed companies whose shares were most held by institutional investors were Industrial and Commercial Bank of China, Kweichow Moutai, PetroChina, Agricultural Bank of China, Bank of China, China Life, China Merchants Bank, Sinopec, Wuliangye, Ping An Insurance, Yangtze Power, China Shenhua, Shanghai Pudong Development Bank, SAIC Motor, Ping An Bank, Hengrui Medicine, Midea Group, Haitian Flavouring and Food, Gree and Hikvision (see Figure 4.6), which are either blue-chip companies or leaders in their sectors and are

Figure 4.5 Top 20 listed companies whose shares were most held by foreign investors and their shares of total free float market cap

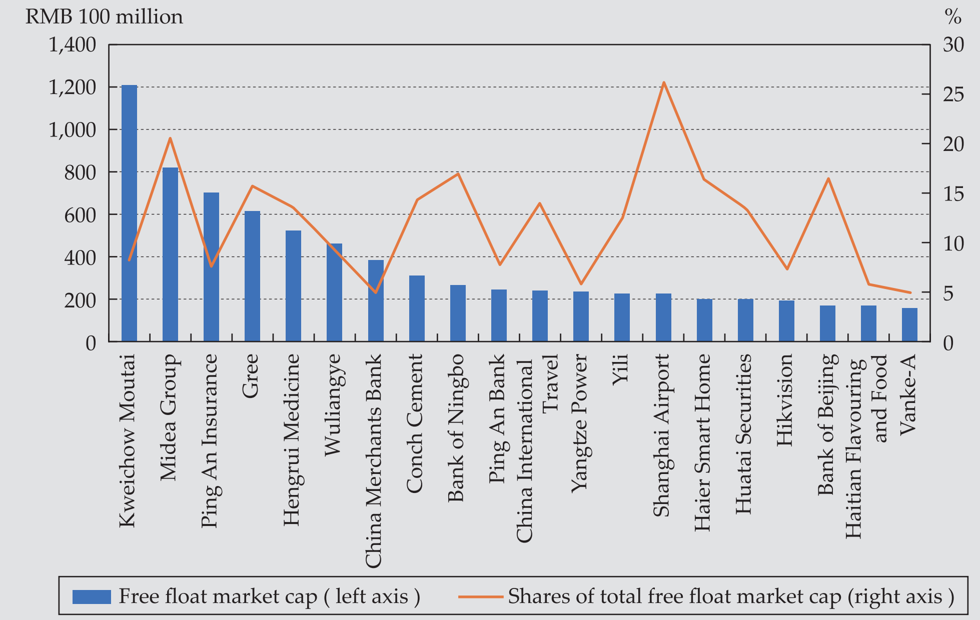
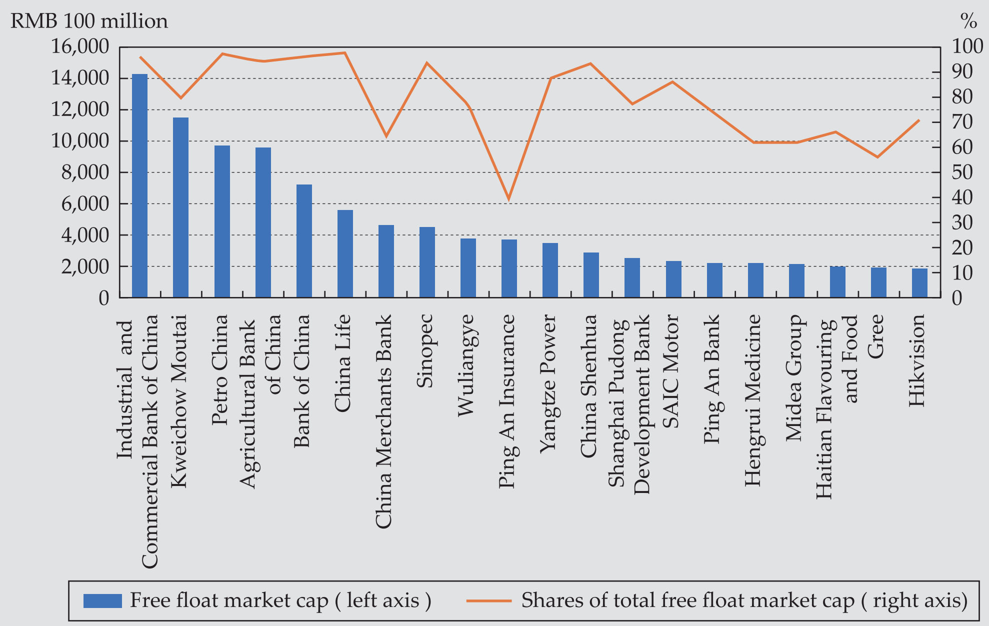


Figure 4.6 Top 20 listed companies whose shares were most held by institutional investors and their shares of total free float market cap

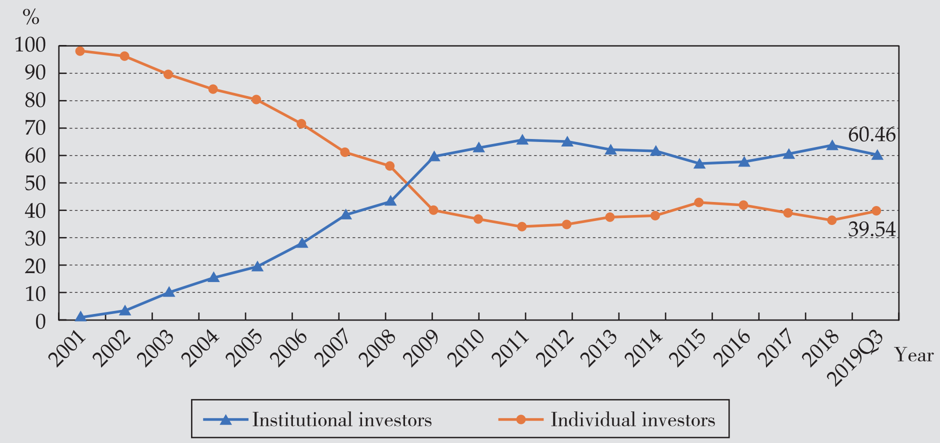


preferred by foreign investments.

3. A-shares shift to being owned more by institutional investors than individual investors

In 2001, value of shares held by institutional investors in China was only RMB 27.449 billion, accounting for 1.90 percent of the negotiable market value, while value of shares held by individual investors accounted for 98.10 percent. Since 2001, the proportion of the value of shares held by institutional investors in the negotiable market value has increased steadily to 60.46 percent in Q3 2019, higher than that of individual investors (see Figure 4.7). More and more foreign investors participated in China's A-share market, the mix of investors became more diverse, and the market pricing was more efficient, which would contribute to the internal stability of the market in the long run. Foreign investors in the UK, Japan and Taiwan markets accounted for 50 percent, 30 percent, and 25 percent of the total investors respectively. In comparison, the proportion of foreign investors in China's A-share market was still low (3.1 percent), and their impact on the market was limited. Currently, it is still necessary to further attract foreign investors to improve the mix of investors and promote the stable and sound development of the A-share market.

Figure 4.7 Ratio of A-shares held by individual and institutional investors since 2001



Chapter 5 Foreign Exchange Market

In 2019, the trading volume in China's foreign exchange market maintained growth, market participants became more diversified, overseas institutions were active in transactions, and product categories in the foreign currency market were continuously improved. RMB exchange rate witnessed both appreciation and depreciation against a basket of currencies, while that against USD showed more flexibility amid two-way fluctuations. The new-generation foreign exchange trading platform was continuously optimized and upgraded, FinTech contributed to transaction supporting services, and the two-way opening-up of the market was continuously deepened.

5.1 Performance of the foreign exchange market

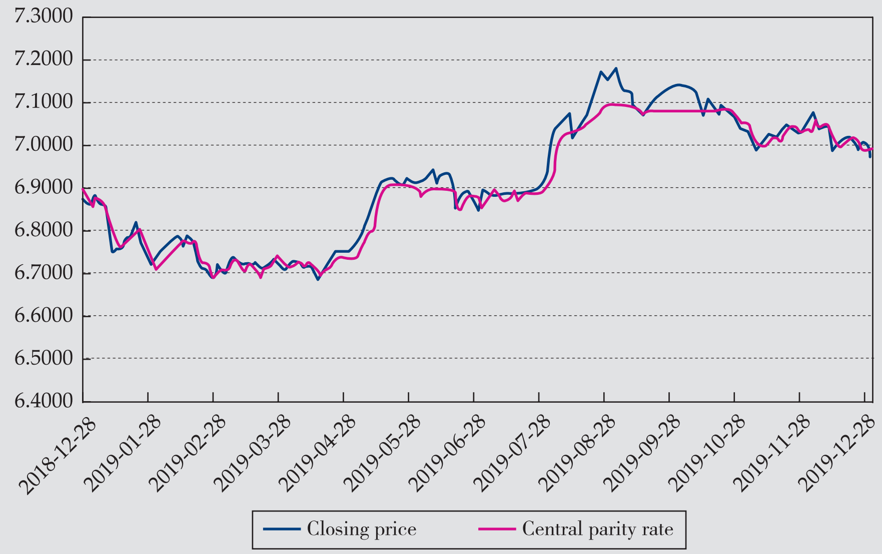
5.1.1 RMB exchange rate witnessed two-way fluctuations

At end-2019, the central parity rate and closing rate of RMB against USD were 6.9762 and 6.9662, representing a depreciation of 1,130 bps (1.6 percent) and 1,004 bps (1.5 percent) respectively. Within the year, the central parity rate was the strongest on March 21st at 6.8850, and the weakest on September 3rd at 7.0884, with a fluctuation difference of 4,034 bps. The closing rate hit the strongest on February 27th at 6.6835, and the weakest on September 3rd at 7.1785, with a fluctuation difference of 4,950 bps, 916 bps wider than the former.

RMB exchange rate witnessed both appreciation and depreciation against major currencies other than USD. At end-2019, the central parity rate of RMB against EUR was 7.8155, appreciating by 0.4 percent compared to end-2018; and that against JPY 100, GBP, AUD, and CAD was 6.4086, 9.1501, 4.8843, and 5.3421 respectively, depreciating by 3.6 percent, 5.5 percent, 1.2 percent and 6.0 percent year on year.

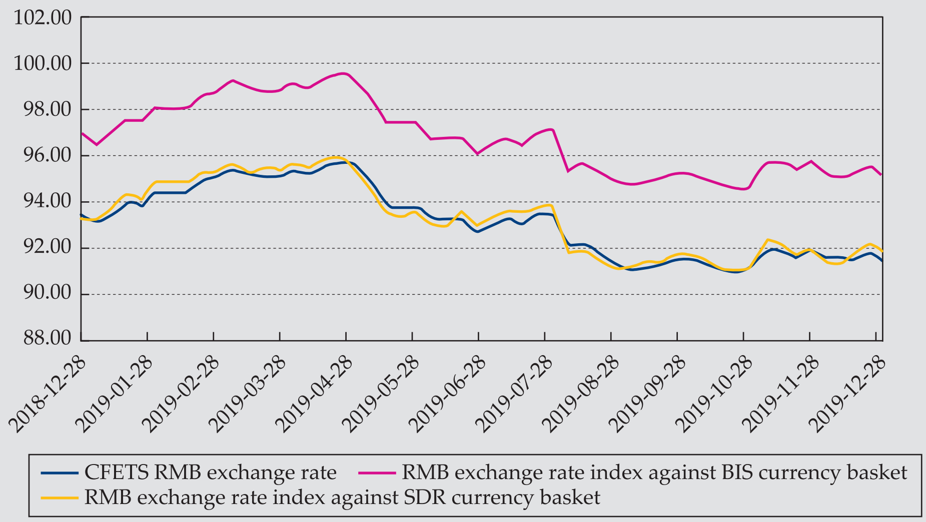
RMB recorded appreciation before depreciation against a basket of currencies. At end-2019, the CFETS RMB exchange rate index, the RMB exchange rate index against the BIS and SDR currency basket were 91.39, 95.09, and 91.81 respectively, representing a depreciation of 2.0 percent, 1.8 percent, and 1.4 percent compared to the end of the previous year.

Figure 5.1 RMB spot rate against USD in 2019



(Source: CFETS)

Figure 5.2 Three major RMB exchange rate indexes in 2019



(Source: CFETS)

5.1.2 Trading volume continued to grow in the foreign exchange market

In 2019, the interbank foreign exchange market (including derivatives) achieved a cumulative turnover of USD 35.8 trillion, an increase of 5.3 percent year on year, with sub-markets growing at different levels. The spot trading volume of RMB exchange and currency pairs stood at USD 7.9 trillion and USD 169.3 billion, up by 4.0 percent and 66.5 percent respectively; trading volume of exchange rate derivatives and foreign exchange currency market stood at USD 17.4 trillion and USD 10.3 trillion, up by 0.5 percent and 15.2 percent respectively.

5.2 Main features of the foreign exchange market

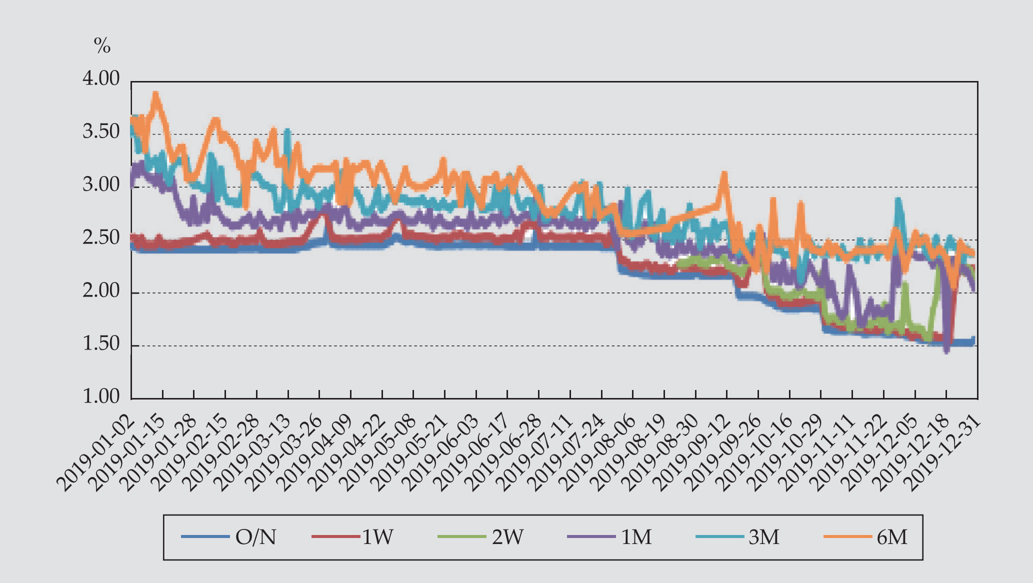
5.2.1 RMB exchange rate against US dollar showed more flexibility

In 2019, while volatility moderated in the global foreign exchange market, RMB shifted more rapidly between appreciation and depreciation, with volatility rate against USD above 4 percent, closing the gap with EUR, JPY and GBP. The trend of RMB exchange rate against USD can be generally divided into four stages throughout the year. RMB was strong at the first stage (January to April), with the exchange rate against USD climbing from above 6.86 to near 6.70, registering a cumulative appreciation of nearly 2 percent. May to July marked the second stage, when the risk-aversion sentiment built up, RMB weakened, and the exchange rate dropped sharply to below 6.90, depreciating by 2 percent in a single month. Afterwards, RMB started corrections in the weak position. At the third stage (August to September), RMB witnessed a second round of depreciation in the year, closing below 7 for the first time since 2008 and continuing to weaken. The exchange rate once dropped below 7.1 during the trading day, and touched the year low in early September. The fourth stage was from October to December, when market sentiment partially recovered, and RMB started to rebound against US dollar to approach 7.0.

5.2.2 Abundant USD liquidity existed in the domestic market

With abundant USD liquidity in domestic market, in 2019, interest rate of interbank lending went down amid fluctuations. At end-2019, the weighted rates of the overnight (O/N), 1-week, 1-month, 3-month and 6-month USD lending closed at 1.54 percent, 2.21 percent, 2.02 percent, 2.35 percent and 2.35 percent, respectively down by 88, 29, 98, 113 and 126 bps from the beginning of the year. Compared with the overseas market, USD interest rate was relatively stable at home. The tight liquidity in the overseas market from September had no significant influence on the domestic market. Except for quarterly ends, and times when the Federal Reserve cut rates, O/N USD interest rates were mostly stable in the domestic market, and generally showed a similar trend with that in the overseas market. In addition, there was a significant premium for interest rates with a maturity of more than 1 month, which corresponded with the relatively high credit risk of domestic entities.

Figure 5.3 Weighted average interest rate of domestic interbank USD lending

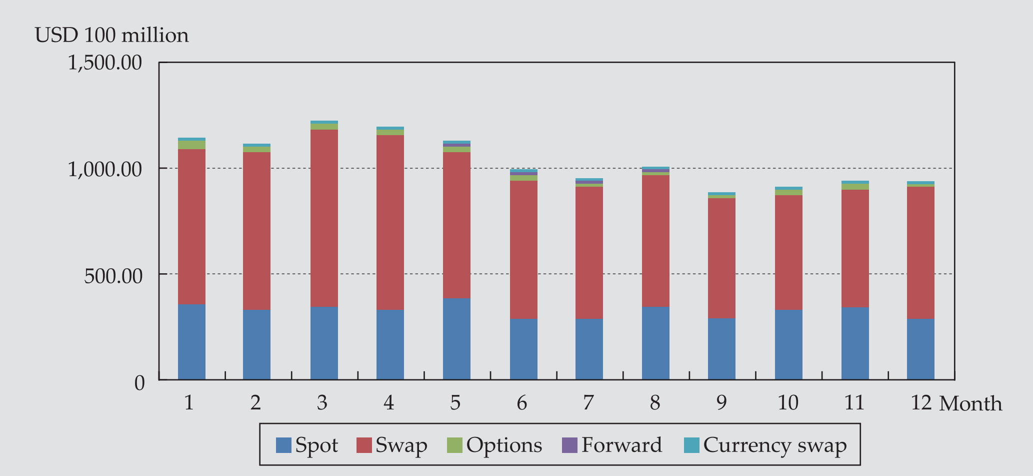


(Source: CFETS)

5.2.3 Transactions grew at a slower pace in the RMB foreign exchange market

In 2019, the interbank RMB foreign exchange market reached a turnover of USD 25.0 trillion, growing by 0.7 percent year on year, down remarkably by 21.5 percentage points from the previous year, marking the decade low. Spot trading volume increased by 4.0 percent year on year, down 15.3 percentage points from the

Figure 5.4 Daily turnover of different products in the domestic RMB foreign exchange market



(Source: CFETS)

previous year; derivatives trading decreased by 0.8 percent year on year, down 24.3 percentage points from the previous year. Daily average turnover was high before April and low thereafter.

5.2.4 Foreign exchange market maintained relatively fast development

In 2019, foreign exchange market maintained a relatively fast development, with all sub-markets growing significantly faster than the market average. Among them, the turnover reached USD 475.6 billion in G10 currency pairs market (up 1.5 times year on year), USD 10.2 trillion in foreign currency lending (up 14.3 percent year on year), USD 94.4 billion in foreign currency repo (up 15.5 times year on year), USD 180 million in foreign currency interest rate swap (up 1.5 times year on year), and USD 110 million in foreign currency interbank deposits.

5.2.5 Market participants became more diversified

In 2019, market participants in the interbank foreign exchange market continued to grow larger in numbers and became more diversified in types. As of end-2019, there were 711, 208 and 557 members in the interbank RMB foreign exchange, G10 currency pairs and foreign currency market, up by 33, 21 and 31 respectively from the end of the previous year. Most new members were overseas institutions, non-banking institutions and small and medium-sized banks.

New participants were active in the market. In September, three securities companies, namely CITIC Securities, Huatai Securities and China Merchants Securities joined the RMB foreign exchange market, the first time the market welcomed new securities companies as members in more than four years. During the year, the three institutions completed transactions in the spot, forward, swap and futures market, with a cumulative turnover of nearly USD 600 million. In the G10 currency pairs and foreign currency market, with the introduction of Free Trade Accounts (FT Accounts) of Free Trade Accounting Units in Shanghai Free Trade Zone (FTZ), during the year, 8 institutions were engaged in FTZ currency pair business and 10 in FTZ foreign currency lending business, leading to a cumulative turnover of nearly USD 20 billion.

5.2.6 Overseas institutions were active in transactions

In 2019, trading by overseas institutions in the interbank foreign exchange market amounted to USD 1.3 trillion, up 84.7 percent year on year, remarkably higher than overall market growth. Trading by overseas institutions accounted for 0.8 percent, 1.9 percent and 10.0 percent in RMB foreign exchange, G10 currency pairs and foreign currency market, up 0.5, 0.8 and 3.5 percentage points from the previous year respectively. With the continuous opening up of the domestic capital market, there has been strong hedging demand from overseas institutions investing in domestic securities, which indicated high growth potential in the future share of the trading.

5.3 Innovation and institutional construction

5.3.1 More products emerged in the foreign currency market

In December, the interbank foreign exchange market launched foreign currency repo businesses with domestic bonds held by the SHCH as collaterals, which further expanded the scope of collaterals for foreign currency repo, helped liquidize idle bonds, and further reduced institutions' costs of foreign currency financing. Based on foreign currency interbank business, in December 2019, the online foreign currency interbank deposit business was launched, which effectively increased trading efficiency and helped institutions prevent risks.

COLUMN Interbank foreign exchange market launches foreign currency repo businesses with domestic bonds as collaterals

On December 16th, 2019, China's interbank foreign exchange market launched foreign currency repo businesses with domestic bonds as collaterals, which was the first cross-currency collateral financing product in the market. With their SHCH-held bonds as the collateral, the financing side of foreign currency repo may borrow foreign exchange in nine currencies including USD, EUR, HKD, GBP, JYP, AUD, CAD, SGD and NZD through the CFETS foreign exchange trading system, and finish subsequent operations such as clearing, settlement and collateral management through the SHCH.

In the foreign currency repo business at CFETS, collaterals used to be limited to overseas foreign currency bonds. The expansion of the scope of collaterals contributed to increasing the size and liquidity of domestic medium and long-term foreign currency market, and made it easier for market participants to save credit resources, improve transaction flexibility and find new domestic and overseas counterparties. Meanwhile, as an effective supplement of foreign currency interbank lending, the further development of foreign currency repo business helped promote price discovery of USD interest-free interest rates and medium and long-term rates in the domestic market, and thus improved the effectiveness of domestic USD interest rate curve and its value as the benchmark. In addition, foreign currency repo businesses with domestic bonds as collaterals first realized interaction between China's RMB and foreign currency interbank markets, and further enriched products in China's interbank market.

On the first day of its official launch, foreign currency repo businesses ran smoothly, and the system functioned in a stable manner. By 5 p.m.

Beijing time on that day, the SHCH received clearing and settlement requests concerning 13 foreign currency repo transactions, with a cumulative turnover of USD 713 million. Nine institutions, including Industrial and Commercial Bank of China, Bank of China, China Construction Bank, Shanghai Pudong Development Bank, China Merchants Bank, China Guangfa Bank, China Zheshang Bank, Bank of Jiangsu and Jiangnan Rural Commercial Bank, were engaged in the business during the first day.

5.3.2 CFETS initiated prime brokerage businesses and automated transactions

Under the prime brokerage business model, clients participate in transactions in the name and credit of main brokers. On a different note, automated transactions refer to transaction behaviors where transaction orders are automatically generated or executed through certain program or software. In order to satisfy transaction needs of more diversified subjects, the CFETS, based on the new-generation foreign exchange trading platform, made attempts to introduce prime brokerage businesses and automated transactions into the interbank foreign exchange market, with reference to international experience and domestic market practices. In January 2020, there was a successful trial of prime brokerage business in the G10 currency pairs market, when Bank of China provided such service for the first overseas non-banking market maker XTX as the first main broker of foreign exchange.

5.3.3 FinTech was used in an innovative manner in assisting transaction supporting services

In 2019, FinTech application in transaction supporting services was further pushed forward. With regard to instant messengers, iDeal FX, a foreign currency instant messenger launched in 2018, has covered all derivative products and foreign currency products in the interbank foreign exchange market. Since 2019, iDeal has continuously improved its functions by exclusively introducing market data such as quotes for foreign exchange brokerage and aiding front-end negotiation and decision-making in transactions. Also, it catered to the regulatory requirements of keeping full record of the trading process in international markets by offering real-time monitoring of chat sessions. As of end-2019, over 700 institutions logged onto and used the software. In 2019, nearly 3,000 users concluded over 25,000 transactions in the trading system. In terms of information services, in September 2019, CMDS Pro, a high-speed access to market data, was available. It was capable of matching 10,000 spot transactions per second with transmission delay below 10 ms, providing a more accurate and efficient data source of quotes and transactions. In terms of market access, the interbank foreign exchange market launched the e-service platform iSupport in June 2019. So far, nearly 100 institutions have registered on and used the platform to apply for membership and business qualifications, which effectively improved service efficiency and user experience.

5.3.4 Trading system was upgraded for better functions

In 2019, the new-generation foreign exchange trading platform kept up with market demands and went through multiple optimizations and upgrades to continuously improve transaction experience and operational convenience for users. In terms of inquiries, the platform provided more market data regarding quotes, offered shortcuts such as making unilateral inquiries and sending inquiries to the institution offering the best price, and displayed preset counterparty information in the pricing sector. In terms of spot matching transactions, the platform added slippage mechanism for the "One-Click-Order" mode, and launched "Stop Order", which supported a package of efficient trading strategies including limit order, market order, iceberg order and stop-loss order. In terms of transaction administration, the platform started to support clearing orders from the Cross-border Interbank Payment System (CIPS), and regulated maintenance standards for clearing order factors. Meanwhile, trade tickets were improved on the new platform by adding watermark, special seal and digital signature of the CFETS, so as to improve level of security and compliance.

5.3.5 System construction was promoted to guide regulated market development

Self-discipline and requirements on business compliance became increasingly strict in the interbank foreign exchange market. In 2019, relevant business system and standards were actively improved. First, trading rules in the interbank RMB foreign exchange market were revised to adapt to latest market development and dock with latest practices and standards in the international market. Second, new *Guidelines on Entry into and Services on the Interbank Foreign Exchange Market* was issued, and the membership agreement and market makers' agreement of the interbank foreign exchange market were combined and revised. Third, the monitoring system was improved, and market trading behaviors were further regulated by revising implementation details for appraisal and formulating measures for the administration of interbank foreign exchange market monitoring, for which market opinions were solicited. Fourth, real-name management and assessment system for C-trade bridge institutions were improved, so as to further regulate market development.

5.3.6 Foreign exchange market was further opened up

With continuous achievements in RMB internationalization and capital account convertibility, the interbank foreign exchange market was further opened up. On the one hand, the business scope of RMB purchases and sales were further expanded, with market influence increased, creating flexible and convenient trading channels for hedging exchange rate risks in securities investment. Since 2015, RMB purchases and sales have developed from current account items at the beginning to covering securities investment including "Bond Connect" and "Shanghai- and Shenzhen-Hong Kong Stock Connect". From 2018, overseas banks were allowed to exercise centralized management in

RMB purchases and sales. In 2019, among the 41 overseas participating banks in the interbank foreign exchange market, 3 realized group-based business management successively, and made remarkable achievements in introducing RMB purchase and sales demands from more areas and improving the efficiency of RMB exchange rate risk management. In 2019, RMB purchases and sales backed by securities investments accounted for a significantly larger share in all transactions, which further contributed to the opening-up of bond market and stock market.

On the other hand, services for the BRI cooperation were also steadily improved. Following its release in 2018, the China (Xinjiang) Silk Road Currency Regional Trading Information Platform continuously improved itself, and now displays information regarding RMB against major currencies of countries adjacent to Xinjiang, such as Kazakhstani Tenge (KZT), Tajikistani Somoni (TJS) and Pakistan Rupees (PKR), gradually forming a comprehensive set of market data covering interbank market, bank-to-client market and individual investors' market.

5.4 Outlook of the foreign exchange market

In 2020, the foreign exchange market will continue the construction of market infrastructure by further developing the foreign exchange transaction system and supporting systems such as iDeal, iTrader and iSupport, in order to make the best use of trading platforms in supporting and leading the innovative development of foreign exchange market businesses. The foreign currency market will be deepened to gradually develop a complete product system where foreign currency interbank lending, foreign currency repo and foreign currency interest rate derivatives develop in an interactive manner. By laying a solid transaction-based basis, foreign currency interest rate indicators will become more effective in domestic market, and serve as a more accurate reference for pricing and valuation in the management of foreign currency-denominated assets and debts by domestic institutions. Market will be opened up further by introducing more types of participants, enhancing interconnectivity and cooperation with domestic and overseas financial infrastructure, providing overseas institutions with trading channels and modes that connect with international practices, as well as optimizing exchange rate risk management under financial investments by overseas institutions. The market management framework, including trading rules, monitoring and administrative rules and appraisal rules, will be improved, with trading behavior management and pre-warnings against exceptional risks strengthened, making the system of market monitoring and administration more complete.

BOX 7 Deepening the construction of domestic foreign currency market

In recent years, with the gradual opening-up of China's capital accounts, the size of foreign currency-denominated assets and liabilities has grown continuously, leading to increasing needs in liquidity management, valuation and risk management from domestic enterprises and financial institutions. However, the stark differences in foreign currency supply between domestic and overseas markets, plus natural barriers caused by different time zones, made it difficult for domestic institutions to conduct management of foreign currency-denominated assets and liabilities by participating in the overseas market. In this situation, the CFETS actively developed the domestic foreign currency market by launching foreign currency pair business in 2005, and started to build a unified domestic foreign currency market from 2015, endeavoring to build the multi-currency, multi-model and multi-product, comprehensive trading platform that connects with international markets and serves domestic clients.

1. Liquidity in the foreign currency pair market continuously increased

In 2019, the foreign currency pair market turnover was USD 475.6 billion, representing an increase of 1.5 times, which gradually demonstrated the agglomeration effect of liquidity.

In terms of product sequence, the CFETS launched G10 currency pairs cross currency swaps in February 2018, foreign currency interest rate swap transactions in May 2018, and G10 currency pairs options transactions in August 2019, providing an increasing number of tools for managing risks relating to foreign currency interest rate and exchange rate. So far, foreign currency pair transactions at CFETS have included spot, forward, swap, currency swap, options and interest rate swap products, forming a basically complete product sequence.

In terms of transaction model, in August 2018, the function of Executed Streaming Prices (ESP) was launched in the foreign currency pair market, with more than 10 market makers, based on the multi-bank platform of CFETS, actively providing multi-layer quotations in batches and with varied volumes. Following over a year of market development, spot currency pair ESP trading has accounted for around 40 percent of all foreign currency pair spot trading, with spread narrowing down to below 0.5 bps, basically leveling with major international peers.

In terms of participants, while continuously introducing domestic and overseas market making institutions, the foreign currency pair market actively implemented measures of the State Council to support further reform and innovation in free trade zones, and made attempts to encourage financial institutions to engage in such business using free trade accounts. As of end-2019, there were 24 market *makers in the foreign currency pair market (an increase of 6 from the end of the previous year), including one overseas market maker. The market had 208 members in total (an increase of 21 from the end of the previous year), including 2 from overseas and 8 from free trade zones.*

2. The foreign currency market witnessed extensive development

In 2019, transaction basis in the foreign currency market became increasingly solid, with daily average turnover of around USD 50 billion, and daily record exceeding USD 60 billion.

In terms of product sequence, in 2015, the CFETS launched foreign currency lending business, and started to provide a centralized and unified e-trading platform for domestic and overseas foreign currency markets. Over four years, the market was continuously deepened and expanded, with a rapid increase in the number of participants and trading volume. In July 2018, the CFETS started the foreign currency repo businesses with overseas foreign currency-denominated bonds as collaterals. Thanks to low credit risk, a wide variety of maturities and a low financing cost, it has become a key supplement to foreign currency lending business. In December 2019, the scope of collaterals in foreign currency repo was extended to domestic bonds custodied by the SHCH, which helped liquidize idle bonds, and further reduced institutions' costs of foreign currency financing. In December 2019, the online foreign currency interbank deposit business was launched, which effectively increased trading efficiency and helped institutions prevent risks. Meanwhile, the CFETS also closely followed benchmark reform in the international market, and tried to launch medium and long-term foreign currency interest rate derivatives based on the new benchmark, so as to ensure smooth transition and orderly connection of relevant transactions in the interbank market following the international transition of interest rate benchmark.

In terms of participants, due to increasing market liquidity, an increasing number of domestic and overseas institutions have applied for market access and actively participated in transactions. In 2019, the CFETS actively implemented measures of the State Council to support further reform and innovation in free trade zones, and made attempts to encourage financial institutions to engage in foreign currency lending using free trade accounts. As of end-2019, the market had 557 members in total (an increase of 37 from the end of the previous year), including 13 from overseas and 4 from free trade zones.

3. Attempts were made to build the foreign currency interest rate benchmark in the domestic market

Amid orderly progress of interest benchmark reform and transition in the international market, in recent years, the CFETS worked with relevant domestic institutions on the foreign currency interest rate benchmark in the domestic market based on the domestic interbank USD lending market. In July 2018, the

CFETS, in collaboration with Shanghai CFETS-ICAP International Money Broking Co., Ltd., unveiled the Interbank USD Lending Market Sentiment Indicator to directly reflect money supply situations in the USD lending market. In September 2018, the CFETS introduced quoting bank businesses for foreign currency lending, and released reference rates of interbank USD lending in the domestic market (USD CIROR). In August 2019, based on the original weighted average rates of domestic USD lending, the CFETS launched domestic bank-bank USD lending weighted average rates, which eliminated trading data of overseas institutions and non-banking institutions from all USD lending data, providing a more accurate reference for trading and pricing of financial institutions.

Chapter 6 Gold Market

In 2019, gold price climbed up amid volatility, with domestic spot gold price increasing by 19.75 percent. Trading volume continued to grow in China's gold market. The trading volume of various gold products in Shanghai Gold Exchange (SGE), that of gold futures in Shanghai Futures Exchange (SHFE) and turnover of commercial banks' OTC gold businesses grew by 0.12 percent, 186.58 percent and 7.81 percent respectively. The gold market further improved its infrastructure and system, strengthened product innovation, and speeded up its opening-up.

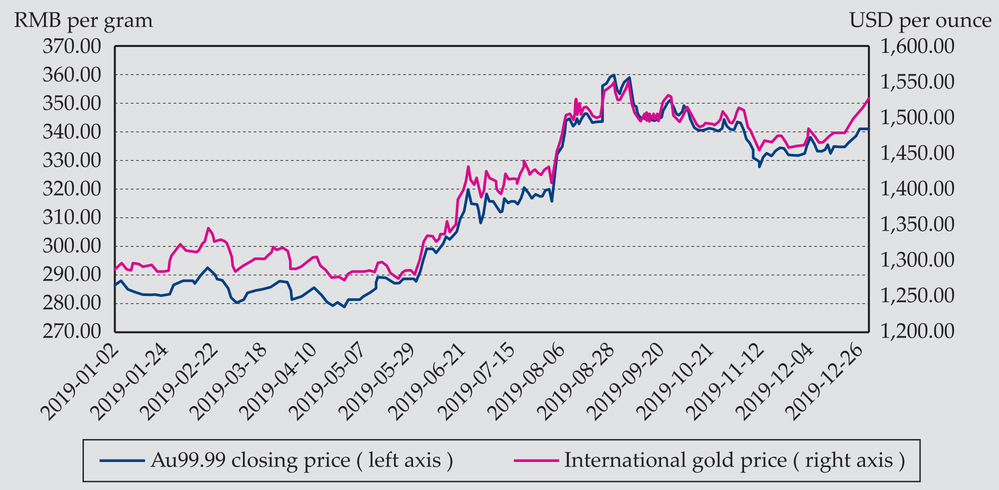
6.1 Performance of the gold market

6.1.1 Gold trading in SGE

6.1.1.1 Spot gold price increased by nearly 20 percent

The Au99.99 contract of SGE opened at RMB 283.98 per gram at the beginning of 2019, registering a yearly high of RMB 369.24 per gram and a yearly low of RMB 277.50 per gram, and closed at RMB 340.80 per gram at year-end, representing an increase of 19.75 percent year on year. Throughout the year, the weighted average price was RMB 308.70 per gram, an increase of 13.74 percent from 2019.

Figure 6.1 Gold price movements in domestic and overseas markets in 2019

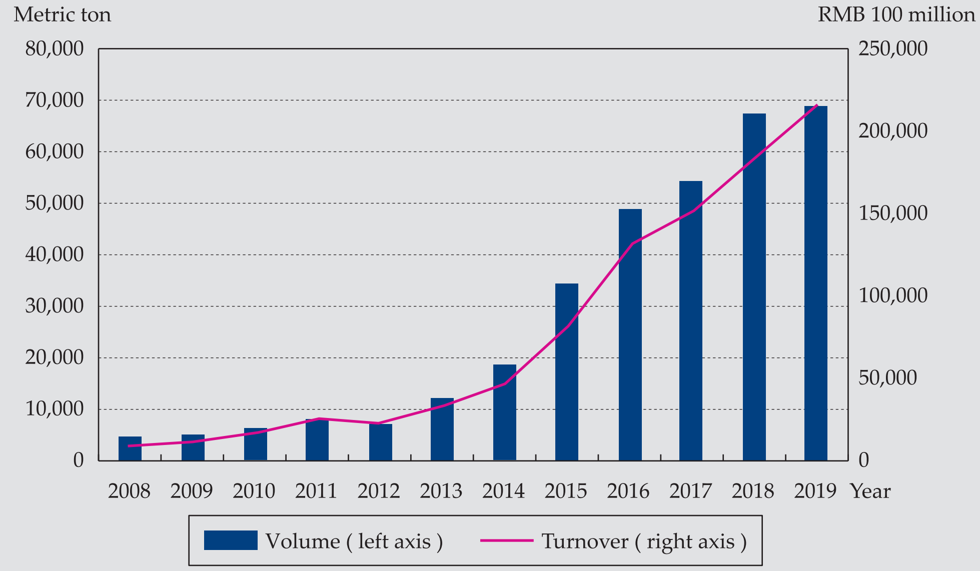


(Source: SGE and Wind)

6.1.1.2 Trading volume continued to grow

In 2019, the cumulative turnover in SGE posted RMB 28.76 trillion, surging 33.18 percent year on year. Specifically, the gold trading volume reached 68,574.36 metric tons, up 0.12 percent year on year, and the turnover was RMB 21.494476 trillion, up 15.69 percent year on year.

Figure 6.2 Trading of gold products in SGE from 2008 to 2019



(Note: Calculated bilaterally)
(Source: SGE)

6.1.1.3 Driven by trading of deferred gold products, price matching market grew, while inquiry and pricing markets shrank

In 2019, the trading volume of gold price matching market was 27,100 metric tons, a rise of 32.75 percent year on year. Specifically, trading volume of gold spot contracts was 5,214.17 metric tons, down 22.63 percent year on year, and that of deferred delivery contracts was 21,900 metric tons, up 60.09 percent year on year. During the period, trading volume of the gold inquiry market was 40,300 metric tons, down 13.49 percent year on year, with a turnover of RMB 12.64 trillion, up 0.09 percent year on year. The volume of Shanghai Gold Benchmark Price trading in the pricing market was 1,168.96 metric tons, down 20.73 percent from the previous year, with a cumulative turnover of RMB 362.412 billion, down 9.35 percent year on year. Daily volume and turnover were 4.79 metric tons and RMB 1.485 billion respectively.

Table 6.1 Trading of gold contracts in SGE in 2019

	Volume (metric tons)	Share in total volume (%)	Year-on-year increase (%)
Gold spot contracts	5,214.17	7.6	-22.63
Deferred delivery contracts	21,852.94	31.87	60.09
Gold inquiry	40,338.29	58.82	-13.49
Gold pricing	1,168.96	1.71	-20.73
Total	68,574.36	100	1.58

Note: Calculated bilaterally.

Source: SGE.

6.1.1.4 Cleared funds increased steadily, while gold deposit and withdrawal declined

In 2019, SGE cleared RMB 3,743 billion of funds, reporting a daily average of RMB 15.3 billion and an increase of 10.24 percent compared with 2018. Particularly, SGE cleared RMB 2,763 billion of funds for proprietary trading, a year-on-year increase of 19.61 percent, and RMB 980 billion for agent trading, a year-on-year decrease of 8.52 percent.

During the year, physical gold deposit in SGE was 1,778.76 metric tons and withdrawal was 1,642.01 metric tons, down 11.24 percent and 20.08 percent from the previous year respectively.

6.1.2 Gold futures and gold options trading in SGE

6.1.2.1 Gold futures prices went up amid volatility

In 2019, the gold futures contract opened at RMB 287.55 per gram, reaching RMB 363.85 per gram at its highest and RMB 279.60 per gram at its lowest, with the largest spread registering RMB 84.25 per gram. The contract closed at RMB 347.48 per gram at end-2019, an increase of RMB 59.63 per gram (20.72 percent) from the end of 2018. Gold futures price basically followed the trend of domestic gold spot and international gold futures. Specifically, the price correlation coefficient between gold futures and domestic gold spot was 0.998, and that between gold futures and international gold futures was 0.989.

6.1.2.2 Gold futures turnover and positions surged markedly, whereas deliveries declined

In 2019, based on unilateral calculations, the amount and value of gold futures trading registered 462.086 million lots (46,200 metric tons) and RMB 15.00 trillion respectively, up 186.58 percent and 238.91 percent year on year, with a daily turnover of 189,400 lots and RMB 61.460 billion. Daily average position was 263,300 lots, up 57.89 percent year on year, and the year-end position was 219,400 lots.

As of end-2019, there were six designated gold delivery warehouses, including Industrial and

Commercial Bank of China (ICBC), Agricultural Bank of China (ABC), Bank of China (BOC), China Construction Bank (CCB), Bank of Communications (BOCOM) and Shanghai Pudong Development Bank (SPDB). Based on unilateral calculations, the gold futures delivery volume was 2,163 lots (2.16 metric tons) and RMB 696 million throughout the year, down 53.87 percent and 45.74 percent year on year respectively.

Table 6.2 Gold futures trading in SGE from 2014 to 2019

Year	Volume (10,000 lots)	Turnover (RMB trillion)	Year-end positions (10,000 lots)
2014	2,386.54	5.99	9.74
2015	2,531.72	5.99	12.95
2016	3,475.95	9.34	19.64
2017	1,947.81	5.42	12.46
2018	1,612.39	4.42	15.37
2019	4,620.86	15.00	21.94

Note: Calculated unilaterally, and the size of gold futures contract is 1 kilogram per lot.

Source: SGE.

6.1.2.3 Gold futures options products were launched

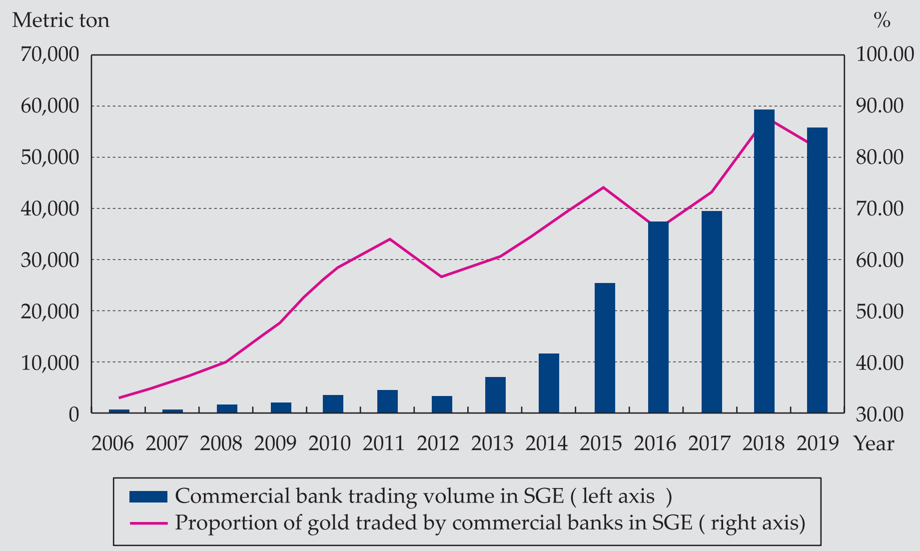
On December 20th, 2019, gold futures options were listed for trading. During the eight trading days till the year-end, based on unilateral calculations, cumulative trading amounted to 40,900 lots and RMB 320 million, with daily average standing at 5,116 lots and RMB 40 million, and daily position at 7,283 lots.

6.1.3 Gold business of commercial banks

6.1.3.1 Commercial banks conducted less gold trading in SGE

In 2019, the total gold trading volume of commercial banks in SGE reached 56,202.19 metric tons (including proprietary and agent trading), a year-on-year decrease of 5.20 percent; sales turnover stood at RMB 17.586757 trillion, a year-on-year increase of 9.45 percent. Proprietary trading registered 48,925.93 metric tons, down 10.4 percent year on year; agent trading registered 7,276.25 metric tons, up 39.22 percent year on year, in particular, agent gold trading for enterprises registered 996.97 metric tons, and that for individuals registered 6,279.28 metric tons. In terms of trading modes, gold price matching business of banks reached 16,136.50 metric tons, up 26.16 percent year on year; inquiry trading and pricing trading reported a size of 38,955.17 metric tons and 1,110.52 metric tons respectively, down 14.65 percent and 20.88 percent year on year respectively. Commercial banks accounted for 59.62 percent, 96.57 percent, and 95 percent of price matching, inquiry, and pricing gold trading respectively.

Figure 6.3 Gold trading volume by commercial banks in SGE and its proportion



6.1.3.2 Domestic OTC gold business of commercial banks continued to rise in general

In 2019, commercial banks traded 10,200 metric tons of gold in the domestic OTC market, up 7.81 percent year on year. In particular, an increase was seen in account gold, gold lending/borrowing and gold-based wealth management, and a decline was seen in physical gold sales, gold leasing and gold forward.

(1) Physical gold sales decreased. In 2019, physical gold sales including proprietary trading, agent trading and gold accumulation (regular investment) reached 208.16 metric tons in volume and RMB 69.279 billion in turnover, down 18.18 percent and 7.78 percent year on year respectively. The sales, proprietary trading and agent trading of gold accumulation (regular investment) posted 111.64 metric tons, 76.05 metric tons and 20.47 metric tons respectively, down 24.08 percent, 6.94 percent and 20.10 percent from a year earlier respectively.

(2) Account gold trading volume rose fast. In 2019, 13 commercial banks in China were engaged in account gold business. Total bilateral trading volume was 3,513.44 metric tons and turnover was RMB 1.11 trillion, up 10.88 percent and 30.43 percent year on year respectively. In particular, the trading volumes of RMB-denominated and USD-denominated account gold were 3,277.63 metric tons and 235.81 metric tons respectively, up 9.84 percent and 27.71 percent year on year respectively.

(3) Gold leasing to clients declined, while the volume of interbank gold lending increased. Gold leasing business consists of two parts, i.e. interbank gold lending/borrowing, and gold leasing from commercial banks to corporate

Figure 6.4 Physical gold trading volume of commercial banks

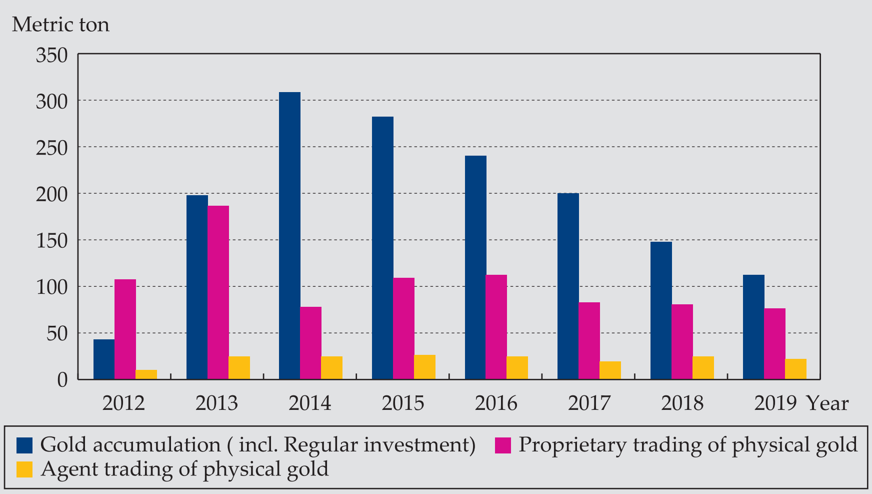
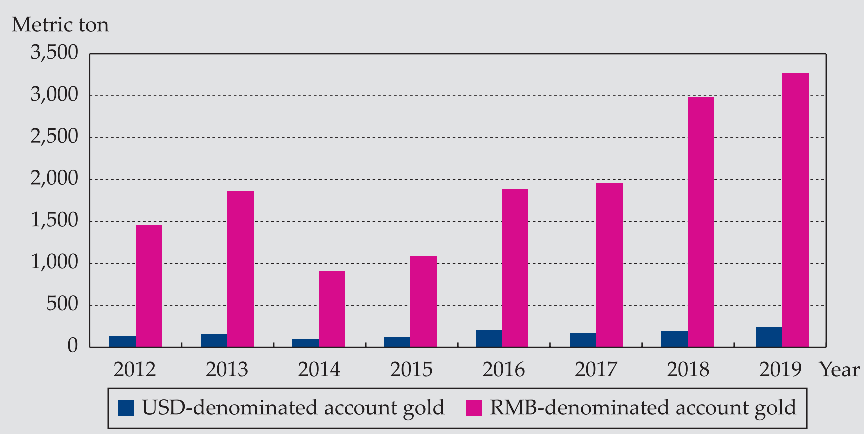


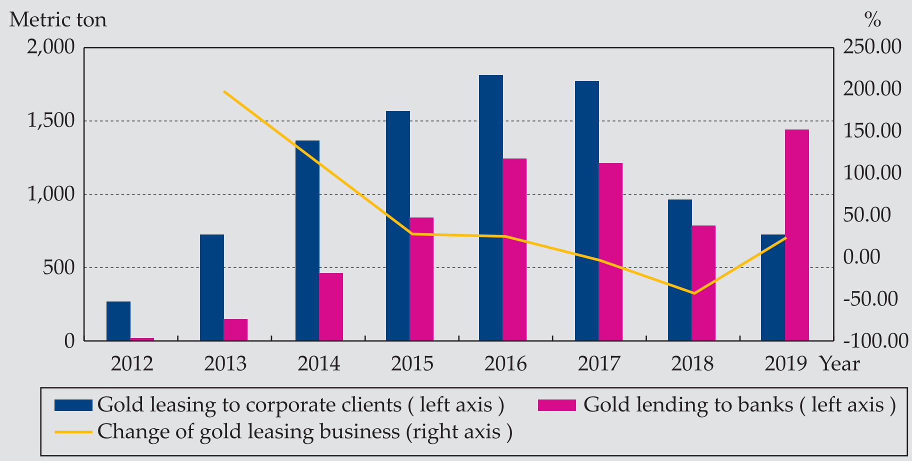
Figure 6.5 Account gold trading volume of commercial banks



clients. In 2019, commercial banks leased 2,217.15 metric tons of gold on a cumulative basis, up 24.91 percent year on year, equivalent to a notional value of RMB 688.713 billion, a year-on-year increase of 40.61 percent. In particular, commercial banks leased 769.12 metric tons of gold to enterprises, down 21.88 percent year on year, and leased 1,448.03 metric tons of gold to interbank clients, a year-on-year increase of 83.16 percent.

(4) Gold pledging business dropped sharply. In 2019, only one commercial bank was engaged in gold pledging business, receiving 0.04 metric tons of pledged gold, and issuing gold pledge-based loan of RMB 6.8 million, down remarkably by 78.8 percent and 77.59 percent year on year respectively.

Figure 6.6 Gold leasing business volume of commercial banks and its growth



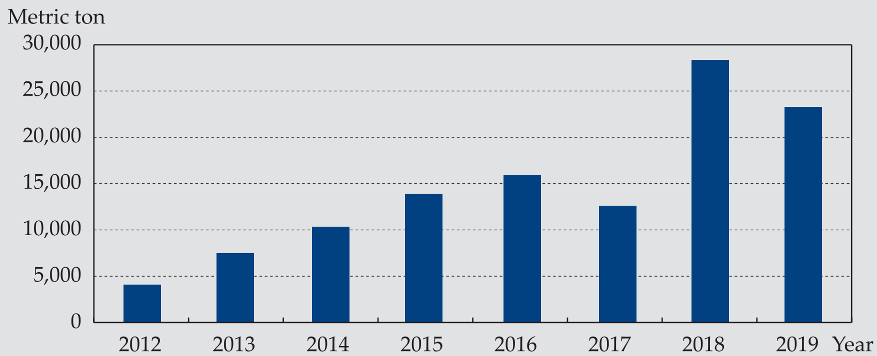
(5) Sales of gold-based wealth management products continued to grow. In 2019, the issuance of gold-based wealth management products by commercial banks totaled RMB 2.468321 trillion, and RMB 2.121356 trillion of gold-based wealth management products were redeemed, up 31.70 percent and 16.46 percent year on year respectively.

(6) Domestic gold derivatives trading reported a year-on-year growth. OTC gold derivatives traded by commercial banks in China include USD- and RMB-quoted gold forward, gold options, and gold swap. In 2019, the trading volume of domestic OTC gold derivatives by commercial banks was 4,318.20 metric tons, up 8.51 percent year on year. In terms of product structure, gold swaps trading reached 3,056.53 metric tons, up 23.16 percent year on year, gold options trading reached 445.96 metric tons, up 35.03 percent year on year, gold forward trading reached 562.21 metric tons, down 51.85 percent year on year, and gold and RMB interest rate swap products trading reached 253.5 metric tons. In terms of currencies, the trading volume of gold derivatives quoted in RMB amounted to 1,318.11 metric tons, and those quoted in USD reached 3,000.08 metric tons, increasing by 6.32 percent and 9.50 percent year on year respectively.

6.1.3.3 Overseas gold trading by commercial banks declined

Overseas gold trading by commercial banks still mainly consists of gold spot, gold forward, gold swap, and overseas gold leasing, plus a small quantity of gold futures and gold options. In 2019, China's commercial banks traded 23,347.12 metric tons of gold through overseas gold trading channels and the total turnover stood at USD 1.03743 trillion, a year-on-year decline of 17.48 percent and 10.05 percent respectively.

Figure 6.7 Overseas gold trading of commercial banks



In particular, overseas gold spot trading reached 4,072.91 metric tons, down 15.92 percent year on year, overseas gold forward trading reached 1,275.59 metric tons, down 25.92 percent year on year, overseas gold swaps trading amounted to 12,782.5 metric tons, up 9.41 percent year on year, overseas gold futures trading was 89.14 metric tons, down 40.01 percent year on year, overseas gold options trading stood at 188.55 metric tons, a year-on-year increase of over 38 times, overseas gold leasing was 4,925.28 metric tons, down 50.2 percent year on year, and other derivatives quoted in USD reached 13.15 metric tons.

6.2 Main features of the gold market

6.2.1 Gold price soared, with larger spread between domestic and overseas markets

In early 2019, international gold price fluctuated at around USD 1,300 per ounce. From end-May to early-September, due to increased geopolitical risks and rates cut by the Federal Reserve, gold price rose rapidly to peak at USD 1,557.1 per ounce. Following that, it fell back from the yearly high and fluctuated, receiving relatively strong support to remain around USD 1,450 per ounce. At the end of the year, London spot gold price (XAu) closed at USD 1,517.18 per ounce, 18.32 percent higher than a year earlier. During the same period, gold spot price in the domestic market (Au99.99) grew by 19.75 percent.

Due to decreased gold import, supply of physical gold was generally tight in the domestic market in 2019, causing the average spread between domestic and overseas markets to increase by RMB 0.99 per gram to RMB 2.46 per gram, a year-on-year increase of 67.35 percent.

6.2.2 Total trading volume continued to grow, indicating strong gold investment needs

In 2019, total trading volume of the domestic gold market (including SGE, SHFE, and OTC market, based on bilateral calculations) reached 171,200 metric tons, an increase of 56.88 percent year on year. The trading volume of deferred gold products in SGE, gold futures in SHFE, and account gold in commercial banks grew by 60.09 percent, 186.58 percent, and 10.88 percent year on year respectively. Commercial banks sold a total of RMB 2.468321 trillion of gold-based wealth management products, up by 31.70 percent year on year. Trading in the secondary market of gold ETF was active, with the four gold ETF (Huaan, Guotai, E Fund, and Bosera) trading 1,415.09 metric tons in total, an increase of 29.17 percent from a year earlier.

6.2.3 Sales of physical gold dropped while gold repo witnessed rapid development

Physical gold sales of commercial banks dropped for the fifth consecutive year. In 2019, commercial banks sold a total of 208.14 metric tons of physical gold, down 22.18 percent year on year, which was 5.85 percentage points greater than the decline (16.33 percent) in the previous year. Trading volume of gold spot contracts in SGE stood at 5,214.17 metric tons, down 22.63 percent from the previous year.

The rise of gold price also boosted the recovery of gold repo market. In 2019, gold repo and redemption by commercial banks amounted to 197.58 metric tons, up by 46.49 percent year on year. Specifically, repo volumes of proprietary trading and agent trading were 40 metric tons and 22.27 metric tons, soaring by 186.99 percent and 114.13 percent from the previous year, respectively. Redemption of gold accumulation (regular investment) registered 135.37 metric tons, up by 22.44 percent year on year.

6.2.4 Financial institutions conducted more cooperation on gold business, and gold market developed in a multi-layered, orderly manner

In 2019, the number of participants in the interbank gold market grew by 12 percent, forming a market pattern where interbank market, bank-enterprise market, and international board inquiry market fully connected with each other. Interbank gold lending was 1,448.03 metric tons in total, a year-on-year increase of 83.16 percent. Commercial banks operating gold accumulation business through interbank cooperation entrusted banks with market maker's qualification in the SGE gold inquiry market to finish trading. Most small and medium-sized banks chose large-scale state-owned banks, joint-stock commercial banks and foreign-funded banks as counterparties to hedge exposure risks in gold trading. Securities companies also leveraged their advantage in off-exchange gold options quotation to provide options quotation services for banks. Three money brokers, including China Credit BGC, Pingan Tradition, and CITIC Central Tanshi, started inquiry agent business in SGE, which further capitalized on their market functions.

6.2.5 Investor structure was optimized in the gold market, with larger involvement of institutions

Commercial banks are still the primary traders in SGE, accounting for over 80 percent of gold trading. As of end-2019, there were 270 members of SGE. Among them, 157 were general members (including 30 financial institutions and 127 comprehensive ones), and 113 were special members (including 8 foreign-funded financial institutions, 79 international members, and 26 special institutional members such as securities companies, trust companies, and small and medium-sized banks.

Institutional investors became more involved in SGE gold futures. In 2019, corporate clients accounted for 44.25 percent of gold futures trading and 75.22 percent of gold futures positions. There were more than 12,000 special clients such as securities companies and fund management companies, and domestic institutions like enterprises engaged in gold production and consumption and commercial banks became key participants in the gold futures market. With the gradual expansion of the market, many fund companies are already developing ETF products for gold futures. In addition, incorporated clients have accounted for an increasingly large share of turnover and position of gold options, standing at 73.46 percent and 64.87 percent respectively.

6.3 Institutional improvement, infrastructure construction and product innovation

6.3.1 Regulations in the gold market were implemented, and market order was maintained

First, the three administrative measures on gold asset management business, Internet gold business and gold accumulation business were implemented. The SGE issued the *Detailed Rules for Registration and Custody of Gold Asset Management Business*, and launched the registration and custody system of gold asset management business for trial operations. Commercial banks rectified their business in accordance with the requirement that the minimum business unit of gold accumulation products should be one gram. Second, the self-discipline management system was improved in the gold market. The SGE issued the revised measures for membership administration, trading seat administration and handling of misconducts to clarify misconduct investigation, recognition and punishment for its members and market participants, and continuously strengthened membership administration. In 2019, the SGE finished trial rating for member classification, and initiated "double recording" for individual agent businesses, in order to protect the legitimate rights and interests of market participants.

6.3.2 Gold products were continuously innovated in line with market demand

First, the deferred product of NYAuTN was released. The SGE officially listed NYAuTN on October 14th, 2019, offering investors a new access to the international gold market. Second, gold futures options products were available on market, providing brand new risk management tools for the industry. Third, ICBC Wealth Management launched the first gold-linked wealth management product capable of direct investment in SGE spot contracts. Fourth, logistics for panda gold coin deliveries through "*Yijintong*" were improved. Shanghai Gold ETF products were comprehensively promoted, and assistance was offered to financial institutions in developing gold spot and derivatives products based on Shanghai Gold Benchmark Price.

6.3.3 Trading rules in the gold market were improved

First, rules for gold leasing and deliveries were optimized. The SGE promoted well-regulated development of the gold leasing market by revising and issuing the general agreement on gold leasing business, administrative measures for vaults, and detailed rules for deliveries. Second, floor trading rules were comprehensively improved. Trading rules for SGE price matching business and interbank gold inquiry business, detailed details for centralized pricing trading, as well as administrative measures for market makers were revised and issued. Third, trading rules for gold futures were improved. The SHFE adopted multiple measures to improve the continuity of active contracts of gold futures and improve the depth and efficiency of market operations, including improving gold futures rules and trading and delivery mechanism, optimizing collateral management, devising portfolio margin plans, reducing minimum price change for gold futures, and advancing the gold futures market maker system. Dominant contracts of gold futures shifted from the deferred pattern of June and December contracts to bi-month activity, demonstrating remarkably higher market liquidity and receiving positive feedback from enterprises in the real economy.

6.3.4 Infrastructure services in the gold market were improved

First, trading hours in SGE were extended to improve market efficiency. Trading continued during noon time, and opening hours during trading days have been extended to 13 hours. Second, transaction costs were reduced to serve the real economy. Preferential commission rates were applicable to deferred contracts, with commission reduction or exemption policies in price matching, inquiry and pricing markets still in place. Third, the trading mechanism was improved, and the investor structure became more diversified. The market maker management model was expanded, online trading brokerage was launched, business regulations for special incorporated accounts were improved, routine trading management was enhanced, and active responses were enabled to meet the needs of new investors such as wealth management subsidiaries. Fourth, the scope of services was expanded, with services further enriched. The volatility rate of inquiry gold options and the price curve of silver forward were issued, and the registration and custody of gold asset management business was actively promoted.

6.4 Outlook of the gold market

In 2020, China's gold market will march towards high-quality development, with continuous market innovation and development, improved functions in offering services, more financial institutions as participants, as well as greater width and depth. Meanwhile, regulations in the gold market will be continuously improved, and market management and monitoring will be strengthened, so as to ensure risks in the gold market are prevented and defused.

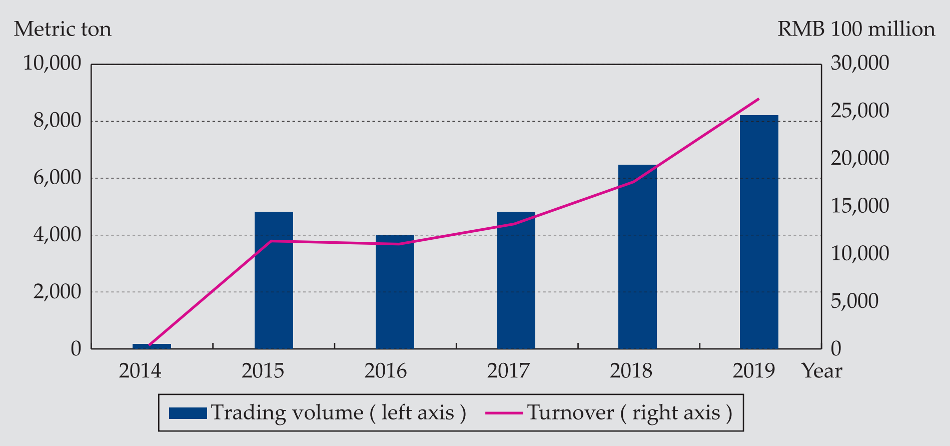
BOX 8 Opening-up of the gold market

In recent years, China has been continuously opening up its gold market. Thanks to the development opportunities brought by "preliminary trials" and "expansion of opening-up of financial services" in the China (Shanghai) Pilot Free Trade Zone, the SGE gold international board took full advantage of the factor market as an opening-up platform, continuously developed its market size, participant base, product types, and international cooperation, and played an increasingly important role in making China's gold market more vocal globally, connecting with BRI countries, as well as linking with major global financial centers.

1. The trading volume of gold international board grew steadily, with increasing involvement of international members

From its launch in 2014 to end-2019, the gold international board reached a cumulative trading volume of 28,502.45 metric tons and a turnover of RMB 7.96 trillion. In 2019, trading volume and turnover were 8,198.24 metric tons and RMB 2.62 trillion, up 25.19 percent and 48.22 percent year on year respectively.

Figure 6.8 Gold trading in international board from 2014 to 2019



In 2019, the number of international members in the SGE international board increased by 6 to reach 79, and that of international clients reached 85, basically covering major commercial banks, precious metal enterprises, and investment institutions across the globe. Among these, financial institutions accounted for 60.81 percent of all international members.

2. The international board became more important in import, and actively supported the gold industry in going global

First, the international board became increasingly significant as a gold import channel. From its release to end-2019, 1,423.337 metric tons of gold were imported through the international board, making it a significant channel for China's gold import. Second, it supported China's gold industry in actively going global. The SGE and its international members jointly launched the "Gold Road" project, connecting China's high-quality capacity of gold processing and manufacturing with gold industry in BRI countries, transferring relevant production capacity to regions along the BRI route, and attracting gold market participants in BRI countries to the Chinese market, with a view to building a regional center for gold trading, warehousing, and transfer. On August 8th, 2019, the final products of "gold leasing + jewelry processing" business, the first of its kind under the "Gold Road" project, were delivered and re-exported in the international board warehouse in Shenzhen, which is likely to promote clustered development of China's gold industry and industrial upgrading of China's gold market.

3. China's gold pricing standards were spread by promoting the Shanghai Gold Benchmark Price

In 2016, the SGE released Shanghai Gold Benchmark Price, the first RMB-denominated gold benchmark price in the global gold market. After the SGE authorized Dubai Gold and Commodity Exchange (DGCX) to use the Shanghai Gold Benchmark Price to develop relevant futures products, on October 14th, 2019, the SGE conducted bilateral licensing cooperation with Chicago Mercantile Exchange (CME) to launch new T+N contracts based on COMEX Gold Futures Asia Spot Prices, as well as Shanghai Gold futures based on the Shanghai Gold Benchmark Price. The SGE's NYAuTN, denominated in RMB and with a size of 100 grams, takes the RMB equivalence of COMEX Gold Futures Asia Spot Prices as the final settlement price. CME's Shanghai Gold futures contracts denominated in RMB and USD respectively and with a size of one kilogram take the SGE Shanghai Gold Benchmark PM Price as the final settlement price. Throughout the year, the trading volume of NYAuTN contracts was 38.02 metric tons, with a turnover of RMB 12.848 billion. The daily average trading volume and turnover were 667.07 kilograms and RMB 225 million. Such cooperation between SGE and CME provided convenience for both overseas investment institutions using RMB to participate in domestic financial market transactions, as well as domestic investors using RMB to indirectly *invest in the international gold market, which can help to increase the influence of RMB-denominated gold price and the global voice of China's gold market.*

4. The influence of China's gold market was improved by innovating the global model of cross-market cooperation

Over the last five years, the SGE actively cooperated with the overseas market to promote interconnectivity between global gold markets. It signed MOUs with Hong Kong Exchanges and Clearing, Moscow Exchange, and Budapest Stock Exchange to explore cooperation opportunities in various areas including product development, technological innovation, and business development. It actively explored the Indian market by reaching agreements on cooperation regarding Shanghai Gold licensing and order routing project respectively with BSE and National Stock Exchange of India. In addition, it deeply explored potential of cooperation with Deutsche Boerse, London Metal Exchange, and Euronext, and strived to promote cooperation and connection with gold markets in Turkey, Thailand, Malaysia, Myanmar, and China Macau, creating diversified investment channels for domestic and overseas investors and continuously improving the international influence of China's gold market.

Chapter 7 Insurance Market

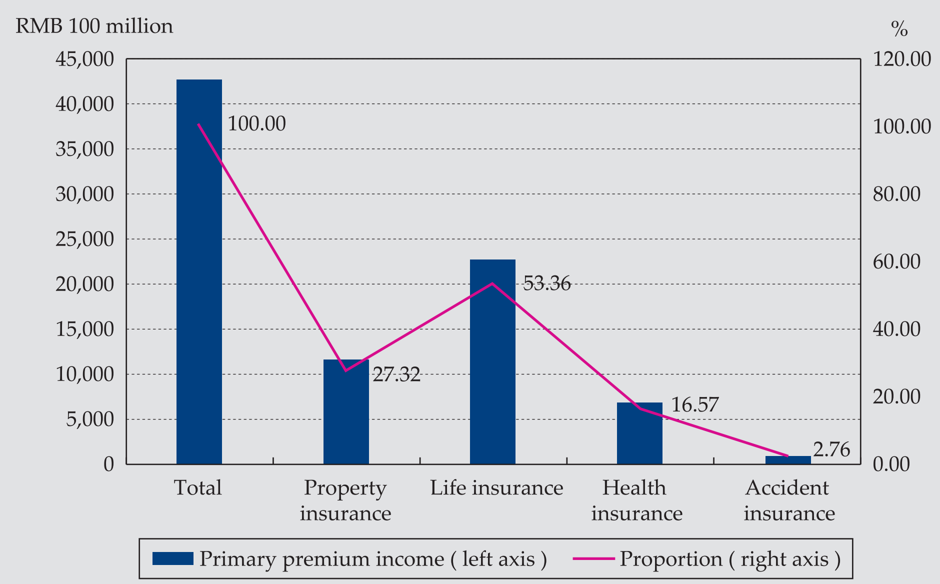
In 2019, the overall operation of the insurance market in China was stable. The insurance industry made proactive efforts towards a high-quality development model, premium income continued to grow steadily, the function of insurance guarantee was enhanced, and the quality and effectiveness of services for the real economy was constantly raised. The order of the insurance market was increasingly well-regulated, the risk management capacity was steadily boosted and the foundation of risk prevention was continuously consolidated. Meanwhile, external situations remained complicated, and the problem of dissatisfactory development quality persisted in the industry.

7.1 Performance of the insurance market

7.1.1 Primary premium income

In 2019, China's insurance industry achieved primary premium income of RMB 4.2645 trillion, up 12.2 percent year on year. Property, life, health, and accident insurances accounted for 27.32 percent, 53.36 percent, 16.56 percent, and 2.76 percent respectively. From 2015 to

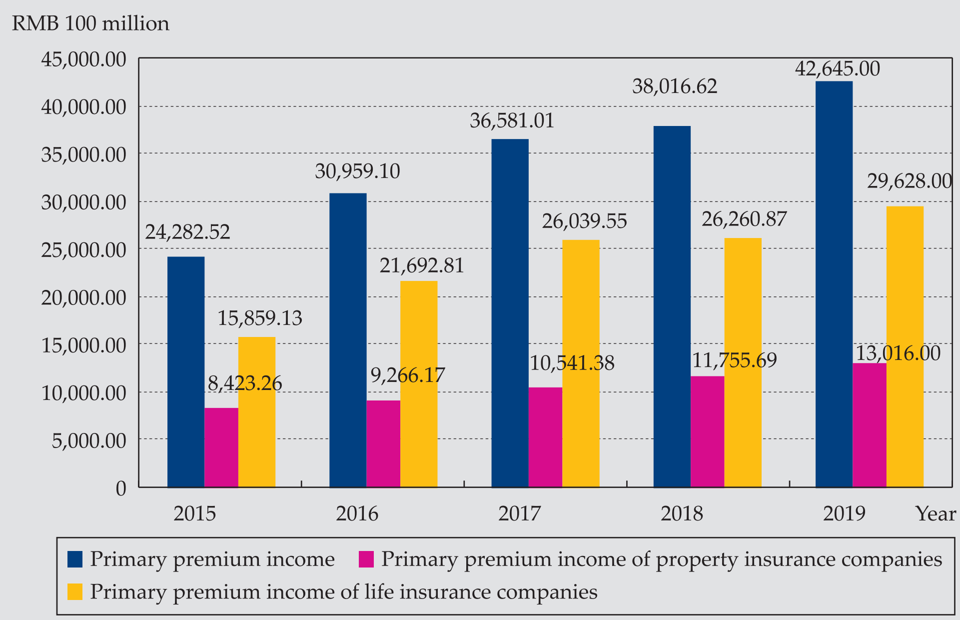
Figure 7.1 Primary premium income structure in 2019



(Source: Official website of the CBIRC)

2018, primary premium income of insurance companies recorded RMB 2.428252 trillion (up 20.00 percent year on year), RMB 3.095910 trillion (up 27.50 percent year on year), RMB 3.658101 trillion (up 18.16 percent year on year), and RMB 3.801662 trillion (up 3.92 percent year on year) respectively. From 2015 to 2018, on a year-on-year basis, primary premium income of property insurance companies increased by 11.65 percent, 10.01 percent, 13.76 percent, and 11.52 percent respectively, and that of life insurance companies rose by 24.97 percent, 36.78 percent, 20.04 percent, and 0.85 percent respectively.

Figure 7.2 Primary premium income from 2015 to 2019

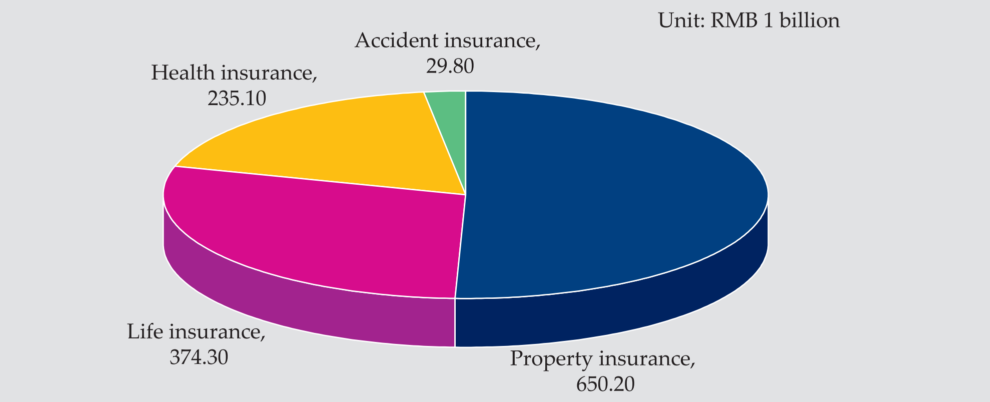


(Source: Official website of the CBIRC)

7.1.2 Claims and payments

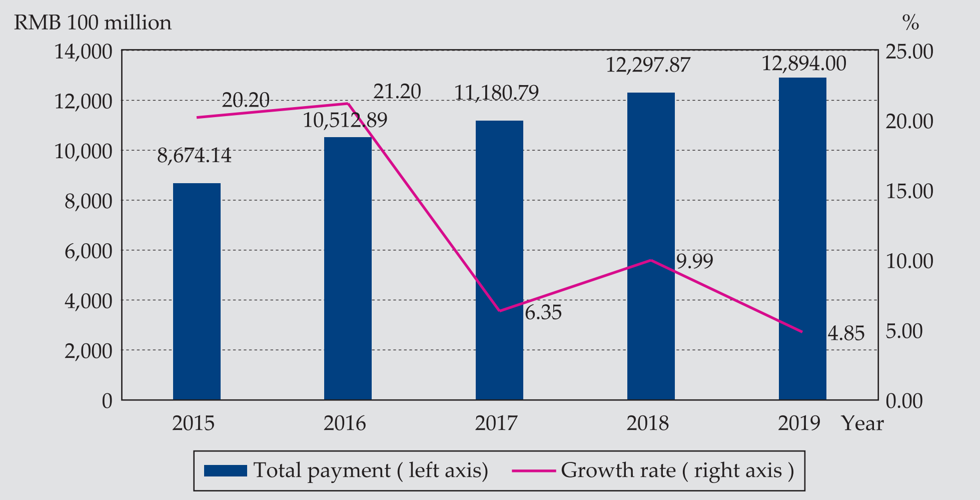
In 2019, insurance companies paid RMB 1.2894 trillion in claims and payments, up 4.85 percent year on year, of which property, life, health, and accident accounted for 47.95 percent, 35.69 percent, 14.18 percent, and 2.18 percent respectively. From 2015 to 2018, claims and payments of the insurance industry recorded RMB 867.414 billion (up 20.20 percent year on year), RMB 1.051289 trillion (up 21.20 percent year on year), RMB 1.118079 trillion (up 6.35 percent year on year), and RMB 1.229787 trillion (up 9.99 percent year on year) respectively.

Figure 7.3 Structure of claims and payments in 2019



(Source: Official website of the CBIRC)

Figure 7.4 Claims and payments from 2015 to 2019

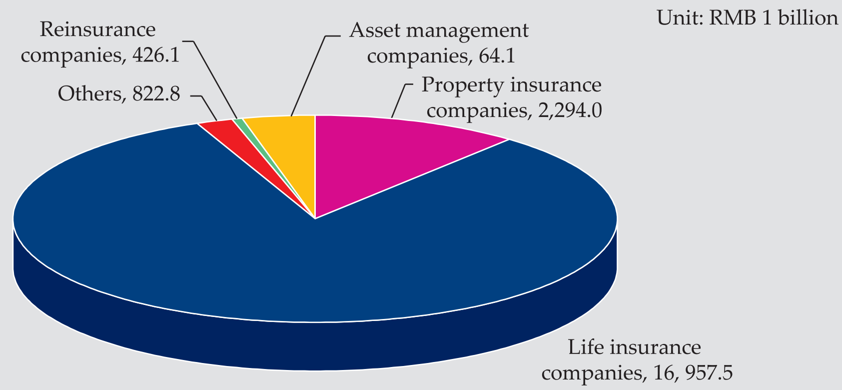


(Source: Official website of the CBIRC)

7.1.3 Insurance assets

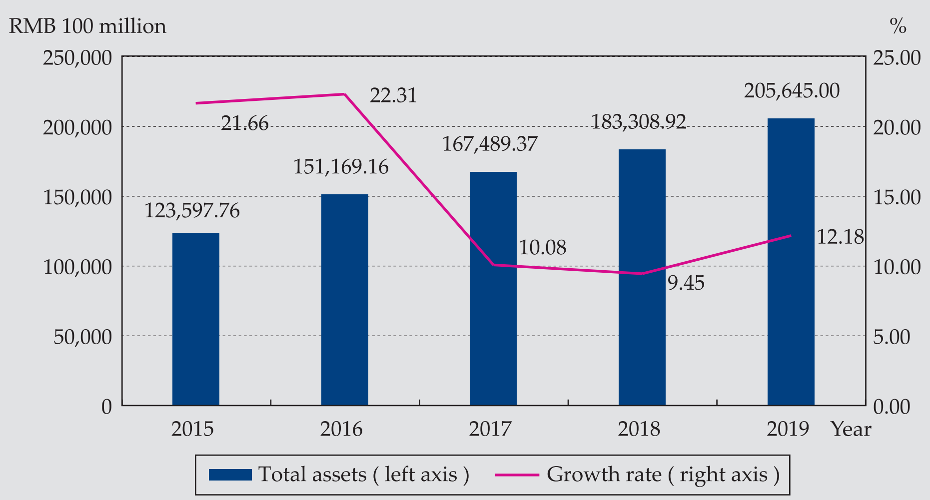
As of end-2019, total assets of insurance companies amounted to RMB 20.6 trillion, an increase of RMB 2.2 trillion, or 12.2 percent, compared to the beginning of the year. Total assets of property insurance companies, life insurance companies, reinsurance companies, and insurance asset management companies stood at RMB 2.3 trillion (down 2.3 percent compared to the beginning of the year), RMB 17.0 trillion (up 16.1 percent compared to the beginning of the year), RMB 426.1 billion (up 16.8 percent compared to the beginning of the year), and RMB 64.1 billion (up 15.0 percent compared to the beginning of the year) respectively. From 2015 to 2018, total assets of the insurance industry registered RMB 12.359776 trillion (up 21.66 percent year on year), RMB 15.116916 trillion (up 22.31 percent year on year), RMB 16.748937 trillion (up 10.08 percent year on year), and RMB 18.330892 trillion (up 9.45 percent year on year) respectively.

Figure 7.5 Structure of total assets in the insurance industry in 2019



(Source: Official website of the CBIRC)

Figure 7.6 Total assets in the insurance industry from 2015 to 2019



(Source: Official website of the CBIRC)

7.2 Main features of the insurance market

7.2.1 The industry continued to enhance insurance services

In 2019, the insurance industry registered RMB 6,470 trillion in the total amount insured, down 6.19 percent from a year earlier; claims and payments totaled RMB 1.2894 trillion, up 4.85 percent year on year. The property insurance business and personal insurance business overall maintained stable performance, with a slight decline in the amount insured. In particular, the amount insured by property insurance companies and personal insurance companies was RMB 5,368.78 trillion (down 7.07 percent year on year) and RMB 1,101.26 trillion (down 1.64 percent year on year) respectively. By types, the amount insured registered RMB 252.34 trillion (up 19.45 percent year on year) for auto insurance, RMB 1,560.19 trillion (up 80.13 percent year on year) for liability insurance, RMB 3.81 trillion (up 10.12 percent year on year) for agricultural insurance, RMB 38.90 trillion (up 29.67 percent year on year) for life insurance, RMB 1,219.94 trillion (up 52.91 percent year on year) for health insurance, and RMB 2,824.62 trillion (down 25.84 percent year on year) for accident insurance.

7.2.2 The insurance industry proactively pursued transformation to return to its core business

In 2019, the number of new insurance sold was 49.538 billion, up 70.40 percent from a year earlier, including 48.741 billion (up 72.46 percent year on year) for property insurance companies and 797 million (down 1.48 percent year on year) for personal insurance companies. By types, the accumulated number of new policies stood at 4.944 billion (up 1.1 percent year on year) for cargo transportation insurance, 9.347 billion (up 28.57 percent year on year) for liability insurance, 2.808 billion (up 22.83 percent year on year) for guarantee insurance, 497 million (up 10.94 percent year on year) for auto insurance, and 100 million (up 12.36 percent year on year) for life insurance. Among new life insurance sold, 70.94 million (up 22.09 percent year on year) were attributed to general life insurance, 11.284 billion (up 252.51 percent year on year) for health insurance, and 13.536 billion (up 108.28 percent year on year) for accident insurance. China increased support for hog production, and facilitated the pilot program of providing financing for agriculture and MSBs with insurance funds. From January to November 2019, 178 million insured rural households were included in agricultural insurance, with total risk coverage of RMB 3.5 trillion, and claims of RMB 52.5 billion were paid to 44 million rural households.

7.2.3 The capability for warding off risks was constantly enhanced

In January 2019, the CBIRC published the *Notice on Matters Concerning the Investment of Insurance Funds in Banks' Capital Replenishment Bonds* (Yinbaojianfa〔2019〕No.7), allowing the investment of insurance funds in capital bonds without fixed terms issued by qualified banks. On April 28th, 2019, the *Notice of the CBIRC on Publishing "Regulatory Rules on Insurer Solvency –*

Q&A Collection No.2: Capital Bonds without Fixed Terms" further specified that where insurance companies invest in capital bonds without fixed terms issued by banks, they should measure the minimum cost of counterparty default risks in accordance with the *Regulatory Rules on Insurer Solvency No.8: Minimum Cost of Credit Risk*. Specifically, the risk exposure is the book values; the underlying risk factor of policy banks and large-scale state-owned commercial banks is 0.20 and that of national joint-stock commercial banks is 0.23.[①]

In 2019, the insurance industry overall performed steadily, the solvency ratios were kept within a reasonable range, the results of composite rating of risks were stable, the leverage ratio remained stable with a slight decline, and risks were overall controllable. At end-2019, the average general and core solvency ratios of 178 insurance companies, which were reviewed at a meeting, stood at 247.7 percent and 236.8 percent respectively. In particular, the average general solvency ratios of property insurance companies, personal insurance companies, and reinsurance companies were 284.2 percent, 240.7 percent, and 304.1 percent respectively. According to the review, 103 insurance companies were rated A in the composite rating of risks, with 69 rated B, 4 rated C, and 1 rated D.[②]

7.2.4 The use and allocation of insurance funds was continuously optimized

As of end-2019, outstanding insurance funds stood at RMB 18.5271 trillion, up 12.91 percent from the beginning of the year. Specifically, bank deposits totaled RMB 2.5227 trillion and accounted for 13.62 percent of the total, a year-on-year increase of 3.54 percent; investment in bonds amounted to RMB 6.4032 trillion and made up a share of 34.56 percent in the total, a year-on-year increase of 13.57 percent; investment in stocks and securities investment funds amounted to RMB 2.4365 trillion and accounted for 13.15 percent of the total, a year-on-year increase of 26.77 percent; other investments registered RMB 7.1674 trillion and represented 38.67 percent of the total, a year-on-year increase of 11.74 percent.

7.3 Innovation in the insurance market

7.3.1 Reform was deepened to promote the high-quality development of the insurance industry

In September 2019, the CBIRC published the *Notice on Matters Concerning Improving the Valuation Interest Rate Formation Mechanism for Liability Reserves of the Personal Insurance Industry and Adjusting the Valuation Interest Rates for Liability Reserves* (hereinafter referred to as

① Source: http//www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=217553&itemId=928&generaltype=0. Accessed on: February 20, 2020.

② Source: http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=904329&itemId=915. Accessed on: May 15, 2020.

the *Notice*), proposing to improve the valuation interest rate formation mechanism for liability reserves of the personal insurance industry by focusing on two aspects. First, the trend adjustment of valuation interest rates would be enhanced. Investors in the insurance industry may be under certain stresses in the future. Therefore, in order to cope with the potential interest spread risks, the *Notice* provided that, for ordinary pension annuities issued on and after August 5th, 2013 or ordinary long-term annuities with a term of more than 10 years, the upper limit for the valuation interest rate of liability reserves would be changed from the lower one between an annual compound interest rate of 4.025 percent and the predetermined rate to the lower one between an annual compound interest rate of 3.5 percent and the predetermined rate. The requirements for valuation interest rates of other insurance products remained changed. Second, the organizational guarantee for the valuation interest rate formation mechanism would be enhanced. The *Notice* supported the Insurance Association of China in establishing the expert consulting committee on valuation interest rates for liability reserves of the personal insurance industry to discuss the necessity and impacts of adjusting valuation interest rates on a regulator basis and provide suggestions to inform the decision-making of regulators. The *Notice* can help further deepen the reform of the personal insurance rate formation mechanism, consolidate the bottom line of guarding against systemic risks in the personal insurance market, and promote the high-quality development of the personal insurance market.[①]

In November 2019, in order to further regulate conducts in the health insurance business and protect the legitimate rights and interests of consumers, the CBIRC revised the *Measures on Administration of Health Insurance*. The revision improved the definition and business categorization of health insurance, and included medical accident insurance in the scope of health insurance; unified regulatory systems, operation rules and reserve valuation standards for health insurance of property insurance and personal insurance companies; encouraged health insurance products to provide guarantees for new medical approaches, new pharmaceutics and new medical devices, so as to support medical advances and promote the development of the health industry; guided the insurance industry to assume its social responsibilities, provide prioritized support for impoverished population and facilitate poverty alleviation by improving health care; made clear that the rates on long-term medical insurance can be adjusted to cope with rising medical expenses as a result of changes in the spectrum of disease or medical advances, and supported the increase of long-term products in the structure of health insurance; required insurance companies to strictly abide by the

① CBIRC Officials Answer Press Questions on *Notice on Matters Concerning Improving the Valuation Interest Rate Formation Mechanism for Liability Reserves of the Personal Insurance Industry and Adjusting the Valuation Interest Rates for Liability Reserves*, *http://www.gov*.cn:8080/zhengce/2019-09/02/content_5426425.htm, accessed on: December 1, 2019.

terms for filing or approval as well as relevant rates when selling health insurance products, and must not engage in the tie-in sale of other products; prohibited insurance companies from illegally collecting or obtaining the genetic information, genetic testing results, or other information other than the family history of the insured; supported the integration of health insurance and health management to provide services like disease prevention and chronic disease management, lower health risks and reduce losses from diseases; and followed the features of the Internet era and supported the use of means like digital technologies to facilitate the execution of health insurance contracts.[①]

7.3.2 Institutions and mechanisms were strengthened to promote the high-quality development of agricultural insurance

In September 2019, the CBIRC and three other departments jointly published the *Guiding Opinions on Accelerating the High-Quality Development of Agricultural Insurance* (hereinafter referred to as the *Guiding Opinions*), requiring measures be taken according to the decisions and arrangements of the CPC Central Committee and the State Council to optimize the operational mechanism of agricultural insurance, advance the high-quality development of agricultural insurance, and better satisfy the increasing demand for risk protection in the area of agriculture, rural areas, and farmers. The *Guiding Opinions* provided that, by 2022, a multi-tiered agricultural insurance system should be initially established, which features thorough functions, well-regulated operations and sound underpinnings, matches the modern development stage of agriculture and rural areas, fits with rural households' demand for risk protection, and enables the division of work between central and local authorities. By then, the coverage of agricultural insurance for three major grain crops, namely rice, wheat, and corn, should exceed 70 percent, income insurance will become an important part in agricultural insurance, the proportion of agricultural insurance premiums to the value-added output of the agricultural sector should reach 1 percent, and every working person in the agricultural sector should on average contribute RMB 500 to agricultural insurance premiums. By 2030, with continued improvements to quality and effectiveness of agricultural insurance as well as transformation and upgrading of the industry, the agricultural insurance system will be overall upgraded to an internationally-advanced level and foster a win-win landscape in which subsidies are granted efficiently, industries are protected from risks, farmers are benefited and insurance institutions achieve sustainable development. To improve the capacity of agricultural insurance services, the *Guiding Opinions* required that steps be taken

① CBIRC Officials Answer Press Questions on the Newly Revised *Measures on Administration of Health Insurance*, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=853695&itemId=916&generaltype=0, accessed on: February 19, 2020.

to improve the coverage and risk protection level of agricultural insurance, expand the range of agricultural insurance services and implement measures to deliver convenience and benefits to the people. To optimize the operational mechanism of agricultural insurance, the *Guiding Opinions* stated that efforts should be made to clarify the boundaries between the government and the market, improve the catastrophic risk diversification mechanism, implement the catastrophic risk reserve system for agricultural insurance, and clean up and regulate the agricultural insurance market. To enhance infrastructures for agricultural insurance, the *Guiding Opinions* laid out requirements of improving insurance clauses and the rate determination mechanism, enhancing agricultural insurance information sharing, optimizing the layout of insurance institutions and improving the risk prevention mechanism. The *Guiding Opinions* also called for efforts to further enhance coordination, increase policy support and create a favorable market environment for the development of agricultural insurance.

7.3.3 The insurance industry was guided to better serve the real economy and effectively guard against financial risks

In July 2019, in order to further improve the regulatory system for management of insurance assets and liabilities, enhance the binding regulatory constraints for asset and liability management and advance the transformation and high-quality development of the industry, the CBIRC formulated the *Interim Measures on the Management and Supervision of Insurance Assets and Liabilities* (hereinafter referred to as the *Interim Measures*). As for asset and liability management, the *Interim Measures* provided requirements for insurance companies to establish and improve the asset and liability management system, which include those on organizational system, flow of control, models and tools, performance appraisal, management report, term structure matching, cost-benefit matching, and cash flow matching. These requirements correspond to the contents in capability assessment rules and quantitative assessment rules. The *Interim Measures* also standardized the approaches of regulatory assessment of asset and liability management, made clear that differentiated regulation should be exercised on insurance companies based on their asset and liability management capacity and matching status of assets and liabilities, and tightened the binding regulatory constraints for asset and liability management. The publication and implementation of the *Interim Measures* help urge insurance companies to improve their capability for asset and liability management, guard against risks of asset-liability mismatch, guide the transformation of the insurance industry and the sound and prudent allocation of assets, and promote the high-quality development of the industry.

While ensuring effective capital regulation, the CBIRC also took further steps to encourage insurance companies to play the role of institutional investors to serve the real economy and prevent and defuse financial risks. First, the CBIRC supported the investment of insurance funds in shares of companies listed on the STAR Market, in the forms of IPO placement, strategic follow-on offering, floor trading, etc., so as to further optimize the allocation structure of insurance assets and serve the development of sci-tech innovation enterprises. Second, it encouraged insurance companies to buy more shares of quality listed companies. Efforts are being made to work on the launch of a regulatory assessment mechanism of asset and liability management to encourage insurance companies to hold shares in the long term and participate in the moves to stabilize and support the development of the capital market. Third, the CBIRC allowed insurance asset management companies to launch special products to participate in the resolution of liquidity risks arising from stock pledge of listed companies, and provided certain policy support with regard to the investment scope of the products and the regulatory cap for the proportion of equity assets.[①] According to statistics of China Insurance Assets Registration and Trading System Co., Ltd., as of end-2019, the target size of special products reached RMB 136.0 billion.

7.3.4 The standardization of the insurance industry in China was advanced to push forward its sound development

On April 1st, 2019, the first national standard of the insurance industry in China, *Basic Terminology of Insurance* (GB/T 36687—2018) (hereinafter referred to as the *Terminology*) came into effect officially. The drafting of the *Terminology* was organized by the Insurance Subcommittee of the China Financial Standardization Technical Committee, led by China Pacific Insurance (Group) Co., Ltd., and joined by experts from different areas and institutions in the insurance industry and other sectors. It is a landmark achievement made in the standardization of the insurance market. Compared with industry standards, the *Terminology* is authoritative, specialized and universal. First, the section "Basic Terminology" is newly added for ordinary consumers, which includes definition of insurance products and common terms used in the insurance sale and service processes, such as sale, underwriting, and claim settlement. Second, during the formulation and review of the *Terminology*, opinions from industry players were broadly taken into consideration, and comments of experts outside the industry, including those from the China National Institute of Standardization, the Research Institute of Highway under the Ministry of Transport and the Data Communication Technology Research Institute, were also introduced to conduct repeated argumentation and reviews on the *Terminology*, so as to include more terms and offer more accurate descriptions.

The publication and implementation of the *Terminology* is of great significance to the transformation and development of the

① CBIRC Officials Attend the Policy Briefing of State Council Information Office and Answer Press Questions, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=224504&itemId=915&generaltype=0, Accessed on: February 18, 2020.

insurance industry. First, it is conducive to consumer protection. As a "dictionary" of standard terms for the insurance industry, the *Terminology* can enhance public understanding and dissemination of insurance knowledge, help consumers to better understand insurance products, clauses, and insurance services offered by insurance institutions, raise consumers' satisfaction of insurance, and improve the image of the insurance industry. Second, it can help make the cooperation and communication inside and outside the insurance industry more efficient, and thereby promote the development of insurance business. As the foundation for insurance data and information exchange, the *Terminology* can help boost the efficiency of cooperation and communication within the insurance industry and between the insurance industry and other related industries, speed up the realization of mutual understanding, lower the cost of exchange and facilitate the development of insurance business. Third, it can contribute to the tightening of risk control and the sound development of the insurance industry. As a cornerstone on the road towards the standardized and digital development of the insurance industry, it can help regulators to obtain business statistical and analytical data with unified standards, enable effective risk monitoring on the market behaviors, solvency, corporate governance structure, etc. of insurance institutions, enhance risk control in the industry and facilitate the transition of the insurance industry from high-speed growth to high-quality development.

7.4 Opening-up of the insurance market

In May 2019, upon approval of the CPC Central Committee and the State Council, the CBIRC rolled out new opening-up policy measures for the insurance industry, including lifting the foreign ownership cap, relaxing market access conditions, expanding business presence, etc. In July 2019, based on intensive studies and evaluations, the FSDC Office of the State Council introduced another around of opening-up policy measures, including broadening the market access of foreign-funded insurance companies.

7.4.1 The foreign ownership cap was removed or eased

In November 2019, the CBIRC published the revised *Detailed Rules on the Implementation of the Regulation of the People's Republic of China on the Administration of Foreign-Funded Insurance Companies* (hereinafter referred to as the Detailed Rules), with an aim to implement the opening-up measure of easing the foreign ownership cap on foreign-funded personal insurance companies. In Article 3 of *the Detailed Rules*, the relevant provision was changed to provide that "for joint-venture insurance companies which are established jointly by foreign insurance companies and Chinese companies or enterprises within the territory of China and engaged in the personal insurance business, the foreign ownership shall account for no more than 51 percent of their total equity", and a provision was added stating that "where there are regulations stipulated otherwise by the CBIRC, such regulations shall prevail" to leave institutional space for completely removing the foreign ownership cap in due course in 2020.

7.4.2 The market access conditions of foreign-funded institutions were relaxed

In 2019, the CBIRC revised the *Detailed Rules* to put in place the opening-up measures of easing market access conditions for foreign-funded insurance companies, including provisions stating "the requirement that a representative office must be operated in China for at least two years before the establishment of a foreign-funded insurance institution is scrapped nationwide" and "the requirement of over-30-year operation is removed". According to the *Decision of the State Council on Revising the Regulation of the People's Republic of China on the Administration of Foreign-Funded Insurance Companies and the Regulation of the People's Republic of China on the Administration of Foreign-Funded Banks, the Detailed Rules* no longer provides any rules on matters concerning "over-30-year operation" or "representative institution".

7.4.3 Regulatory rules for foreign-funded institutions were optimized

The *Detailed Rules* further unified the regulatory rules for Chinese and foreign-funded insurance companies. First, in terms of branch management, part of the original provisions concerning branch management of foreign-funded insurance companies was deleted from the *Detailed Rules*. The establishment and management of branches of both foreign-funded and Chinese insurance companies are regulated under relevant provisions in the *Administrative Measures for Market Access of Branches of Insurance Companies*, so as to ensure that they can cooperate and compete with each other under unified rules. Second, with regard to qualification management of Chinese applicants, it was made clear in the *Detailed Rules* that the *Administrative Measures for Equities of Insurance Companies* applies to the qualifications and management of Chinese applicants of any joint-venture insurance companies, in a bid to ensure the coordination and unification of relevant regulatory rules.

Meanwhile, in order to further regulate the equity management of foreign-funded insurance companies, the *Detailed Rules* required that a foreign-funded insurance company should have at least one insurance company, which is in normal operation, as its major shareholder. A major shareholder refers to a shareholder who possesses the largest proportion of total shares of a company, or any other shareholder who has a material impact on the company's operation and management as stipulated by laws, administrative regulations or regulations of the CBIRC. The *Detailed Rules* provided that the major shareholder should commit not to transferring its equities within five years of obtaining the equities. Where the major shareholder of a foreign-funded insurance company intends to reduce its stake or exit from the Chinese market, it still needs to fulfill its duty as a shareholder before the reduction or exit and make sure the solvency of the insurance company meets relevant regulatory requirements. These institutional arrangements can help further improve the regulatory system for equity management of foreign-funded insurance companies, optimize their corporate governance institutions and ensure their continued, sound operation.

7.5 Outlook of the insurance market

At present, the performance of the insurance industry is overall stable, with major indicators kept within a reasonable range. However, the risk situations are still complicated with uncertainties and instability. The insurance industry will earnestly implement the decisions and arrangements made by the CPC Central Committee and the State Council, comprehensively deepen the financial supply-side structural reform, improve the market-based formation mechanism for rates of commercial auto insurance, advance the building of the reinsurance market, and expand the pilot program of catastrophe insurance. Measures will be taken to further broaden opening-up, accelerate the implementation of policies which have been rolled out, attract domestic and overseas specialized institutions with well-focused core businesses, advanced management and sound records to take a stake in Chinese insurance companies, and vigorously improve their equity structure. Efforts will also be made to resolutely win the battle of preventing and defusing financial risks, effectively prevent and defuse risks arising from external shocks, conduct stress tests on insurance institutions and improve the contingency plans. Moreover, work will also be done to improve the quality and effectiveness of financial services for the real economy, actively advance green finance, launch a series of environmentally friendly financial products, and further raise the coverage and penetration rate of compulsory environmental pollution liability insurance.

BOX 9 The advantages of the floor trading market should be tapped to push forward the supply-side structural reform of health insurance

The insurance industry, as a force in guaranteeing economic and social development and serving the modernization of the State governance system and capacity, is a focus of attention in the supply-side structural reform. As continued improvements are made to the social security system, the effects of commercial health insurance have been increasingly evident. However, faced with many problems, it still plays a relatively limited role in the entire medical security system and has much room for development to satisfy the social security demand of the people.

1. Commercial health insurance is an important supplement to China's social security system

The next few years are a critical period for China to deepen reforms on all fronts, and the introduction of all kinds of reform measures, including those on social security, may involve many interests and thus result in some destabilizing factors. The approach of leveraging market forces to improve the social security system can relieve the people of worries, improve the resilience of the society to major reform measures and contribute to social stability. Commercial insurance can play a bigger role as an indispensable institutional arrangement in the market economy and an effective way for the government to benefit the people without any lost. Commercial health insurance will be an important priority area in commercial insurance in the future, which can reduce household financial burdens arising from medical expenses, disease-related damages, nursing and health care expenses which are not covered by basic medical insurance. With economic and social development and progress, people have put forward higher requirements for the level of health security, calling for a multi-tiered medical security system. The proactive development of commercial health insurance products, such as medical insurance, critical illness insurance, nursing insurance, and disability income insurance, can help satisfy the people's demands other than basic medical security, boost their capacity to resist risks and advance the building of a moderately prosperous society in all respects.

2. The supply-side structural reform of commercial health insurance is still hobbled by many factors

(1) Health insurance features a long industry chain and high market barriers

The health industry chain involves business integration of many areas, including insurance, medical services, supply of medicines, pension insurance, and health management. Meanwhile, at present, most insurance institutions which are engaged in the health insurance business have insufficient staffing of professional medical teams and maintain an "order-and-pay" relationship with various types of medical and health care institutions, and have not established a relationship featuring "sharing of both interests and risks", which restricts the development of the commercial health insurance market.

(2) Health insurance cannot satisfy the people's needs yet

First, products supplied are largely homogeneous. Imitations are very often seen in health insurance products. There is little difference, in terms of insurance liability, between products of the same type offered by different insurance companies. Second, the supply structure of products is not reasonable. At present in China, illness insurance products and medical insurance products combined account for 98 percent of the entire commercial health insurance market. As population aging picks up pace, the integrated development of long-term nursing insurance and disability insurance is urgently needed, but such insurances represent a share of less than 2 percent in the total. Thus the structure *of insurance products is not reasonable. Third, health insurance knowledge is still poorly understood by the public, which undermines people's sense of fulfillment when it comes to health insurance and leads to broadly insufficient awareness for preventing health risks with insurance.*

(3) The data foundation of the health insurance industry is relatively weak

First, the cross-industry data sharing mechanism is not sound enough. At present, there is a lack of integration of medical, medical insurance and medicine and health data in China, as social security departments and public hospitals maintain a monopoly on medical data. As a result, insurance companies can hardly gain knowledge of customers' medical history or medical expenses, thus lacking basis for risk management. Second, the information management capacity of insurance institutions is backward. Many insurance institutions have relatively primitive information systems, or they may outsource the business of claim settlement, which can both lead to insufficient accumulation of customers' health data and thus make it difficult to effectively manage and use such data.

3. The advantages of floor trading should be tapped to focus on addressing the supply-side problems of health insurance

(1) Great efforts should be made to construct a digital health insurance trading platform

Drawing on the successes of other countries, the industry should work to construct a health insurance trading platform, explore to tackle problems such as difficulty in accessing medical data and homogeneity of products, facilitate improvements to trading efficiency and service quality of health insurance, and improve the multi-tiered medical security system in China. First, major policy support should be secured for regional planning. Second, equal emphasis should be placed on government cooperation and market-based expansion. Third, the well-regulated trading service system and data standard system should be introduced.

(2) The building of the health insurance product innovation system should be accelerated

Based on deep mining and analysis of big data on medical health, more targeted special products should be developed for different areas of insurance and population groups; individual-based or household-based insuring with pre-existing medical conditions will be supported to raise the coverage of commercial insurance, thus increasing the proportion of commercial insurance in total health expenses and easing social security burdens; the supply of commercial health insurance products will be optimized to promote the transformation from claim-based insurance to management-based insurance.

(3) Vigorous efforts will be made to build up an ecosystem for the health insurance industry chain

Intensive efforts will be made to build up a health insurance ecosystem, with a particular focus placed on health insurance services and medical resources, and enable connections with health management service resources via industry associations. Meanwhile, with health insurance *service platforms at the core, specialized new-type insurance institutions and medical institutions shall be concentrated to serve the upstream and downstream sides of the health industry chain, so as to achieve better product R&D, product pricing, medical services, claim risk control, etc., and thereby make health insurance more of a specialized business.*

(4) Health insurance standards will be established to make trading more efficient

Through cutting-edge technologies such as intelligent medical transcoding and big data risk models, the industry will integrate knowledge from various resources, including data structure standards of the National Health Commission, Data Exchange Specification of Insurance and Medical Industry published by the CBIRC, and standards of medical partners, and gradually develop a series of standard exchange specifications and data specifications for insurance and medical institutions. The industry should also explore the coding standards and specifications as well as technical specifications for diagnosis-related group (DRG) and payment, advance the commercial health insurance reform based on medical data specifications, gradually establish a system of trading standards and rules, and improve the efficiency of commercial health insurance.

(5) Technologies will empower the innovative models of health insurance

Innovative technologies will become a booster for the continued development of the health insurance industry. With the application of technologies like big data, artificial intelligence, blockchain, and Internet of Things, leapfrogging progress will be achieved in product innovation, precision marketing, risk control, personalized services, etc. to improve the ecosystem of the health insurance industry. More new technologies will be introduced into the health insurance service platform.

Chapter 8 Derivatives Market

In 2019, China's derivatives market was expanded in a steady way, the quality of market operation continuously improved, the function in serving the real economy enhanced, the opening-up of the derivatives market further advanced and the innovation of varieties accelerated. The commodity futures and options market saw a significant rise in its trading volume, with 14 new varieties of futures and options listed on China's derivatives market in 2019, the most ever in history. The stock index futures market was basically back to normal. The treasury bond futures market became increasingly mature. The launch of CSI 300 index options by the SSE and the SZSE filled the void of stock index options in China's market. Multiple futures products were directly open to global investors for trading, with a steady rise in the number of overseas participants. The size of the interest rate swap market was further expanded, with more diversified participating institutions. A significant number of Credit Risk Mitigation (CRM) tools were created and launched to help ease the financing difficulties of enterprises, in particular private enterprises. Trading in the exchange rate derivatives market slightly declined, with trading mechanism further improved.

8.1 Commodity futures and options market

8.1.1 Performance of the commodity futures and options market

In 2019, China's commodity futures and options market realized a cumulative trading volume of 3.896 billion lots and a cumulative trading turnover of RMB 220.99 trillion, up 29.78 percent and 19.65 percent year on year respectively.

As for exchanges, Shanghai Futures Exchange (SHFE①) realized a cumulative trading volume of 1.448 billion lots and a cumulative trading turnover of RMB 112.52 trillion, up 20.44 percent and 19.35 percent year on year respectively, accounting for 37.16 percent and 50.92 percent in the market respectively. Dalian Commodity Exchange (DCE) realized a cumulative trading volume of 1.356 billion lots and a cumulative trading turnover of RMB 68.93 trillion, up 38.05 percent and 32.05 percent

① Shanghai Futures Exchange mentioned in this Chapter includes its subsidiary Shanghai International Energy Exchange (INE).

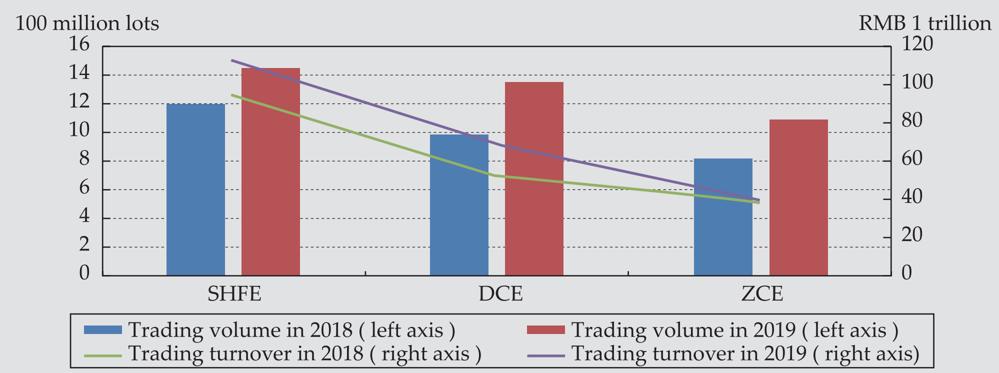
year on year respectively, accounting for 34.80 percent and 31.19 percent in the market respectively. Zhengzhou Commodity Exchange (ZCE) realized a cumulative trading volume of 1.092 billion lots and a cumulative trading turnover of RMB 39.54 trillion, up 33.58 percent and 3.45 percent year on year respectively, taking up 28.04 percent and 17.89 percent in the market respectively.

According to statistics of Futures Industry Association (FIA) in 2019, in terms of the trading volume of exchange-traded derivatives, SHFE ranked 10th in the world, the same place as 2018; DCE ranked 11th, up 1 spot from 2018; and ZCE ranked 12th, up 1 spot from 2018. For the trading volume of exchange-traded commodity derivatives in 2019, SHFE, DCE, and ZCE ranked the first, second, and fourth respectively, which were the same, up 1 spot, and the same compared with 2018.

For agricultural product, metal, and energy varieties traded globally in 2019, top three agricultural product and metal varieties in trading volume were from China. Top three agricultural product varieties were DCE Soybean Meal, ZCE Rapeseed Meal, and DCE RBD Palm Olein, with trading volume of 273 million, 138 million, and 136 million lots respectively. Top three metal varieties were SHFE Steel Rebar, DCE Iron Ore, and SHFE Nickel, with trading volume of 465 million, 297 million, and 160 million lots respectively.

In terms of trading volume, top ten commodity futures products of 2019 were Steel Rebar, PTA, Iron Ore, Soybean Meal, Methanol, Fuel Oil, Nickel, Silver, Rapeseed Meal, and RBD Palm Olein, with a total of 2.366 billion lots and accounting for 61.37 percent in the total commodity futures trading volume. The top ten varieties ranked by trading turnover were Iron Ore, Nickel, Steel Rebar, Crude Oil, Gold, Coke, Silver, PTA, Copper, and Soybean Meal, with a total turnover of RMB 130.97 trillion and accounting for 59.27 percent in the aggregated commodity futures turnover. The trading volume and turnover of various commodity futures products are shown in Figure 8.2.

Figure 8.1 Cumulative trading volume and trading turnover of SHFE, DCE, and ZCE from 2018 to 2019



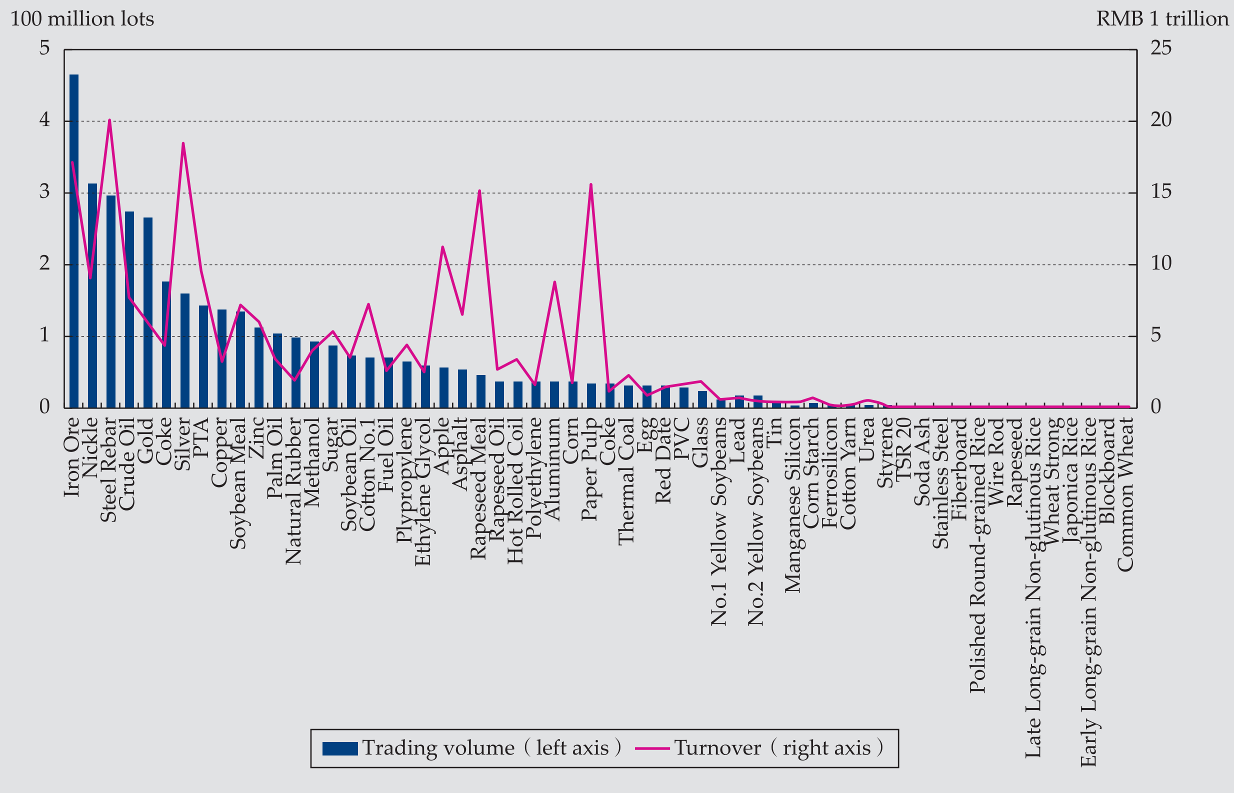
(Source: CFA)

Table 8.1 Top 10 trading exchanges in the world in 2019 (ranked based on trading volume of exchange-traded commodity derivatives)

2019 ranking	2018 ranking	Exchanges	2019 (100 million lots)	2018 (100 million lots)	YoY growth(%)
1	1	SHFE	14.48	12.02	20.44
2	3	DCE	13.56	9.82	38.05
3	2	CME Group	11.35	11.82	-3.95
4	4	ZCE	10.92	8.18	33.58
5	5	Intercontinental Exchange (ICE)	7.76	7.97	-2.65
6	6	Moscow Exchange (MOEX)	6.64	4.78	38.72
7	7	Multi Commodity Exchange of India Limited (MCX)	3.07	2.30	33.10
8	8	Hong Kong Exchanges and Clearing (HKEX)	1.76	1.85	-4.69
9	9	Indian Commodity Exchange (ICEX)	0.88	0.27	228.09
10	12	Borsa Istanbul (BIST)	0.58	0.22	161.08

Source: FIA and CFA.

Figure 8.2 Cumulative trading volume and turnover of various commodity futures in China in 2019



(Source: CFA)

8.1.2 Main features of the commodity futures and options market

8.1.2.1 Trading volume in the commodity futures market rose significantly

In 2019, China's commodity futures market saw a cumulative trading volume of 3.855 billion lots and turnover of RMB 220.95 trillion, up 29.22 percent and 19.64 percent year on year respectively. Among the agricultural products, the trading volume of Palm Oil skyrocketed 205.57 percent year on year. The trading volume of Rapeseed, Fiberboard, Egg, Sugar, Soybean Oil, Corn, and Rapeseed Meal all went up more than 30 percent year on year. Due to increasing uncertainties in the global economy and increased innovation in precious metal varieties such as the introduction of Gold and Silver futures market maker systems, the trading volume of Silver and Gold among metal varieties increased by 238.04 percent and 186.58 percent, Nickel and Iron Ore more than 25 percent, Tin 18.40 percent year on year. Among energy and chemical futures products, the trading volume of Fuel Oil rose sharply by 350.02 percent year on year, due to the smooth launch of bonded 380 Fuel Oil futures. Besides, the trading volume of Plypropylene, PTA, Polyethylene, and Methanol all increased over 60 percent year on year, and Asphalt and Crude Oil over 30 percent.

8.1.2.2 The commodity futures and options market saw an increase in trading volumes simultaneously

In 2019, 7 new varieties of commodity options were listed on China's derivatives market. The commodity options market saw a cumulative trading volume of 40.5951 million lots and a cumulative trading turnover of RMB 33.327 billion, up 120.89 percent and 54.38 percent year on year respectively. Top three varieties in terms of trading volume were Soybean Meal, Sugar, and Corn options, with trading volume of 17.8092 million lots, 6.7727 million lots, and 6.7602 million lots respectively; the cumulative trading volume of the three options accounted for 77.21 percent of the total. Top three varieties in terms of trading turnover were Copper, Soybean Meal, and Sugar options, with trading turnover of RMB 11.355 billion, RMB 7.315 billion, and RMB 5.337 billion; the cumulative trading turnover of the three options accounted for 72.03 percent of the total.

8.1.3 Innovation and institutional construction of the commodity futures and options market

8.1.3.1 The number of new varieties of futures and options listed hit a record high

In 2019, a total of 7 commodity futures and 7 commodity options were newly listed on China's market throughout the year. In particular, 4 were listed on SHFE, including technically specified rubber (TSR) 20 futures, Stainless Steel futures, Natural Rubber options, and Gold options, 4 were listed on DCE, including Polished Round-grained Rice futures, Styrene futures, Corn options, and Iron Ore options, and 6 were listed on ZCE, including Red Date futures, Urea futures, Soda Ash futures, Cotton options, PTA options, and Methanol options. Innovation was enhanced in the commodity derivatives market, so that the number of new varieties of futures and options listed in 2019 hit a record high, with more diversified risk management tools, which increased the quality and efficiency of the commodity futures and options market in serving the real economy.

8.1.3.2 Relevant laws, regulations, and rules were continuously improved

In January 2019, the CSRC solicited public comments on the M*easures for the Administration of Domestic Securities Investment by Qualified Foreign Institutional Investors and RMB Qualified Foreign Institutional Investors (Exposure Draft)*, and its supporting rules, which specified that qualified foreign institutional investors and RMB qualified foreign institutional investors are allowed to invest in commodity futures and options. In July 2019, the CSRC released the *Measures for the Administration of Representative Offices of Foreign Securities and Futures Exchanges in China* to bring representative offices of foreign futures exchanges under regulatory oversight. In November 2019, at the 15th China (Shenzhen) International Derivatives Forum, Fang Xinghai, Vice Chairman of the CSRC, gave a speech in which he mentioned that the consultation on the draft *Futures Law* with the State Council had finished and the draft had entered the legislative process at the National People's Congress.

8.1.3.3 The pilot "Insurance + Futures" program was scaled up

The three commodity futures exchanges of China further expanded the pilot "Insurance + Futures" program and increased their investment with funding support of about RMB 350 million. About 130 pilot projects were organized and implemented, including Corn, Soybean, Soybean Meal, Egg, Sugar, Apple, Red Date, Natural Rubber, and other varieties, to help win the battle against poverty.

8.1.4 Opening-up of the commodity futures and options market

8.1.4.1 More varieties were open to international markets

In August 2019, China started the trading of TSR 20 futures①, the fourth commodities futures open to both domestic and overseas investors. The TSR 20 futures provide risk management tools for enterprise along the global rubber industry chain. Among the commodities futures open to foreign investors, the Crude Oil futures made China the third-largest Crude Oil futures market globally in terms of barrels traded, with the number of overseas investors increasing by approximately 6 times compared with when they were initially listed, covering 17 countries and regions on four continents. China's Iron Ore futures market maintained the world's largest Iron Ore

① By end-2019, there were four commodity futures open to both domestic and overseas investors, namely Crude Oil futures, PTA futures, Iron Ore futures, and TSR 20 futures.

derivatives trading market, with more than 130 overseas participants' account opened by end-2019. As of end-2019, more than 140 overseas investors had opened accounts for PTA futures, and their combined daily average trading of the contracts accounted for 7.6 percent of the daily PTA trading volume. CNPC and Sinopec used China's Crude Oil futures price as the benchmark price in spot transactions with Shell, BP, Vitol Group, and other overseas oil-related enterprises. Brazil's Vale, world's top iron ore producer, signed basis trade contracts with China's steel companies using Chinese Iron Ore futures price as the benchmark price. Multiple EU enterprises referred to PTA futures price for pricing in trading PTA with China's enterprises. The commodity futures that were open to foreign investors had a steadily increasing influence over prices.

8.1.4.2 Multiple measures were taken to develop cross-border business

In October 2019, the CSRC officially announced that, starting from January 1st, 2020, the 51 percent foreign ownership cap for foreign-funded futures companies would be fully removed, and qualified foreign investors would be allowed to have 100 percent ownership of futures companies. In November 2019, DCE was recognized by the Monetary Authority of Singapore (MAS) as a Recognised Market Operator (RMO). Thus, SHFE[①], DCE, and ZCE all obtained the Automated Trading Services (ATS) license in Hong Kong, and SHFE and DCE were both recognized by the MAS as a RMO. Besides, in 2019, the CSRC officially approved SHFE, DCE, and ZCE as "Qualifying Central Counterparty" (QCCP), which helps the futures market go global and become more attractive.

8.1.4.3 Cross-border regulatory cooperation was enhanced

The CSRC actively enhanced its cooperation with regulatory authorities of various countries. It signed the Memorandum of Understanding (MOU) regarding securities and futures regulatory cooperation with BaFin and the Securities and Exchange Commission of Cambodia (SECC), and signed the *Memorandum of Understanding Regarding Innovation and Cooperation in the Financial Sector* with the Autorité des Marchés Financiers. The CSRC had worked with securities and futures regulators of 64 countries and regions to establish cooperation mechanisms on cross-border supervision and law enforcement[②]. For overseas exchange and communication, in March 2019, the ZCE joined Futures Industry Association (FIA). Therefore, China's commodity futures exchanges all joined the FIA.

8.1.5 Outlook of the commodity futures and options market

In 2020, China will continue to launch new

① The INE was also approved by the CSRC as QCCP. For details, please refer to INE's announcement on January 28th, 2019.

② For details, please refer to the news released on the official website of the CSRC on December 25th, 2019.

varieties of commodity futures that serve the real economy in the commodity futures and options market, gradually achieve full coverage of options on listed futures, and strengthen R&D of commodity index futures, freight index futures, and other index futures. Opening-up of mature varieties will take the lead in attracting more foreign investors, and at the same time more and more varieties will be open to global investors, and diversified ways of opening-up will be actively explored. Trading rules will be improved and the legal system and regulatory system of mature futures markets globally will be studied. Cross-border supervision capabilities will be enhanced to make supervision more efficient with the support of technological supervision.

8.2 Financial futures and options market

8.2.1 Performance of the financial futures and options market

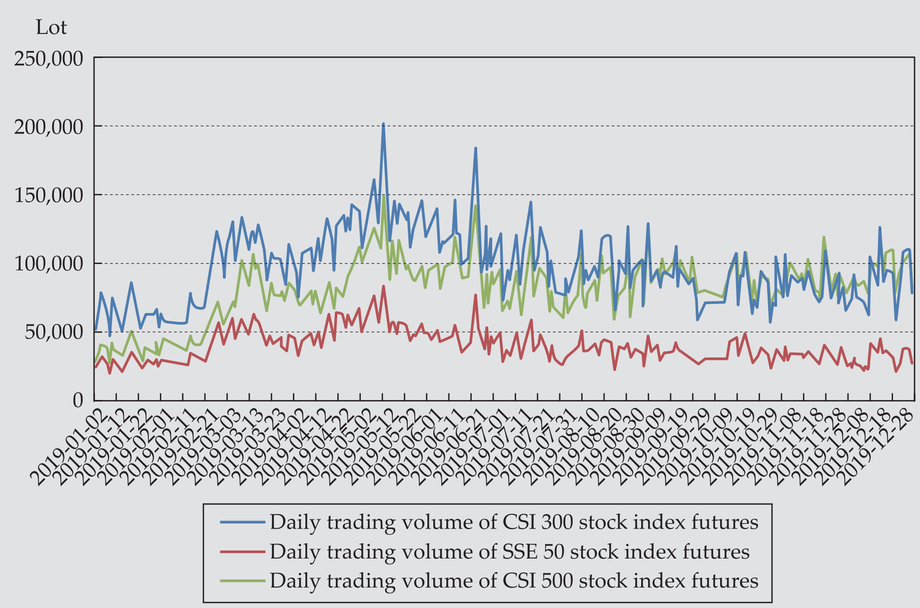
In 2019, China's financial futures and options market witnessed achieved sound operation, with a steady growth of the market size.

In the stock index futures market, the total trading volume of the three stock index futures, namely CSI 300, SSE 50, and CSI 500 was 53.2513 million lots with a total value of RMB 54.80 trillion, up 225.81 percent and 248.17 percent year on year respectively. The average daily trading volume and average daily positions were 218,200 lots and 293,400 contracts, growing by 224.47 percent and 146.50 percent year on year respectively. The daily average volume to open interest ratio was 0.75, which was maintained at a low level. The correlations between the stock index futures prices and spot prices of the three stock index futures were high. The price correlation coefficients between the closing price of the dominant contracts and the closing price of the corresponding underlying index of CSI 300, SSE 50, and CSI 500 futures were 0.9986, 0.9986 and 0.9967 respectively.

In the treasury bond market, the 2-year, 5-year, and 10-year treasury bond futures in 2019 registered a total trading volume of 13.0321 million lots with a total value of RMB 14.82 trillion, up 16.62 percent and 40.28 percent year on year respectively. The average daily trading volume and average daily positions were 53,400 lots and 103,100 contracts, growing by 19.45 percent and 30.22 percent year on year respectively. The average volume to open interest ratio was 0.52, which was relatively stable. The correlations between the treasury bond futures prices and spot prices of the three treasury bond futures were high. The price correlation coefficients between the price of the dominant contracts of 2-year, 5-year, and 10-year treasury bond futures and the spot price were respectively 0.97, 0.99, and above 0.99. The deliveries of 12 treasury bond futures contracts were completed successfully in 2019, and the total number of deliveries was 7,904 lots with an average delivery rate of 6.77 percent.

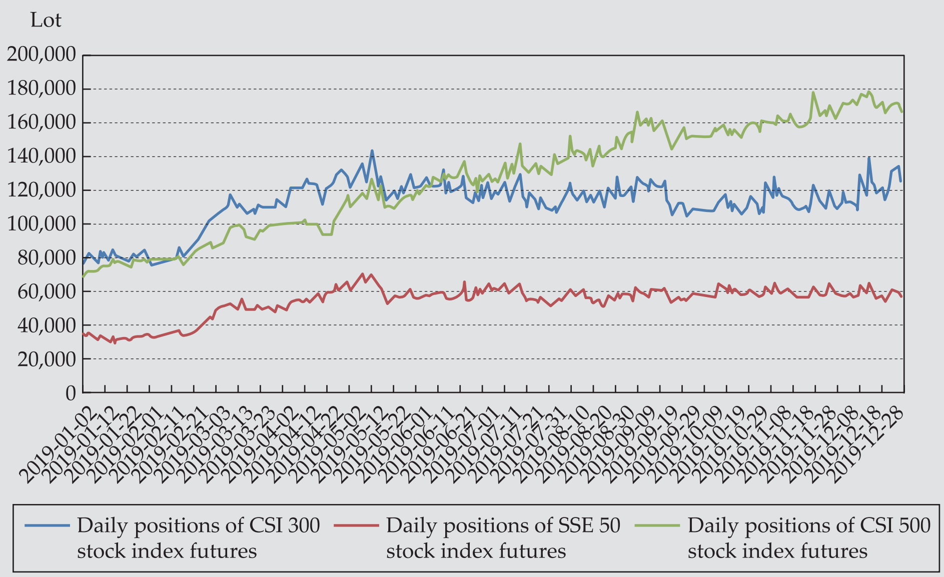
In the stock options market, the cumulative trading volume of SSE 50 ETF options was 618 million contracts with an average daily volume of 2.5329 million contracts, and the largest daily volume of 6.2667 million. The open interest at the end of the year was 3.7914 million contracts, with an average daily position of 3.4200 million contracts and the largest daily positions of 5.1525 million contracts. The cumulative notional trading value was RMB 17.71 trillion with an average daily value of RMB 72.574 billion. The cumulative premium trading value was RMB 335.912 billion with an average daily premium trading value of RMB 1.377 billion. On December 23rd, 2019, CSI 300 ETF options made its debut on the SSE. The cumulative trading volume of CSI 300 ETF options on the SSE was 4.7827 million contracts with an average daily volume of 683,200 contracts, and the largest daily volume of 1.0030 million. The open interest at the end of the year was 771,400 contracts, with an average daily position of 490,400 contracts and the largest daily positions of 771,400 contracts. The cumulative notional trading value was RMB 193.430 billion with an average daily value of RMB 27.633 billion. The cumulative premium trading value was RMB 2.966 billion with an average daily premium trading value of RMB 424 million. CSI 300 ETF options on the SZSE had a total of 80 officially listed contracts, with the cumulative trading volume of 1.4074 million contracts, including 738,200 pieces of call options and 669,200 pieces of put options; the trading amount of premium reached RMB 966 million, with an average daily volume of 201,100 contracts and an average daily position of 157,200 contracts. The average volume to open interest ratio was 1.28.

Figure 8.3 Daily trading volume of stock index futures in 2019



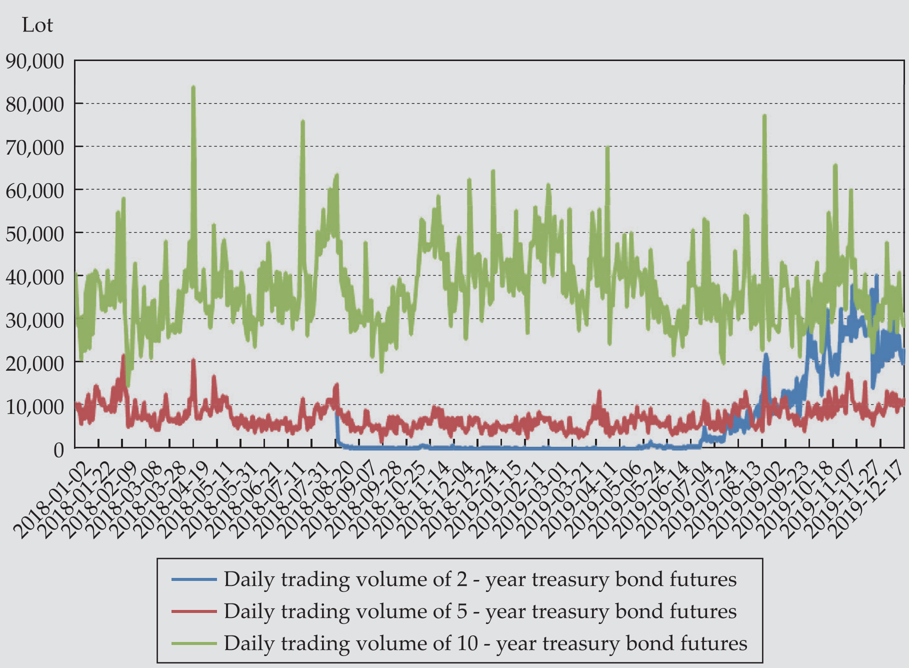
(Source: CFFEX)

Figure 8.4 Daily positions of stock index futures in 2019



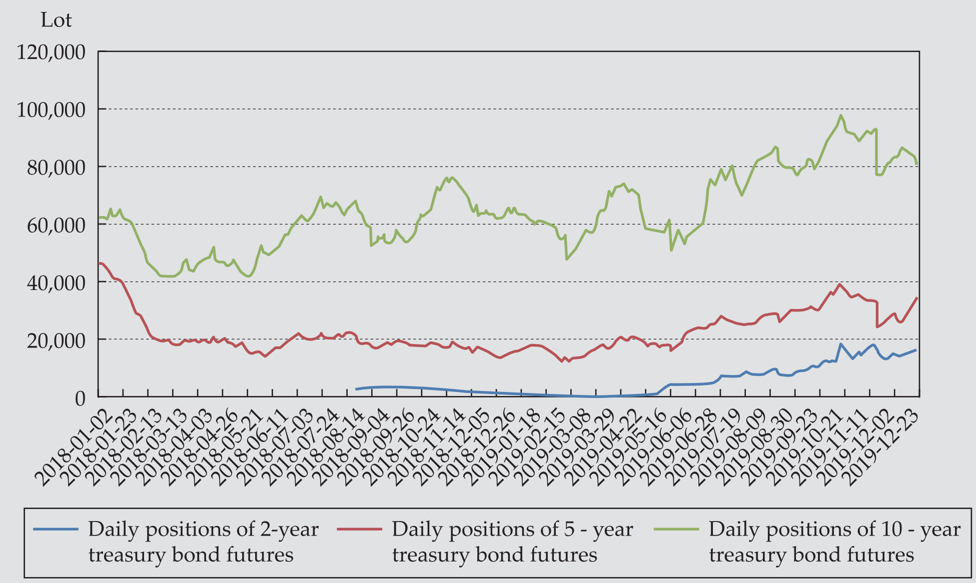
(Source: CFFEX)

Figure 8.5 Daily trading volume of treasury bond futures from 2018 to 2019



(Source: CFFEX)

Figure 8.6 Daily positions of treasury bond futures from 2018 to 2019



(Source: CFFEX)

8.2.2 Main features of the financial futures and options market

8.2.2.1 The stock index futures market was basically back to normal, with functions of the market further fulfilled

In 2019, the trading arrangements of stock index futures were further adjusted, the intraday position limits were raised, and charges for closing today's position and premium standard lowered. The stock index futures market was basically back to normal, with significant year-on-year increases in both average daily trading volume and average daily positions. The total open interest of the market and that of the CSI 500 index futures both hit new highs repeatedly, with the largest daily positions of 383,400 lots and 178,700 lots registered respectively on December 17th, 2019. The average volume to open interest ratio was relatively stable and maintained at a relatively low level. The market liquidity was improved, yet in a limited way and the optimal bid-ask spread of stock index futures was narrowed. The depth of the market was improved slightly. The average five depth of CSI 300, SSE 50, and CSI 500 index futures were respectively 22.50, 15.76, and 14.63 lots. Institutional investors took up relatively big shares in the average daily positions in CSI 300, SSE 50, and CSI 500 index futures, respectively 45.76 percent, 53.47 percent, and 60.55 percent. The functions of the market were further leveraged.

8.2.2.2 Treasury bond futures market became more mature in a steady manner

In 2019, the trading volume and open interest of the treasury bond futures market both saw steady increase, with high correlation between treasury bond futures prices and spot prices and evident institutional features. In 2019, there were marked year-on-year increases in the trading volume and open interest of treasury bond futures. First, due to the impact of multiple factors including fundamentals, money supply situations, and China-US trade frictions, the yield of treasury bonds fluctuated primarily, and the institutions in the market had greater demand for interest rate risk management. Second, after the market maker mechanism was introduced into treasury bond futures, market liquidity was greatly improved and investors' trading costs reduced, which facilitated the development of futures/spot, cross-term and cross-product trading strategies. Institutional investors took up 84.2 percent in the average daily positions of treasury bond futures, up 2.5 percentage points from 2018.

8.2.2.3 The economic function of the stock options market was gradually given into play

In 2019, the average daily volume to open interest ratio of the SSE stock options market was 0.77, the average daily futures trading volume to spot trading volume ratio was 0.48, and the share of speculative transactions (directional transactions) was 23.39 percent. Market quality index and risk index of the options market indicated that the market quality was gradually improved with fewer risks. As of end-2019, the number of options investor accounts in the SSE market was 413,300. There were 14 SSE 50 ETF options market makers and 12 main market makers of CSI 300 ETF options. The shares of insurance-type and yield-enhancing transactions with the use of options throughout the year reached 12.87 percent and 43.77 percent respectively. The average daily insured market value of the market was RMB 17.860 billion, with the largest daily insured market value reaching RMB 27.299 billion. In general, risks in the stock options market were controllable, more and more investors participated in the market, and the economic function of options was gradually given into play.

8.2.3 Innovation and institutional construction of the financial futures and options market

8.2.3.1 CSI 300 ETF options and CSI 300 stock index options were launched

On November 8th, 2019, upon the approval of the State Council, the CSRC announced the launch of an expanded pilot program of stock options. On December 13rd, 2019, upon the approval of the CSRC, the SSE and the SZSE launched CSI 300 ETF options. CSI 300 ETF Options, as the first cross-market ETF options product, in the Shanghai and Shenzhen markets, covers more A-shares underlying stocks, better satisfies investors' risk management demand, gives full play to the economic function of ETF options, and promotes the sound development of futures-spot linkage.

On December 23rd, 2019, the CFFEX officially launched the CSI 300 stock index options. Innovations were in the following aspects. First, as the first stock index options in China, the CSI 300 index options represent a fresh attempt to promote the innovative development of China's financial derivatives market, which is of great significance in improving the risk management system of the capital market. Second, the product was designed to better balance market demand and risk prevention and settle in cash to fully improve the convenience of operation when the contract expires; the contract size is relatively large, which can facilitate institutional investors to manage the risks of stock positions of relatively large sizes and reduce their trading costs; the contract months cover the 1-year maturity, thus satisfying the market's demand for diversified contracts with longer-term maturities. Third, an innovative model for the market stabilization mechanism is introduced into the product. Based on the characteristics of options products, the rules and systems for guiding investors' rational trading are designed, and a risk control mechanism for preventing unusual price fluctuations (price banding) is developed, which are all relatively new market stabilization mechanisms in the domestic derivatives market.

8.2.3.2 The trading mechanisms of stock options were improved

In 2019, the SSE optimized multiple trading mechanisms for stock options and made some adjustments to regulatory measures. First, the SSE launched the stock options portfolio strategy business and optimized system for option exercise. On November 18th, 2019, the SSE launched the stock options portfolio strategy business and the consolidated declaration system for option exercise. On the basis of ensuring that risks are controllable, portfolio margins result in lower margins collected for certain portfolios. The consolidated declaration system for options exercise allows investors with both call options and put options of the same underlying securities to exercise the call options and put options simultaneously at the exercise date. The two improved mechanisms can increase the efficiency capital use and reduce trading costs, so as to provide more convenience for investors. Second, the SSE adjusted the maximum volume in a single declaration and the circuit breaker parameters. With the launch of new underlying assets, the SSE adjusted the maximum volume in a single declaration for limit orders from 30 contracts to 50 contracts, so as to improve market liquidity, increase the depth of options trading and reduce investors' time costs of opening and closing positions. Meanwhile, the SSE stipulated that the threshold in the triggering of circuit breaker will be changed from 5 times of the tick size to 10 times, to effectively reduce unnecessary trading halts and improve trading continuity while ensuring that the price stability mechanism continues to function and that there will be no big swings in the options market. Third, the SSE adjusted the limit on opening positions. In May 2019, the SSE adjusted the criteria for suspending investors from opening positions, revising the limit from "call options of the same type with open interests and the same expiry month" to "non-out-of-the-money call options of the same type with open interests and the same expiry month." The revision further improves the risk management on options and protects the legitimate rights and interests of options investors.

8.2.3.3 The EFP on China's treasury bond futures was launched and market makers were introduced to treasury bond futures

On January 17th, 2019, the CFFEX officially launched the exchange of futures for physicals (EFP) on treasury bond futures. EFP refers to a transaction wherein, upon the mutual agreement of the parties thereto, one party is the buyer of the exchange contract and the seller of corresponding securities or related contracts, and the other party is the simultaneous seller of the exchange contract and the buyer of corresponding securities or related contracts. As a new mode of trading, EFP allows the simultaneous exchange of futures and corresponding securities or related contracts based on mutual agreement over the counter. It can be used to open a futures position, or close a futures position. As a necessary supplement to central order book trading, EFP helps improve the convenience of basis trading, mitigate the impact of large orders on the market, effectively prevent delivery risks, and give play to the function of the treasury bond futures market. In 2019, a total of 39 treasury bond EFPs were traded, with the trading volume of the futures side reaching 2,940 lots, covering all varieties of China's treasury bond futures.

On May 16th, 2019, the CFFEX introduced market makers to treasury bond futures and the first batch of 8 market makers conducted market making operations successively. In general, after the launch of the market maker system, the liquidity of 2-year treasury bond futures was greatly improved, which helped address the liquidity shortage of non-dominant futures contracts of various varieties and the likely emergence of momentary price fluctuations, and thus better improved the operational quality of the treasury bond futures market. First, the spread of treasury bond futures was evidently reduced. After the launch of market makers, the daily average optimal bid-ask spread of the dominant contracts of 2-year, 5-year, and 10-year treasury bond futures all maintained at about 1 tick; the daily average optimal bid-ask spread of the forward contracts and delivery month contracts of 2-year, 5-year, and 10-year treasury bond futures also narrowed significantly. Second, the average market depth of treasury bond futures was increased. After the launch of market makers, the daily average five depth of the dominant contracts of 2-year, 5-year, and 10-year treasury bond futures all exceeded 300 lots, and the daily average five depth of the forward contracts and delivery month contracts of 2-year, 5-year, and 10-year treasury bond futures exceeded 50 lots, which marked a significant growth.

8.2.4 Opening-up of the financial futures and options market

In 2019, the CFFEX, in accordance with the overall planning for the opening-up of China's capital market, advanced the building of China Europe International Exchange (CEINEX) and the development of BRI international projects with Pakistan Stock Exchange (PSX), and enhanced substantive cooperation of bilateral markets. First, the CFFEX promoted the overall development of PSX businesses, earnestly fulfilled its responsibility as the large shareholder, helped PSX improve its governance structure and ensured the smooth operation of PSX businesses; assisted the PSX to design rules for ETFs, which was approved by the Securities and Exchange Commission of Pakistan (SECP); actively facilitated the upgrading of the PSX technology systems; took the China-Pakistan Economic Corridor project as the pivot to improve the financing function of PSX, and actively served the building of China-Pakistan Economic Corridor and promoted the BRI construction. Second, the CFFEX actively supported the business development and innovation of CEINEX, facilitated the implementation of policy outcomes achieved at the 2nd China-Germany High Level Financial Dialogue, and helped CEINEX complete the design of derivatives contracts and advanced related licensing negotiations.

8.2.5 Outlook of the financial futures and options market

In 2020, China's financial futures and options market will closely focus on serving the real economy and meeting the requirements of national strategies, facilitate financial product innovation in an orderly way, advance and continuously improve trading mechanisms such as the securities margin mechanism, make continued improvements to business rules, vigorously attract mid- and long-term funds into the market, further promote opening-up of the market at a higher level, and actively boost the stable and sound development of the financial futures and options market.

8.3 RMB interest rate derivatives market

8.3.1 Performance of the RMB interest rate derivatives market

In 2019, the two major varieties in the interest rate derivatives market were interest rate swap and standard bond forward. In particular, the turnover of interest rate swap transactions was RMB 18.2 trillion, down 15 percent year on year. As of end-2019, the notional amount of outstanding interest rate swap contracts totaled RMB 23.0 trillion, a year-on-year increase of 22 percent. The trading of standard bond forward was more active than before, with the total turnover of RMB 436.8 billion, an increase of approximately four times year on year.

In 2019, interest rate swap rates fluctuated in a tight range. Taking the Shibor 3M interest rate swap as an example, at end-2019, the rate of 1-year Shibor 3M dropped by around 15 bps from the beginning of the year and that of 5-year Shibor 3M rose by 6 bps from the beginning of the year, with the spread kept stable around 40 bps.

As of end-2019, a total of 487 institutions entered the interest rate swap market. Many product class participants, city commercial banks, rural commercial banks, and other small and medium-sized financial institutions engaged in the market. In particular, there were 205 product class participants, accounting for 42 percent of the total, and also 133 city commercial banks, rural commercial banks, and rural credit cooperatives. A total of 54 institutions participated in the standard bond forward market, including banks, securities companies, privately offered products, etc.

COLUMN Cash settlement solutions for standard bond forward were optimized to further unleash market vitality

Standard bond forward is one of the innovative interbank interest rate derivatives approved by the PBC and jointly launched by the CFETS and the SHCH. It is traded and cleared in the interbank market, with a notional interest rate of 3 percent and the virtual CDB bonds that pay interest on a yearly basis as the underlying. Face value, delivery date, and other elements of the contract are highly standardized for 3-year, 5-year, and 10-year varieties. The product was launched in April 2015, and its cash settlement mechanism was optimized in March 2018. Since then, the market witnessed a sound development.

Relevant mechanisms were improved and upgraded. The optimization of cash settlement for standard bond forward was mainly reflected in two aspects. First, the selection mechanism of deliverable bonds was improved. The two most active CDB bonds within the maturity period are selected as the deliverable bonds of the contract, which further correlate forward contracts with CDB bonds. Second, the calculation method of the virtual bond price was improved. It took the generally acknowledged ChinaBond Valuation as the settlement price, which made the pricing more transparent and lowered the risks of price manipulation.

The advantages of the product became prominent. First, the product design of standard bond forward filled the void of CDB bond-related derivatives. Previously, China's interest rate derivatives market was dominated by interest rate swaps and treasury bond futures, without interest rate derivatives to manage the price fluctuation risks of the highly liquid CDB bonds. Standard bond forward enriches the product line of the interest rate derivatives market. Second, the investor structure was diversified, with the broad participation of commercial banks, securities companies, insurance companies, various types of unincorporated products, and other investors in the interbank bond market. Third, it offered diversified trading strategies. The pricing mechanism of standard bond forward is simple and transparent, fits well with the price movements of CDB cash bonds, and has active underlying assets, which facilitates the use of multiple trading strategies.

The product got good feedback from the market. The trading of the improved standard bond forward became more active. In 2019, a total of 4,187 standard bond forward contracts were cleared, with a notional principal of RMB 436.8 billion, up 42 percent and 435 percent year on year respectively. The business volume was steadily increased. The average monthly clearing volume per contract increased from

RMB 13 million per contract in March 2018 to RMB 116 million per contract in December 2019, the market depth was continuously increased. Meanwhile, more and more investors participated in the market. As of end-2019, the number of participants in the centralized clearing of standard bond forward totaled 54, including 6 comprehensive clearing members, 25 general clearing members, and 23 agent clients. The clearing volume of various types of institutional participants increased month on month. The participants were more active. As of end-2019, commercial banks, securities companies, and joint-stock commercial banks all saw a year-on-year increase of over 400 percent in their clearing volume.

In the future, to better satisfy the market's demand and accelerate market expansion, the operating mechanism of the standard bond forward product will be continuously improved. The first is to develop the function of physical delivery, so as to further enhance the linkage between the forward and spot market prices. The second is to improve the trading mechanisms, so as to enhance product liquidity and attract more market participants.

8.3.2 Main features of the RMB interest rate derivatives market

8.3.2.1 Participants in the market were further diversified

In 2019, 15 types of institutions participated in the interest rate swap market, including joint-stock commercial banks, national commercial banks, foreign-funded banks, securities companies, and city commercial banks. The mix of investors in the standard bond forward market became more diversified as well. The most active institutions in the interest rate derivatives market were joint-stock commercial banks, whose trading volume accounted for 43 percent of the total; national commercial banks became more active in the market, whose trading volume accounted for 15 percent of the total; other active institutions included securities companies and large-scale city commercial banks.

8.3.2.2 The reference rate was dominated by FR007 and Shibor

The reference rate for interest rate swap had been previously dominated by FR007. In recent years, with the rapid growth of the NCD market, Shibor 3M became more of an effective interest rate benchmark. There were increasing demands for selecting Shibor 3M as the reference rate for interest rate swap. In 2019, interest rate swap transactions with FR007 and Shibor 3M as the reference rate combined accounted for over 98 percent of the total.

8.3.2.3 Transactions were concentrated on contracts with standard terms

Regarding term structure, in 2019, the trading volume of 1-year and 5-year standard-term varieties stood at 8.0 trillion and 4.6 trillion respectively, an increase of 10.8 percent and 41.5 percent year on year respectively. Besides, the proportion of varieties of 1-5 years and over 5 years in trading volume rose in general. They combined accounted for nearly 40 percent of the total. On the whole, the term structure of interest rate swaps featured relatively even distribution of different maturities, and it was evident that transactions were concentrated on long-term, standard-term varieties.

8.3.3 Innovation and institutional construction of the RMB interest rate derivatives market

8.3.3.1 LPR-based interest rate swap contracts were launched

On August 17th, 2019, the PBC officially announced the reform of the loan prime rate (LPR) formation mechanism. On August 20th, 2019, the CFETS launched LPR-based interest rate swap contracts. On September 2nd, 2019, the CFETS introduced LPR 1Y and LPR 5Y interest rate swap contracts in the Central Counterparty Interest Rate Swap service (X-Swap) system, covering key maturities from 6 months to 10 years. Many active institutions continuously posted bilateral quotations on the LPR swap contracts via X-Swap, which provided market liquidity and pricing benchmarks. As of end-2019, a total of 49 financial institutions participated in LPR-based interest rate swap trading, including 37 banks, 11 brokers, and 1 privately offered fund, with a trading volume of 730, notional principal of RMB 81.6 billion and a daily average turnover of approximately RMB 890 million. Contracts with a term of one year or less dominated the trading structure, accounting for around 72 percent of the total.

The launch of LPR-based interest rate swap trading was of great significance. First, it offers banks interest rate risk management tools for their LPR-based assets. Second, it helps improve the market-oriented pricing system for LPR-related assets and optimize the price transmission mechanism from finance to the real economy. Third, it reflects market expectations for LPR in the future and helps enhance expectations management of the market.

8.3.3.2 The real-time novation business for interest rate swaps was launched

To support the liberalization of interest rates, in August 2019, the CFETS and the SHCH jointly launched the real-time novation business for interest rate swaps. That is, the CFETS concludes interest rate swap transactions based on the premise of amount limit, while the SHCH undertakes transactions in real time for centralized clearing after risk examinations. This business model streamlines the clearing procedures of interest rate swap transactions, reduces middle- and back-office operations, and lowers operational risks. Meanwhile, it adds the CCP credit of institutions on the basis of the existing model of bilateral credit, which is conducive to the extension of interest rate swap market and facilitates the in-depth development of the market. After the business was launched, institutions in the market actively engaged in the business. Its operations were stable with favorable market responses. As of end-2019, 35 institutions were qualified for the real-time novation business for interest rate swaps, with a turnover of RMB 40 billion.

8.3.4 Outlook of the RMB interest rate derivatives market

In 2020, more innovations will be made to develop products and trading mechanisms of the interest rate derivatives market. The automation efficiency of trading and clearing will be increased. The opening-up of the interest rate swap and interest rate options markets will be actively advanced. The supporting policies for the CCP mechanism will be further improved. Market participants will continue to diversify and market liquidity will be further improved to better satisfy the market's demands for interest rate risk management and enable the financial market to better serve the real economy.

8.4 RMB credit derivatives market

8.4.1 Performance of the RMB credit derivatives market

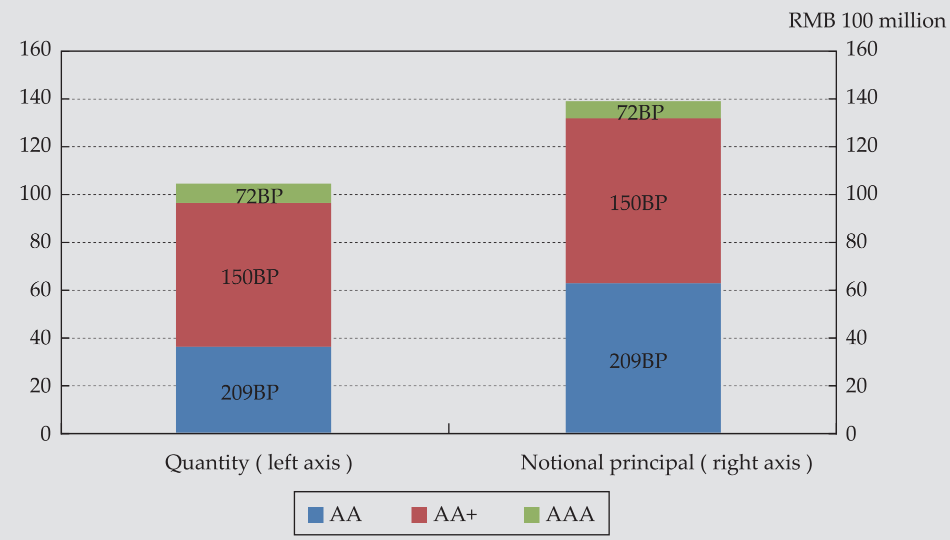
8.4.1.1 Performance of CRM instruments in the interbank market

In 2019, the issuance of Credit Risk Mitigation (CRM) instruments increased markedly. A total of 105 Credit Risk Mitigation Warrants (CRMWs) were made available, up 94 percent year on year; their total notional principal stood at RMB 13.85 billion, up 108 percent year on year. In particular, the reference entities of most CRMWs were rated AA or AA+ in credit rating, the number of which added up to 97 and accounted for 92 percent of the total. The average rates of CRMWs rated AA, AA+, and AAA were 209 bps, 150 bps, and 72 bps respectively, and the spread between the average rates of CRMWs with reference entities of varied credit ratings ranged between 60 and 80 bps.

In the interbank market, 13 contract-type CRM transactions were concluded, with a total notional principal of RMB 930 million. Specifically, four Credit Risk Mitigation Agreement (CRMA) transactions were made with a total notional principal of RMB 460 million, and nine Credit Default Swap (CDS) transactions were made with a total notional principal of RMB 470 million.

In 2019, the CRM market saw a steady expansion of its participant base. The new participants included eight CRM Major Dealers, 47 CRM Dealers, four CRMW issuers, and three Credit-Linked Note (CLN) issuers. Most new CRM Dealers were unincorporated products and financial institutions, and over half of them (24) were already engaged in the CRM business. As of end-2019, in the interbank market, there were a total of 57 CRM Major Dealers, 84 CRM Dealers, 47 CRMW issuers, and 44 CLN issuers. CRMW issuers (protection sellers) were mostly credit enhancement institutions, large-scale banks, and joint-stock commercial banks, and their notional principal accounted for 11.6 percent, 16.5 percent, and 49.3 percent of the total respectively. CRMW investors (protection buyers) were majorly banks and unincorporated products, and their notional principal accounted for 44 percent and 35.7 percent of the total respectively.

Figure 8.7 Credit ratings of reference entities of CRMWs in 2019



(Note: Data in the figure represent average rates, and BP stands for bps)

8.4.1.2 Performance of credit protection instruments in the exchange-traded market

In 2019, upon approval of CSRC, the exchange-traded market began developing credit protection instruments, with a view to boosting the capability of the exchange-traded bond market in serving the real economy and to improving the risk pricing mechanism in the credit bond market. As of end-2019, the SSE and SZSE markets issued 75 credit protection instruments with a total notional principal of RMB 3.628 billion, offering support to RMB 29.615 billion worth of bond financing by private enterprises and other entities. A total of 16 institutions filed to be major dealers for credit protection contracts in the SZSE, and 23 became major dealers for credit protection contracts in the SSE.

8.4.2 Innovation and institutional construction of the RMB credit derivatives market

8.4.2.1 The scope of participants in the CRM market was continuously expanded

In 2019, participant types in the CRM market were increasingly diversified. First, the CSRC made clear that qualified securities companies and publicly offered funds can engage in credit derivatives businesses, including CRM instruments, which could, to a certain extent, satisfy relevant market participants' need for credit risk management and hedging and promote the continued development of the CRM market. Second, the CBIRC specified that insurance funds can engage in credit derivatives businesses as protection buyers, which could provide hedging measures for credit risk management of insures while further diversifying the investor structure of CRM instruments at the same time.

8.4.2.2 The scope of underlying debt of CRM instruments was steadily expanded

In 2019, the scope of underlying debt of CRMWs was further expanded, and investment product types kept diversifying in the market, which effectively supported the smooth issuance of bonds with embedded options and asset-backed notes (ABNs). In May 2019, the ABC issued a CRMW with mid-term notes which were embedded with investor's callable option as underlying debt, and explored the business model that combines bonds with embedded options and CRMWs based on investors' actual CRM need. Guotai Junan Securities, Bank of Shanghai, China International Capital Corporation, and China Everbright Bank successively issued four CRMWs with ABNs as underlying debt, with a total notional principal of RMB 289 million, and supporting the issuance of RMB 1.126 billion of ABNs. These ABN issuers were all private enterprises which adopted the model of combining ABNs and CRMWs and attracted investors with medium or low risk preferences to subscribe to the underlying debt. This effectively addressed difficulties in subscribing to structured products of certain risk levels and explored how to ease private enterprises' financing difficulties with innovative models.

8.4.2.3 The first CDS index in the domestic market was released

On December 26th, 2019, CFETS, SHCH, and Guotai Junan Securities jointly launched the "CFETS-SHCH-GTJA High-grade CDS Index" into trial operation, the first CDS index in the domestic market and the world's first CDS index based on the Chinese market. Since CDS indices are highly standardized, strongly transparent, and naturally decentralized with a broad range of underlying assets, they play a prominent role in managing credit risks of investment portfolios, become an important part in the global credit derivatives market, and win widespread recognition across the market. The trial operation of a high-grade CDS index and release of credit curve could help further improve China's credit derivatives market, enhance reasonable pricing of credit risks, promote effective identification of credit risks in the market, and thereby achieve effective resource allocation. Therefore, it is of great importance to facilitating the financing of enterprises in the real economy, especially debt financing by private enterprises, and enabling financial market's services for the real economy. Meanwhile, it can also help connect the domestic and international fixed income markets, satisfy overseas investors' demand for credit risk management, attract more overseas investors to China's bond market, and promote the opening-up of the bond market.

8.4.2.4 Credit protection instruments were officially launched in the exchange-traded market

In order to consolidate the institutions for credit protection instruments and address the financing difficulties of private enterprises, on January 18th, 2019, the CSDC, together with the SSE and the SZSE respectively, published the *Measures of the Shanghai Stock Exchange and China Securities Depository and Clearing Corporation Limited on the Pilot Program of Management of Credit Protection Instrument Business* and the *Measures of the Shenzhen Stock Exchange and China Securities Depository and Clearing Corporation Limited on the Pilot Program of Management of Credit Protection Instrument Business*, specifying the main content of credit protection instrument business. Lather, the SSE and the SZSE successively published a series of supporting rules, including the *Business Guidance of the Shanghai Stock Exchange on Trading of Credit Protection Instruments, the Business Guidelines of the Shanghai Stock Exchange on Trading of Credit Protection Instruments, the Business Guidance of the Shenzhen Stock Exchange on Credit Protection Instruments, and the Business Guidelines of the Shanghai Stock Exchange on Credit Protection Instruments No.1: Credit Protection Contract*, so as to further detail management requirements for credit protection instruments, clarify operational procedures for the business of credit protection contracts, provide effective guidance for investors on their participation in the business of credit protection instruments in the exchange-traded market, and promote the routinization of relevant business. On December 6th, based on the sound operations of credit protection contracts in the previous stage, the SSE published the *Notice on Carrying out Pilot Program of Credit Protection Warrant Business*, officially launching a pilot program for developing credit protection warrants.

8.4.3 Outlook of the RMB credit derivatives market

In 2020, efforts will be made to continue to promote the application of CRM instrument products, optimize and refine relevant mechanisms for trading and settlement of CRMWs and other instruments, increase market liquidity, and make credit risk pricing more accurate. The product types in the credit derivatives market will be further enriched, and the functions of products in spreading and sharing credit risks will be practically and effectively leveraged, so as to further support bond financing by enterprises in the real economy.

8.5 Exchange rate derivatives market

8.5.1 Performance of the exchange rate derivatives market

In 2019, the interbank exchange rate derivatives market saw a total turnover of USD 17.4 trillion, up 0.5 percent year on year. Specifically, RMB exchange rate derivatives registered a turnover of USD 17.1 trillion, down 0.8 percent year on year; foreign currency pair derivatives reported a turnover of USD 0.31 trillion, up 260.0 percent year on year. The turnover of RMB foreign exchange forward, RMB foreign exchange swap, RMB foreign exchange currency swap, RMB foreign exchange options, and foreign currency pair forward declined to varying degrees, and those of foreign currency pair swap, foreign currency pair currency swap, and foreign currency pair options moved up.

Participants in the interbank exchange rate derivatives market continued to increase. As of end-2019, the number of RMB foreign exchange forward members, RMB foreign exchange swap members, RMB foreign exchange currency swap members, and RMB foreign exchange options members reached 245, 239, 197, and 146 respectively, up by 33, 32, 22, and 22 from the end of the previous year. Foreign currency pair market members totaled 208, an increase of 21 compared to end-2018.

8.5.2 Main features of the exchange rate derivatives market

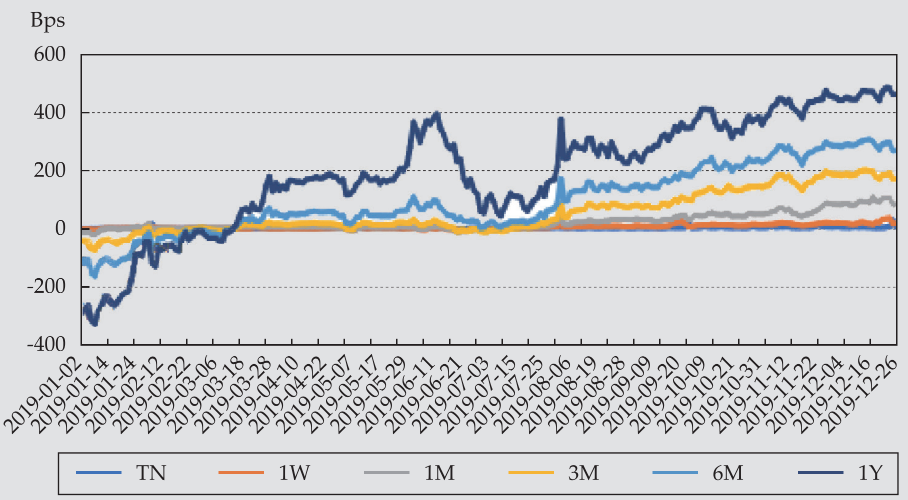
8.5.2.1 Trading in the market reported a slight dip

In 2019, the trading volume of all categories in the RMB exchange rate derivatives market registered a decline. Specifically, the turnover of swap transactions, the dominant category in the market, was USD 16.7 trillion, a slight year-on-year decrease of 0.5 percent; forward, currency swap, and options transactions recorded a turnover of USD 76 billion, USD 51.2 billion, and USD 581.2 billion, down 13.2 percent, 22.2 percent, and 4.9 percent respectively. Since the turnover of RMB foreign exchange spot transactions increased in the same period, the share of derivatives transactions in the interbank RMB foreign exchange market decreased by 1 percentage point to 68.3 percent.

8.5.2.2 Foreign exchange swap transactions featured an increased proportion of short-term maturities, and RMB/USD swap points rose along with the interest rate spread

In 2019, foreign exchange swap transactions featured an increased proportion of short-term maturities. Specifically, in terms of turnover, O/N transactions accounted for 58 percent of the total, up 2 percentage points from the previous year; transactions with a short-term maturity of overnight to within a month made up a share of 14 percent, basically flat with the previous year; transactions with a medium-term maturity of 1-3 months and 3-6 months represented 10 percent and 6 percent of the total respectively, down 1 percentage point and up 0.2 percentage points from the previous year respectively; and the share of those with a long-term maturity of 6 months or longer was 12 percent, down 0.5 percentage points from a year earlier. The RMB/USD swap points rose along with the interest rate spread between China and the U.S. The swap points of all maturities moved from discount to premium, and the swap curve was no longer inverted and returned to an upward trend. At end-2019, the swap points of O/N, 1-week, 1-month, 3-month, 6-month, and 1-year maturities closed at 3 bps, 16 bps, 78 bps, 163 bps, 262 bps, and 458 bps, respectively, up 4 bps, 20 bps, 93 bps, 207 bps, 377 bps, and 753 bps compared to the end of 2018 respectively.

Figure 8.8 Movements of RMB/USD swap points of key maturities in 2019

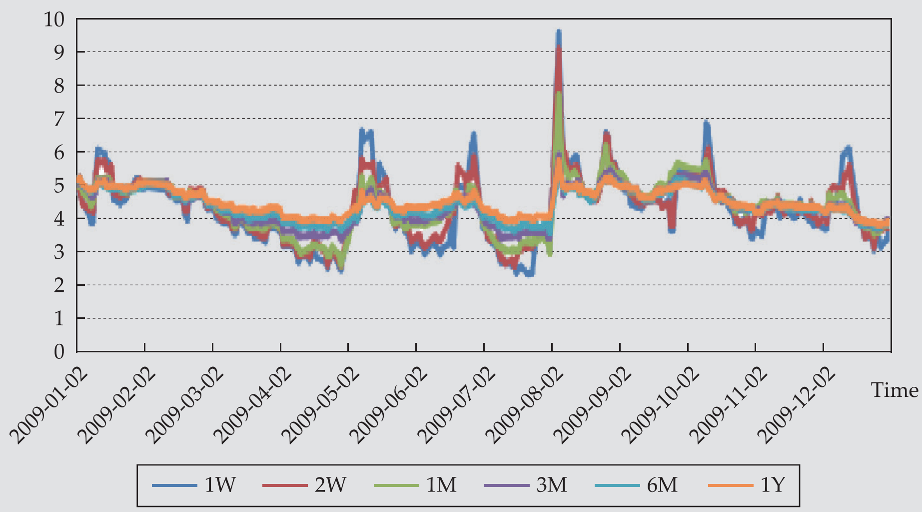


(Source: CFETS)

8.5.2.3 Foreign exchange options transactions featured an increased proportion of long-term maturities, and the implied volatility surged and fell several times

In 2019, foreign exchange options transactions featured an increased proportion of long-term maturities. To be more specific, in terms of turnover, transactions with a short-term maturity of within a month made up a share of 46 percent in the total, down 9 percentage

Figure 8.9 Movement of implied volatility of RMB/USD at-the-money options in 2019



(Source: CFETS)

points from a year earlier; transactions with a medium-term maturity of one month to one year accounted for 34 percent of the total, up 8 percentage points year on year; and those with a maturity of longer than one year represented 14 percent of the total, basically flat with a year earlier. The options market overall fluctuated along with the spot market, with implied volatility surging and falling several times. The short-end volatility was larger than the long-end volatility, but the volatility term structure was flat for most of the year. After the spread between long-end and short-end volatility became significantly wider, market sentiments recovered rapidly and long-end and short-end volatility tended to converge within a relatively short period of time.

8.5.3 Innovation and institutional construction of the exchange rate derivatives market

8.5.3.1 Trading mechanism was further improved

In April 2019, the model of Negotiate expanded beyond foreign exchange options and currency swap to foreign exchange forward and swap, and at the same time supported direct connection with iDeal, an instant messaging tool, and money brokerage services, thus providing more flexible modes of trading for non-standard-term and long-term products which feature relatively weak liquidity.

8.5.3.2 Foreign currency pair options and LPR-based currency swap transactions were launched

LPR-based RMB foreign exchange currency swap transactions were launched on August 17th, 2019, and above-5-year LPR was newly added as a floating interest rate benchmark starting from August 26th that year. In 2019, there were currency swap transactions based on 1-year LPR and above-5-year LPR completed, with a cumulative notional principle of USD 160 million. On August 26th, 2019, foreign currency pair options were launched, further enriching foreign currency exchange rate risk management instruments. Throughout the year, a total of 18 institutions traded USD 130 million of foreign currency pair options accumulatively.

8.5.3.3 The performance of C-Trade system was optimized

The matching engine of the C-Trade system was upgraded by introducing the in-memory matching technology with high concurrency and low latency, and the usage efficiency of three major interfaces of the C-Trade system, including trading, credit granting, and market quotation, was comprehensively improved, which enabled a leap in its order processing capacity. Meanwhile, the functions of the C-Trade system, including credit line management and operational risk reminder, were optimized to further ensure the safety and compliance of transactions.

8.5.4 Outlook of the exchange rate derivatives market

In 2020, the exchange rate derivatives market will continue to strengthen the building of its supporting mechanisms, satisfy market entities' various demands in terms of RMB financial asset allocation and risk management, further enhance its price discovery function, raise the international influence of "Shanghai price", continue to leverage the risk hedging function of exchange rate derivatives, and support the liberalization of exchange rates.

COLUMN Various transaction models achieved coordinated development to enhance the price discovery function of the market

In 2018, the new-generation foreign exchange trading platform, CFETS FX2017, was launched, which marked the advent of a new era for the infrastructures of China's interbank foreign exchange market. Based on the new platform, the CFETS provided a package of solutions for the trading of exchange rate derivatives.

At present, the interbank exchange rate derivatives market supported three transaction models, namely Matching (C-Trade), Request for Quotation (RFQ), and Negotiate. Under the traditional RFQ model, an institution makes a trading request which will then be sent to one or more market makers (members); the market makers (members) will make a quotation, and the institution can choose to accept or reject the quotation. Under the Matching model, the counterparties, based on bilateral credit, can leverage the combination of automatic order matching and Executive Streaming Price (ESP) to reach a deal, in line with the principle of "price first and time first"; in the case of products with relatively strong liquidity, it is more efficient and convenient compared to the RFQ model, and can often enable lower quotation spreads. Under the model of Negotiate, the counterparties with bilateral credit negotiate on transaction factors: if one party initiates transaction factors and the other accepts them, a deal is reached. This flexible mode, coupled with instant messaging tools, can effectively facilitate complicated derivatives transactions.

These transactions models developed in a coordinated manner, with their features and advantage fully leveraged, which helped to give play to the price discovery function of the exchange rate derivatives market. At present, the model of Matching dominated foreign exchange swap transactions. After the C-Trade system was upgraded in July 2019, the share of standard-term swap transactions through Matching kept stable at around 60 percent, and such transactions even accounted for over 70 percent of the total in the case of some active-term products. The model of Negotiate was broadly used in the foreign exchange options transactions, and in nearly 50 percent of such transactions, counterparties would confirm the intention of trading through the iDeal agent services and then reach a deal through negotiation. In April 2019, after the coverage of the model of Negotiate was expanded, non-standard-term and long-term forward and swap transactions became more flexible. The traditional RFQ model mainly satisfied the need *for large-value non-standard transactions, thus constituting a strong supplement to the models of Matching and Negotiate.*

Table 8.2 Overview of transaction models for different products in the interbank exchange rate derivatives market

Market	Product	Transaction model		
		Matching	RFQ	Negotiate
RMB foreign exchange market	Swap	√	√	√
	Forward	√	√	√
	Currency swap		√	√
	Options		√	√
Foreign currency pair market	Swap		√	√
	Forward		√	√
	Currency swap		√	√
	Options		√	√
	Foreign currency interest rate swap		√	√

8.6 OTC commodity derivatives market

8.6.1 Performance of the OTC commodity derivatives market

The OTC commodity derivatives central counterparty clearing business of the SHCH has covered the six industries of freight, ferrous metal, non-ferrous metal, energy, chemical, and carbon emission, including a total of 17 derivatives. In particular, chemical swap products have become a risk management and price discovery tool for enterprises in the real economy. In 2019, the SHCH cleared a total of 245,000 commodity derivatives central counterparty clearing contracts (monthly-based, unilateral), with the cumulative clearing volume reaching RMB 7.956 billion and the number of participants reaching 712.

In terms of the industry-distribution, the clearing business was majorly concentrated on chemical derivatives which contributed to 99.2 percent of the total clearing volume. Regarding the price trend, the price of CNY Mono Ethylene Glycol Swap remained overall stable throughout the year, but with sharp fluctuations, as reflected by several marked rises in the second half of the year; the prices of CNY Methanol Swap generally kept stable, despite slight volatility; the price of CNY Platts Iron Ore Swap held steady; the price of CNY Styrene Monomer Swap saw relatively large fluctuations throughout the year, moving overall in a downtrend amid volatility.

8.6.2 Innovation and institutional construction of the OTC commodity derivatives market

8.6.2.1 Product innovation was constantly advanced

In 2019, the SHCH continued to push forward product development, enriched the types of chemical and ferrous metal derivatives, explored the research into reserves of the oil and gas market and the natural gas market, and proactively studied the connection with commodity spot clearing. By constructing the OTC commodity centralized clearing platform, the SHCH managed to provide unified and specialized clearing and risk management services for the commodity spot and derivatives market, enabled the strict separation of trading, clearing, and settlement, better leveraged the role of the market in resource allocation, helped to prevent and defuse possible regional or systemic risks, and facilitated the continued, well-regulated, and sound development of the market.

8.6.2.2 Market mechanisms were continuously improved

In 2019, the SHCH implemented the policy of fee reduction and exemption and lowered fees charged for five chemical and iron ore swap products, thus effectively reducing the expenses and costs of relevant enterprises and serving the development of the real economy. Efforts were made to advance the development of the program for cross-term and cross-product margin hedging and improve and refine the risk management system, so that margins were collected based on participants' investment portfolios and participants' capital binding costs were lowered. Continued steps were taken to promote the paid quotation mechanism, optimize it and facilitate its implementation, continuously monitor quotations and organize meetings between forward quoting members, so as to raise quoting members' overall quotation capacity and make the forward price curve more effective.

8.6.3 Outlook of the OTC commodity derivatives market

In 2020, the OTC commodity derivatives market will continue to advance product innovation and improve business mechanisms. Measures will be taken to further enhance the central counterparty clearing business denominated, cleared, and settled in RMB, promote the building of the business model of "Commodity Clearing Connect", enrich the types of commodity derivatives, increase market liquidity, and boost the sustainable development of businesses. The risk management system will be continuously perfected, and the function of cross-term and cross-product margin hedging will be actively launched, so as to propel the continued development of the OTC commodity derivatives market.

BOX 10 CSI 300 Index Options

The Fourth Plenary Session of the 19th CPC Central Committee and the Central Economic Work Conference required that the building of underlying mechanisms for the capital market should be strengthened. Promoting the building and development of the stock index options market is an important task in the building of underlying mechanisms for the capital market. According to the overall arrangements made by the CSRC on comprehensively deepening reform of the capital market, the CFFEX, upon approval of the CSRC and in line with the principle of "high standard, firm start, and risk control" in product development, started listing CSI 300 index options for trading on December 23rd, 2019.

The initiative to launch stock index options and develop the risk management market is an important part in the work on enhancing the building of underlying mechanisms for the capital market. Meanwhile, it is of great significance to enriching risk management instruments in the capital market, promoting the healthy development of the market, and safeguarding market stability. The launch of stock index options in Shanghai further consolidates the infrastructure development in the financial market of Shanghai, representing a concrete measure to accelerate the development of Shanghai as an international financial center based on RMB financial market and asset management.

The CSI 300 index options are innovative in three ways. First, as the first stock index options in China, the CSI 300 index options represent a fresh attempt to promote the innovative development of China's financial derivatives market. The launch of stock index options introduces a new category in domestic equity risk management instruments, fills the void of the product line in the Chinese market, constitutes a fresh attempt to promote the innovative development of China's financial derivatives market, and has a great impact on improving the risk management system of the capital market. Second, the dual targets, namely market demand and risk prevention, are balanced in product design. In order to serve investors while effectively controlling risks at the same time, a special design is adopted in the rules: the contract size is relatively large, which can facilitate institutional investors to manage the risks of stock positions of relatively large sizes and reduce their trading costs; the contract months cover the 1-year maturity, thus satisfying the market's demand for diversified contracts with longer-term maturities. Third, an innovative model for the market stabilization mechanism is introduced into the product. Based on the characteristics of options products, the rules and systems for guiding investors' rational trading are designed, and a risk control mechanism for preventing unusual price fluctuations (price banding) is developed, which are all relatively new market stabilization mechanisms in the domestic derivatives market.

Following the Spring Festival holiday in 2020, as a result of the COVID-19 pandemic and volatility in the international financial market, the domestic stock market saw larger fluctuations. Based on the steady operations of the market, the risk management function of the CSI 300 index options was gradually unfolded. As the CSI 300 index options are put options, namely "insurance" against price falls, their shares in turnovers and positions kept rising after the Spring Festival holiday, which shows that investors gained a stronger awareness for "insuring" their spot assets and that stock index options effectively satisfied the market's hedging need. In addition, in view of the performance of the CSI 300 volatility index, it proved relatively effective in showing changes in the market and initially unfolded its functions in market sentiment representation, volatility risk measurement, early-warning of market fluctuations, etc.

BOX 11 TSR 20 futures, China's fourth futures open to both domestic and overseas investors, were listed for trading

On August 12th, 2019, the technically specified rubber (TSR) 20 futures were listed at the Shanghai International Energy Exchange (INE) for trading. They are China's fourth futures open to both domestic and overseas investors after Crude Oil futures, Iron Ore futures, and PTA futures.

The listing of TSR 20 futures will serve the development of China's rubber industry, facilitate the opening-up of China's futures market, and further expand the influence of China's Natural Rubber futures market.

Traded on the basis of "international platform, net pricing, bonded physical delivery, and RMB denomination", TSR 20 futures reflect international practices, fit the characteristics of China's futures market, and satisfy a wide variety of demands in the market. By developing TSR20 quality standards and adopting the commodity delivery registration system, the INE has attracted many domestic and overseas high-quality commodities to get registered and guided quality market resources into the futures market.

Since listing, the spread between TSR 20 futures and Natural Rubber futures and that between TSR 20 futures and domestic spot price have remained stable, with positive interactions with the international market and the gradual unfolding of futures functions. From the date of listing to February 28th, 2020, TSR 20 futures were operated for 132 trading days with a trading volume of 1.5261 million lots and a turnover of RMB 159.447 billion. The daily trading volume and turnover averaged 11,600 lots and RMB 1.208 billion. The average daily positions were

31,200 lots, and the total positions stood at 29,800 lots at the end of the period. The price of TSR 20 futures reflects the supply-and-demand dynamics in the domestic and overseas markets, of which the validity has been recognized by the market; attempts have been made to use the price of TSR 20 futures as the pricing benchmark in international spot trade.

BOX 12 China listed world's first Stainless Steel futures to advance risk management in the steel industry

On September 25th, 2019, Stainless Steel futures were officially listed for trading on the SHFE, thus further enriching China's Ferrous Metal futures product system and providing an important instrument for risk management of enterprises in the steel industry.

1. Significance of the launch of Stainless Steel futures

China's stainless steel industry plays an important role globally. In 2006, China produced 5.3 million metric tons of crude stainless steel. Since then, China has been the world's largest producer and consumer of stainless steel. In 2018, China's crude stainless steel production and consumption accounted for 52.7 percent and 46.2 percent of the world's total respectively. In 2019, China's output and consumption of crude stainless steel reached 29.400 million metric tons and 24.0533 million metric tons respectively, up 10.08 percent and 9.19 percent year on year respectively. However, though being the world's largest producer and consumer of stainless steel, China was faced with some adverse conditions in the stainless steel industry, such as low concentration, overcapacity and large price fluctuations. First, the industry was highly market-based, thus with scattered production and consumption. In 2019, the CR10 (a ratio which measures the market share of the ten largest companies in a specific market) of stainless steel cold rolling manufacturers was around 56 percent, and the direct supply ratio was below 30 percent. Second, with the continued capacity expansion in recent years, there tended to be excess capacity in the industry, with profits on the decline. Third, the quantity of stainless steel per capita was relatively low, the price elasticity of demand was relatively high, and large fluctuations were seen in the prices of raw materials and final products.

Against this backdrop, the listing of Stainless Steel futures is very important to promoting the high-quality development and steady operation of the stainless steel industry. For one thing, the futures provide an efficient price risk management instrument to help enterprises transfer price risks, stabilize costs and profits, and keep production and operation steady; for another, the futures market, which features a large participant base and active trading and investment, can help form a fair and equitable pricing mechanism and provide an effective price *reference for the market.*

2. Major innovations in Stainless Steel futures

First, as the first of its kind across the world, Stainless Steel futures could fill the void of special steel financial derivatives in the global market, and help enhance the influence of China's Steel futures on the prices in the global market.

Second, Stainless Steel futures created a new parcel of "blue ocean" in the commodity market. As stainless steel is a typical variety of mid- and high-end steel and China is promoting high-quality economic development and consumption upgrades, Stainless Steel futures boast enormous prospects and will boost the growth of the stainless steel market as a whole.

Third, unified and quantifiable technical requirements were developed for surface quality and packaging, which fills the void of practicable technical requirements for surface quality and packaging in industry standards and helps reduce quality disputes and promote the industry's technological upgrading.

Fourth, the specification requirements for delivery were established to meet the demand of the spot market. The rules for Stainless Steel futures provide specification requirements concerning thickness and width for sellers' delivery of stainless steel, which can help motivate buyers to participate in delivery, prevent the deviation of the futures price from the spot price, and enhance the price discovery function of futures.

3. Main features of the Stainless Steel futures market

As of February 28th, 2020, Stainless Steel futures had been listed for trading for five months. The market was overall stable, with a steady increase of market participants and the gradual unfolding of futures functions.

First, the market performance was stable, with a steady rise in turnover and positions. As of February 28th, 2020, the Stainless Steel futures market realized a cumulative trading volume of 1.081 million lots and a cumulative turnover of RMB 77.03 billion. The positions of dominant contracts were 54,000 lots. The number of market participants of various types rose steadily, and the positions of incorporated customers accounted for 75 percent of the total.

Second, the price discovery function gradually unfolded. Since listing, the price correlation coefficient between the price of Stainless Steel futures and the domestic spot price was 0.927, signaling positive "futures-spot linkage". The futures price fully reflected the supply-demand dynamics in the market, with the futures-spot basis kept at a reasonable level.

Third, the delivery was completed successfully. The delivery of the first contract, SS2002, was completed successfully, with a delivery volume of 1,860 metric tons and delivery value of RMB 24.46 million, thus effectively serving the real economy.

Appendix I Chronicle of China's Financial Market Development, 2019

On January 4th, the People's Bank of China (PBC) decided to lower the required reserve ratio (RRR) for financial institutions by 1 percentage point, to replace some of the medium-term lending facility (MLF).

On January 11th, China Central Depository & Clearing Co., Ltd. (CCDC) and China Financial Futures Exchange (CFFEX) jointly launched the initiative to expand the applicability of the business using bonds as futures margin, which would be extended from treasury bond futures to all financial futures at CFFEX since January 21st.

On January 11th, Shanghai Stock Exchange (SSE) promulgated and implemented the *Detailed Rules for Listed Companies Implementing Share Repurchase*.

On January 18th, China Securities Regulatory Commission (CSRC) released the *Guidelines for Investment of Publicly-Offered Securities Investment Funds in Credit Derivatives*, which was put to effect since its publication. On the same day, the SSE and Shenzhen Stock Exchange (SZSE) together with the China Securities Depository and Clearing Corporation Limited (CSDC) released the *Measures for Pilot Management of Credit Protection Instrument Business* and supporting rules.

On January 18th, the SSE and the SZSE issued the *Notice of Matters Concerning Stock-Pledged Repo Transactions*, which officially took effect on the day of its release.

On January 24th, the PBC launches central bank bills swap (CBS) to improve the liquidity of banks' perpetual bonds. On February 20th, the PBC conducted the first CBS operation with primary dealers of open market business; valued at RMB 1.5 billion, the swap would be due in 1 year with a rate of 0.25 percent.

On January 24th, China Banking and Insurance Regulatory Commission (CBIRC) decided to lift the restrictions and allow the insurers to invest in the capital bonds without fixed terms issued by commercial banks.

On January 25th, the Bank of China (BOC) issued RMB 40 billion of capital bonds without fixed terms in the interbank bond market, which was the first of its kind to be launched.

On January 28th, the Operations Office of the PBC announced to have filed a record for S&P Ratings (China) Co., Ltd., the US-based S&P Global Ratings Inc.'s wholly-owned subsidiary in Beijing. On the same day, the National Association of Financial Market Institutional Investors (NAFMII) also released a public notice on its approval of the registration of S&P Ratings (China) for conducting bond credit rating business in China's interbank bond market. S&P Ratings was therefore officially approved to produce credit ratings in China's exchange bond market.

On January 28th, the CSRC officially approved the Shanghai Futures Exchange (SHFE) as "Qualifying Central Counterparty" (QCCP).

On January 28th, the futures contracts of natural rubber, cotton, and corn were officially listed for trading in the SHFE, Zhengzhou Commodity Exchange (ZCE), and Dalian Commodity Exchange (DCE).

On January 30th, the CSRC released the *Opinions on Launching a Science and Technology Innovation Board at the Shanghai Stock Exchange and Experimenting with a Registration System for Listed Companies*.

On January 31st, Bloomberg confirmed that Chinese bonds would be added to the Bloomberg Barclays Global Aggregate Index starting from April 2019 and phased in over a 20 month period, marking new progress in the opening up of the financial market.

On February 12th, the PBC and the State Administration of Foreign Exchange (SAFE) jointly released the *Measures for the Administration of Funds for Participation in Equity Incentives by Foreign Employees of Domestic Listed Companies*.

On February 20th, Guangdong Province issued the China's first cum-right municipal bond on the SZSE.

On February 21st, the first corporate bonds for domestic and overseas investors (including the Bond Connect) was registered and issued, namely 2019 Green Bonds of Shenzhen Energy Corporation (Phase I).

On March 7th, the Shenzhen Energy issued the 2019 Green Bonds of Shenzhen Energy Corporation (Phase I) at the SZSE, signifying the first launch of "Bond Connect" corporate bond.

On March 19th, the Shanghai Branch of Bank of America Corporation became the first American non-legal-person clearing member in China and completed the first RMB interest rate swap transaction.

On March 22nd, Ningbo Finance Bureau and Zhejiang Provincial Finance Department pioneered in issuing local government bonds in the commercial banks' OTC market.

On March 27th, the CBIRC approved the Heng An Standard Life Insurance Company Limited, the China-UK joint venture, to prepare to build the first foreign-funded pension insurer, namely Heng An Standard Pension Insurance Co., Ltd.

On March 29th, the 2019 non-publicly issued corporate bond of Hebei Transportation Investment Group Corporation was approved to be listed on the SSE. The corporate bond raised RMB 5 million, among which RMB 1.5 billion will be used for the construction of two highways in Xiong'an New Area, the

New Line of Rongwu Highway, and the New Airport–Dezhou Highway. It marked the first corporate bond serving the Xiong'an New Area construction in the exchange market.

On April 1st, the first national standard in China's insurance industry, i.e. Basic *Terminology of Insurance* (GB/T 36687—2018) was officially implemented.

On April 16th, the Industrial and Commercial Bank of China (ICBC) launched the world's first green Belt & Road Interbank Regular Cooperation bond (BRBR bond).

On April 17th, the CCDC and the CFFEX jointly supported the implementation of the first bonds-as-futures-margin business by overseas investors, with a pledged bond volume of RMB 60 million.

On April 30th, the SSE, China Securities Finance Co., Ltd. (CSF), and the CSDC jointly released the *Detailed Rules of SSE, CSF and CSDC on Implementation of Business of Refinancing's Securities Lending and Securities Refinancing on Sci-Tech Innovation Board*, which came into force on the date of release.

On April 30th, Chinese Jujube (CJ) futures contract was officially listed for trading on the ZCE.

On May 6th, the PBC decided to cut reserve requirement ratio for small and medium-sized banks from May 15th, 2019 to help lower the financing costs for MSBs.

On May 14th, the PBC released the *Notice on Supporting the Issuance of Green Debt Financing Instruments in Green Finance Reform and Innovation Pilot Zones*.

On May 14th, the CFFEX published the *Measures of China Financial Futures Exchange on the Management of the Risk Reserve*, which came into effect on the day of its release.

On May 15th, Shanghai Clearing House (SHCH) provided trade-for-trade clearing services for the first interbank CDS transaction based on the bill backed by consumer finance asset which was conducted between Guotai Junan Securities Co., Ltd. and China International Capital Corporation Limited (CICC), offering innovative practice for the support to market-based operation of securities financing of private enterprises.

On May 20th, the PBC and the CSRC jointly issued the *Notice on Effectively Carrying out Innovative Pilot Programs in Open-End Bond Index Securities Investment Funds*, planning to introduce bond index mutual funds targeting cross market bond products that are tradable on stock exchanges or transferrable in the inter-bank market. As a key move to interconnect bond markets, the pilot program would better satisfy the needs of domestic and foreign investors in bond index products and help promote the long-term healthy development of the bond markets.

On May 21st, the PBC announced to lower the RMB RRR targeting county-level rural commercial banks to the ratio for rural credit cooperatives in three phases.

On May 23rd, the special corporate bond of Shenzhen Investment Holdings Co., Ltd., serving the Guangdong-Hong Kong-Macao Greater Bay Area, was issued at the SZSE, signifying the official launch of China's first special corporate bond serving the Great Bay Area.

On May 24th, the CSRC approved the application for registration of the Chinese product of China-Japan ETF Connectivity scheme (or "east-bound ETF") to officially launch the east-bound ETF.

On May 24th, the SSE and the SZSE respectively worked with the CSDC to release the *Notice on Providing Transfer and Settlement Services for Specific Listed Bonds*, marking the launch of defaulted bond transfer service.

On May 24th, to protect the legitimate rights and interests of the depositors and other clients, the PBC and CBIRC, in collaboration with other concerned parties, took over Baoshang Bank for one year in line with the relevant laws.

On May 25th, the PBC and the SAFE jointly released the Announcement〔2019〕No.8 to publicize the *Administrative Measures for Cross-Border Funds for Depository Receipts (Trial)*, which came to effect on the day of its release.

On June 5th, approved by the State Council, the RMB Qualified Foreign Institutional Investor (RQFII) pilot program was expanded to Netherlands, with an investment quota of RMB 50 billion.

On June 6th, the NAFMII drafted and released the *Guidelines on the Poverty Alleviation Note Business of Non-Financial Enterprises* and the *Information Disclosure Form for Poverty Alleviation Note of Non-Financial Enterprises*, which came into force on the day of their release.

On June 13th, the Science and Technology Innovation Board (STAR market) of the SSE was officially launched.

On June 13th, the Republic of Portugal issued RMB 2 billion panda bonds in China interbank bond market, making it the first eurozone country to issue sovereign Panda Bonds in China.

On June 16th, the National Interbank Funding Center (NIFC) released the *Detailed Rules of NIFC on the Implementation of Repo Default Disposal (Trial)* (Zhonghuijiaofa〔2019〕No.196) to conduct repo default disposal business.

On June 17th, the Shanghai-London Stock Connect was launched. The CSRC and UK Financial Conduct Authority released the *Joint Announcement* on of their approval in principle of the establishment of the Shanghai-London Stock Connect by SSE and the London Stock Exchange Group (LSEG). On the same day, Huatai Securities, the SSE-listed company issued the first global depository receipts (GDRs) under Shanghai-London Stock Connect on LSEG for trade.

On June 21st, the CSRC released the *Guidelines on Participating the Business of Refinancing's Securities Lending for Publicly-Offered Securities Investment Funds (Trial)* to facilitate the launch of the STAR market, improve the financing mechanism in the capital market, and regulate the participation in refinancing's securities lending by the publicly-offered securities investment funds.

On June 21st, the FTSE Russell announced the inclusion of China A-Shares into its Global Equity Index Series (FTSE GEIS), which would officially take effect from the start of trading on June 24th, 2019.

On June 28th, the NIFC released an announcement to organize anonymous auction business for repo default.

On July 2nd, the PBC released the Announcement〔2019〕No.11 to authorize Bank of Tokyo Mitsubishi UFJ (BTMU) as the RMB clearing bank in Japan.

On July 3rd, the CCDC released the *Notice on Optimizing Procedures for Corporate Bond Cross-Market Depository Transfer*, which officially introduced the electronic cross-market transfer of custody of corporate bonds, further improved the efficiency of interconnectivity of financial infrastructure, and facilitated the cross-market trading and financing for market players.

On July 12th, the China Bond Insurance Co., Ltd. publicly issued RMB 1.5 billion worth of 2019 financial bonds without fixed terms (Phase I), marking China's first financial bonds without fixed terms of non-banking institutions.

On July 15th, Shanghai Gold Exchange (SGE) officially launched the inquiry futures business of silver. On the first day of trading, ten market institutions participated in the silver inquiry futures with cumulative trading volume of 58.44 metric tons and a turnover of RMB 213 million.

On July 19th, the CFETS released the *Notice of CFETS*〔2019〕No.240 to officially launch the NZD and SGD lending trade.

On July 20th, the FSDC under the State Council released the *Measures for Further Opening Up the Financial Sector* to introduce 11 measures for opening up in the financial sector.

On July 22nd, the first 25 companies of the STAR market were listed on the SSE for trading.

On August 6th, the CSRC, the PBC, and the CBIRC jointly made the announcement of expanding the scope of banks to participate in cash bond trading in the stock exchange bond markets.

On August 9th, the Purified Terephthalic Acid (PTA) futures contract was listed for trading on the ZCE.

On August 12th, TSR 20 futures were listed for trading on the Shanghai International Energy Exchange.

On August 16th, the Shanghai Commercial Paper Exchange Corporation (SHCPE) launched the first phase of standard commercial paper, namely the Standardized Negotiable Instruments Phase I 2019.

On August 16th, the Polished Round-grained Rice futures contract was listed for trading on the DCE.

On August 26th, the G10 Option Trading was officially launched in the interbank FX market.

On September 6th, the PBC issued the *FinTech Development Plan (2019—2021)*.

In September, the first batch of commodity futures ETF was listed on the SZSE.

On September 10th, China Bond Valuation Center under the CCDC and China Insurance Asset Registration and Trading System (CIARTS) under Shanghai Insurance Exchange held the unveiling ceremony of insurance asset management product valuation and signing ceremony for trial in Beijing, marking a milestone in the application of third-party valuation of insurance asset management products.

On September 23rd, the PBC released the Announcement〔2019〕No.18, authorizing the Manila Branch of BOC to be the RMB clearing bank in the Philippines.

On September 24th, the Industrial Bank Co., Ltd. (CIB), as the founding institution, issued the "CIB credit asset-backed securities Phase IV 2019" in the national interbank bond market, with a total volume of RMB 5.518 billion, marking the first floating-rate credit asset securitization product adopting LPR as the pricing benchmark in the market.

On September 25th, Stainless Steel futures contract was officially listed for trading on the SHFE.

On September 26th, the Ethenylbenzene futures contract was officially listed for trading on the DCE.

On September 30th, Chinese Premier Li Keqiang signed an order of the State Council releasing the *Decision of the State Council on Amending the Regulations of the People's Republic of China on the Administration of Foreign-Funded Insurance Companies and the Regulations of the People's Republic of China on the Administration of Foreign-Funded Banks*, which became effective on the day of its release.

On October 16th, the PBC and the SAFE jointly released the *Notice on Issues Concerning Further Facilitating Investment by Overseas Institutional Investors in the Interbank Bond Market* (Yinfa〔2019〕No.240), which came into effect on November 15th, 2019.

On October 18th, the CSRC issued the *Decision on Amending Measures for the Administration of the Material Asset Restructuring of Listed*

Companies, which came into effect on the day of its release.

On November 8th, the CSRC officially launched the pilot program to expand stock index options and approved the CSI 300 ETF options to be listed on SSE and SZSE and CSI 300 stock index options on the CFFEX in accordance with procedures.

On November 15th, the ICBC Wealth Management Co., Ltd., a wholly-owned subsidiary of ICBC, became China's first banking wealth manager to open an account at the SGE, and it launched the first gold-linked wealth management product that can directly invest in the spot contracts of the SGE.

On November 15th, the CSRC dispatched risk disposal on Shanghai Huaxin Securities Co., Ltd. in accordance with the laws, revoked all business licenses of Huaxin Securities, and entrusted Grandall Law Firm (Beijing) to set up an administrative liquidation team for the liquidation of Huaxin Securities.

On November 15th, the CSRC issued the *Guidelines on Application for "Full Circulation" of Domestic Unlisted Shares of H-Shares Listed Companies* (CSRC Announcement〔2019〕No.22), the catalogue of application materials for "full circulation" of H-shares and the key points for review, lifting the curtain of the comprehensive H-shares "full circulation" reform.

On November 25th, the direct connection system for the business using bonds as futures margin of the CCDC and the CFFEX was officially launched and supported the implementation of business on the same day.

On December 2nd, the foreign exchange trading system officially launched the online foreign currency interbank deposit business.

On December 5th, the CFETS issued the *Notice on Introducing the Trading Rules of Interbank RMB-Foreign Exchange Market* (Zhonghuijiaofa〔2019〕No.401) which came into effect on the date of release.

On December 6th, the Soda Ash (SA) futures contract was officially listed for trading on the ZCE.

On December 9th, the iron ore options contract was officially listed for trading on the DCE.

On December 16th, the National Interbank Funding Center and the CFETS officially launched the foreign currency repurchase business. Participants in the interbank foreign currency market can use the bonds under the custody of the SHCH as collateral to enter into foreign currency repo transactions through the FX trading platform of CFETS.

On December 16th, the PTA and Methanol futures contracts were officially listed for trading on the ZCE.

On December 17th, the SSE launched the pilot program of credit protection certificates, with a total nominal principal of RMB 133 million for 4 products, effectively supporting RMB 4.46 billion of bond financing.

On December 18th, the CSI 300 stock index options contract was listed on the CFFEX.

On December 20th, the PBC issued the Announcement〔2019〕No.29 to expand the scope of RMB clearing services for banks in Macau.

On December 20th, the gold options contract was officially listed for trading on the SHFE.

On December 20th, the CBIRC approved Amundi Asset Management and Bank of China Wealth Management Company Limited to set up a joint venture in Shanghai as the first foreign majority-owned wealth management company.

On December 23rd, the first cross-market ETF options product, the CSI 300 ETF options contract, was officially listed for trading on the Shanghai and Shenzhen exchanges.

On December 27th, the NAFMII formulated and released the *Guidelines on Default and Risk Resolution of Debt Financing Tools of Non-Financial Enterprises in Interbank Bond Market*, the *Guidelines on Custodian Business of Debt Financing Tools of Non-Financial Enterprises in Interbank Bond Market (Trial)* and their supporting documents, and the *Rules on Holder's Meeting of Debt Financing Tools of Non-financial Enterprises in Interbank (Amendment)*, which were officially implemented on the same day.

On December 28th, the PBC issued the Announcement〔2019〕No.30 on the transition of pricing benchmark to LPR for the outstanding floating-rate loans.

On December 31st, the CSDC and the SZSE jointly issued the *Detailed Rules for "Full Circulation" Business of H-Shares*, which came into effect on the same day.

Appendix II China Financial Market Statistics

Table 1 Major macroeconomic and financial indicators from 2000 to 2019 (year-end balance)

Item	2000	2001	2002	2003	2004	2005	2006	2007
Gross domestic product (GDP)	99,215	109,655	120,333	135,823	159,878	184,937	216,314	265,810
Growth rate(%)	8.4	8.3	9.1	10.0	10.1	10.4	12.7	14.2
Exports & imports (USD100 million, RMB 100 million)	4,743	5,097.7	6,208	8,512	11,547	14,221	17,607	21,738
Growth rate(%)	31.5	7.5	21.8	37.1	35.7	23.2	23.8	23.5
Exports (USD100 million, RMB 100 million)	2,492	2,661	3,256	4,384	5,934	7,620	9,690	12,205
Imports (USD100 million, RMB 100 million)	2,251	2,436.1	2,952	4,128	5,614	6,601	7,915	9,561
Foreign exchange reserves (USD100 million)	1,655.7	2,121.7	2,864	4,033	6,099	8,189	10,663	15,282
Foreign direct investment (USD100 million)	408	468.5	527	535	606	603	694.7	747.7
Fiscal revenue(RMB 100 million)	13,380.1	16,371	18,914	21,691	26,355.9	31,628	38,760.2	51,304
Fiscal expenditure(RMB 100 million)	15,879.4	18,844	22,012	24,607	28,360.8	33,708.1	40,222.7	49,565.4
Deficit/surplus(RMB 100 million)	-2,499.3	-2,473	-3,098	-2,916	-2,004.9	-2,080.1	-1,462.5	1,738.6
Money supply (M_2) (RMB 100 million)	134,610.3	158,301.9	185,007	221,222.8	254,107	296,040.1	345,577.9	403,401.3
Growth rate(%)	12.3	17.6	16.9	19.6	14.9	16.5	16.7	16.7
Money supply (M_1) (RMB 100 million)	53,147.2	59,871.6	70,822	84,118.6	95,969.7	107,279.9	126,028.1	152,519.2
Growth rate(%)	15.9	12.7	18.3	18.8	14.1	11.8	17.5	21.0
Money supply (M_0) (RMB 100 million)	14,652.7	15,688.8	17,278	19,746	21,468.3	24032.8	27,072.6	30,334.3
Growth rate(%)	8.9	7.1	10.1	14.3	8.7	11.9	12.6	12.0
Per capita disposable income of urban residents (RMB)	6,280	6,859.6	7,703	8,500	9,422	10,493	11,759	13,786
Real growth rate(%)	6.4	8.5	13.4	9.0	7.7	9.6	10.4	12.2
Net income of rural residents (RMB)	2,253	2,366	2,475.6	2,622	2,936	3,255	3,587	4,140
Real growth rate(%)	2.1	4.2	4.8	4.3	6.8	6.2	7.4	9.5
Total deposits with financial institutions(RMB 100 million)	123,804.4	143,617.2	170,917.4	208,055.6	241,424.3	300,208.6	348,015.6	401,051.4
Growth rate(%)	13.8	16.0	19.0	21.7	16.0	24.3	15.9	15.2
Total loans by financial institutions(RMB 100 million)	99,371.1	112,314.7	131,293.9	158,996.2	178,197.8	206,838.5	238,279.8	277,746.5
Growth rate(%)	6.0	13.0	16.9	21.1	12.1	16.1	15.2	16.6
Consumer Price Index (CPI) (%)	0.4	0.7	-0.8	1.2	3.9	1.8	1.5	4.8

Notes: 1. Data of previous years 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.

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

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
314,045	340,903	408,903	484,124	534,123	595,244	643,974	689,052	743,585	832,036	919,281	990,865
9.6	9.2	10.6	9.5	7.7	7.8	7.3	7.0	6.8	6.9	6.7	6.1
25,616	22,073	201,723	236,402	244,160	258,168	264,242	245,503	243,386	278,099	305,010	315,505
17.8	-13.9	34.7	17.2	3.2	5.7	2.39	-7.0	-0.9	14.2	9.7	3.4
14,307	12,016	107,023	123,241	129,359	137,131	143,884	141,167	138,419	153,309	164,129	172,342
11,326	10,059	94,700	113,161	114,801	121,037	120,358	104,336	104,967	124,790	140,881	143,162
19,460	23,992	28,473	31,811	33,116	38,213	38,430	33,304	30,105	31,399	30,727	31,079
924	900	1,057	1,160	1,117	1,176	1,196	1,263	1,260	1,310	1,350	1,381
61,330	68,518	83,102	103,874	117,254	129,210	140,370	152,269	159,605	172,593	183,360	190,382
62,593	76,300	89,874	109,248	125,953	140,213	151,662	175,768	188,793	203,330	220,906	238,874
-1,263	-7,782	-6,772	-5,374	-8,699	-11,003	-11,312	-23,499	-29,188	-30,734	-37,546	-48,492
475,166.6	606,223.6	725,851.79	851,590.9	974,148.8	1,106,524.98	1,228,374.81	1,392,278.11	1,550,066.67	1,676,768.54	1,826,744.22	1,986,488.82
17.8	27.6	19.7	13.5	14.4	13.6	11.0	13.3	11.4	8.2	8.1	8.7
166,217.1	220,004.5	266,621.54	289,847.7	308,664.2	337,291.05	348,056.41	400,953.44	486,557.24	543,790.15	551,685.91	576,009.15
9.0	32.4	21.2	7.9	6.5	9.3	3.2	15.2	21.4	11.8	1.5	4.4
34,218.96	38,245.97	44,628.17	50,748.46	54,659.77	58,574.44	60,259.53	63,216.58	68,303.87	70,645.6	73,208.4	77,819.47
12.8	11.8	16.7	13.8	7.7	7.1	2.9	4.9	8.1	3.4	3.6	5.4
15,781	17,175	19,109	21,810	24,565	26,955	28,844	31,195	33,616	36,396	39,251	42,359
8.4	9.8	7.8	8.4	12.6	9.7	6.8	6.6	5.6	8.3	7.8	5.0
4,761	5,153	5,919	6,977	7,917	8,896	9,892	11,422	12,363	13,432	14,617	16,021
8.0	8.5	10.9	11.4	13.5	9.3	11.2	7.5	6.2	7.3	8.8	9.6
478,444.2	612,005.1	733,382.03	826,701.35	943,102.27	1,070,587.72	1,173,734.59	1,397,752.11	1,555,247.07	1,692,727.15	1,825,158.24	1,981,642.58
19.3	27.9	19.8	12.7	14.1	13.5	9.6	19.1	11.3	8.8	7.8	8.6
320,048.7	425,622.6	509,225.95	581,892.5	672,874.61	766,326.64	867,867.89	993,459.69	1,120,551.79	1,256,073.74	1,417,516.44	1,586,020.56
15.2	33.0	19.6	14.3	15.6	13.9	13.3	14.5	12.8	12.1	12.9	11.9
5.9	-0.7	3.3	5.4	2.6	2.6	2.0	1.4	2.0	1.6	2.1	2.9

Table 2 Composition and growth of RMB and foreign currency deposits and loans from 2000 to 2019 (year-end balance)

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

Source: PBC.

Units: RMB 100 million, %

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
478,444.21	612,005.1	733,382.03	826,701.35	943,102.27	1,070,587.72	1,173,734.59	1,397,752.11	1,555,247.07	1,692,727.15	1,825,158.24	1,981,642.58
19.3	27.9	19.8	12.7	14.1	13.5	9.6	19.1	11.3	8.8	7.8	8.6
221,503.47	264,756.9	307,166.39	357,901.58	415,549.87	471,090.18	512,790.14	551,928.92	606,522.23	651,983.38	724,438.51	821,296.39
25.7	19.5	16.0	16.5	16.1	13.4	8.9	7.6	9.9	7.5	11.1	13.4
164,385.79	224,360	252,960.27	423,086.61	478,730.2	541,793.87	591,069.28	455,208.83	530,895.41	571,640.83	589,104.74	621,147.01
13.5	36.5	12.7	67.3	13.2	13.2	9.1	-22.9	16.6	7.7	3.1	5.4
320,048.68	425,622.6	509,225.95	581,892.5	672,874.61	766,326.64	867,867.89	993,459.69	1,120,551.79	1,256,073.74	1,417,516.44	1,586,020.56
15.2	33.0	19.6	14.3	15.6	13.9	13.3	14.5	12.8	12.1	12.9	11.9
128,571.47	151,390.7	171,236.64	217,480.1	268,152.19	311,771.97	336,371.27	359,190.66	371,286.36	405,492.17	432,776.46	462,715.17
8.1	17.7	13.11	27	23.3	16.3	7.9	6.8	3.4	9.2	6.7	6.9
164,160.42	235,591.3	305,127.55	333,746.51	363,894.22	410,345.5	471,818.36	537,832.55	634,209.87	750,130.12	854,188.75	971,567.92
18.5	43.5	29.5	9.4	9.0	12.8	15	14	17.9	18.3	13.9	13.7

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

Units: RMB 100 million, %

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

Notes: 1. Outstanding loan refers to the outstanding amount of all RMB and foreign currency loans of financial institutions.
2. Outstanding bonds include bonds in custody in the interbank market and on the stock exchange.

Sources: PBC and CSRC.

Table 4 Composition of aggregate financing to the real economy (flow) from 2010 to 2019

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	13.94
2011	12.83	7.47	0.57	1.3	0.2	1.03	1.37	0.44	12.83
2012	15.76	8.20	0.92	1.28	1.28	1.05	2.26	0.25	15.76
2013	17.29	8.89	0.58	2.54	1.84	0.78	1.8	0.22	17.29
2014	16.41	9.78	0.36	2.51	0.52	-0.13	2.43	0.44	16.41
2015	15.29	11.27	-0.64	1.59	0.04	-1.06	2.82	0.76	15.29
2016	17.8	12.4	-0.56	2.18	0.86	-1.95	3	1.24	17.8
2017	19.44	13.84	0.0018	0.77	2.26	0.54	0.45	0.87	19.44
2018	19.26	15.67	-0.4203	-1.61	-0.69	-0.63	2.49	0.36	19.26
2019	25.67	16.88	-0.1274	-0.9396	-0.3467	-0.4755	3.34	0.3478	25.67

Source: PBC.

Table 5 Interbank lending and bond repo trading from 1997 to 2019

Unit: RMB 100 million

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

Source: CFETS.

Table 6 Change in the number of interbank funding market participants from 2000 to 2019

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

Source: National Interbank Funding Center (NIFC).

Table 7 Trading in the bill market from 2000 to 2019

Unit: RMB 1 trillion

Year	Cumulative volume of signed commercial bills	Cumulative volume of bill discounts
2000	0.74	0.64
2001	1.28	1.55
2002	1.61	2.31
2003	2.77	4.44
2004	3.42	4.71
2005	4.45	6.75
2006	5.43	8.49
2007	5.87	10.11
2008	7.09	13.51
2009	10.27	23.16
2010	12.2	48.60
2011	15.1	25
2012	17.9	31.6
2013	20.3	45.7
2014	22.1	60.7
2015	22.4	102.1
2016	18.1	84.5
2017	17.0	40.3
2018	18.28	27.33
2019	20.4	34.3

Source: PBC.

Table 8 Spot trading and futures trading in the bond market from 2006 to 2019

Units: RMB 100 million, %

Year	Interbank bond market				Exchange market			
	Spot trading	YoY growth	OTC market trading	YoY growth	Spot trading	YoY growth	Treasury bond futures market	YoY growth
2006	102,558.6	70.55	42.8	-34.86	1,977.83	—	—	—
2007	156,038.21	52.15	35.7	-16.59	2,051.75	3.74	—	—
2008	371,082.7	137.82	30.4	-14.85	4,294.73	109.32	—	—
2009	472,646.43	27.37	62.8	106.58	4,659.86	8.5	—	—
2010	640,418.98	35.5	41.7	-33.6	5,832.26	25.16	—	—
2011	636,422.9	-0.62	27.89	-33.12	6,839.9	17.28	—	—
2012	751,952.83	18.15	14.99	-46.25	9,852.7	44.05	—	—
2013	416,106.44	-44.66	18.72	24.88	17,387.6	76.48	3,063.89	—
2014	403,565.2	-3	71.7	283.01	27,874.4	60.31	8,785.17	186.73
2015	867,370.1	114.9	109.3	52.4	33,994.6	22	60,106.8	584.18
2016	1,270,918.3	46.5	87.6	-19.8	51,269.9	50.8	89,013.6	48.09
2017	1,028,351.7	-19.1	245	179.7	55,597.0	8.4	140,849.1	58.23
2018	1,507,367.9	46.6	1,320.3	438.9	59,282.6	6.6	103,819.3	-26.77
2019	2,087,499.4	41.8	175.5	-1.3	83,530.2	40.9	148,158.3	40.71

Source: PBC.

Table 9 Spot trading in the bond market in 2019

Units: RMB 100 million, %

Month	Interbank bond market					Exchange market		
	Spot trading	YoY growth	Interbank bond aggregate index	OTC market trading	YoY growth	Spot trading	YoY growth	SSE treasury bond index
Jan.	149,132.8	61.4	118.01	319.1	464.1	6,991.7	30.9	101.59
Feb.	108,316.7	102.9	117.71	227.6	383.2	4,706.5	42.3	101.58
Mar.	175,756.9	78.3	117.68	276.5	145.6	7,418.5	26.3	101.66
Apr.	175,949.2	89.8	116.56	207.0	189.0	7,509.0	76.7	101.35
May	185,456.3	59.8	117.01	144.5	113.1	7,012.1	44.9	101.37
Jun.	155,726.6	34.7	117.30	287.0	144.8	6,353.9	56.5	101.54
Jul.	190,479.9	37.5	117.59	185.1	45.4	7,635.0	43.0	101.64
Aug.	200,389.3	21.0	118.00	222.2	45.1	7,513.1	44.7	101.92
Sept.	190,736.3	29.7	117.81	177.7	58.3	6,835.1	43.4	101.94
Oct.	168,738.4	25.7	117.24	139.1	14.8	5,694.7	31.9	101.78
Nov.	213,722.1	18.6	117.82	167.5	40.1	7,140.8	25.9	101.90
Dec.	173,095.1	29.2	118.24	175.5	-1.3	8,720.1	37.7	102.07
Total	2,087,499.6	38.5	—	2,528.8	91.5	83,530.5	40.9	—

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

Sources: PBC, CCDC, SSE, and CFETS.

Table 10 Bond market issuance

Unit: RMB 100 million

Year	Government debentures			Government-backed agency bonds	Central bank bills	Financial bonds				Interbank certificate of deposits	Corporate debentures				Asset-backed securities	International institutional bonds	Standard commercial paper	Total
	Treasury bonds	Local government bonds	Sub-total			Policy bank bonds	Short-term financing bonds of securities companies	Other financial bonds	Sub-total		Debt financing instruments of non-financial enterprises	Enterprise debts	Corporate debts	Sub-total				
2004	7,318.8	0	7,318.8	0	17,037	4,348	0	748.8	5,096.8	—	0	326	209	535	—	—	—	29,988
2005	7,042	0	7,042	0	27,882	6,051.7	29	1,036.3	7,117	—	1,424	654	0	2078	172.74	—	—	44,160.8
2006	8,883.3	0	8,883.3	0	36,574	8,980	0	525	9,505	—	2,919.5	995	142.9	4,057.4	280.01	—	—	59,135.3
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	407.3	5,476.4	178.08	—	—	81,763.8
2008	8,546.3	0	8,546.3	0	42,960	10,809.3	0	974	11,783.3	—	6,075.5	2,367	976.5	9,419	302.01	—	—	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	715	16,476.7	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	3,627	1,320.3	16,810.3	0	—	—	98,458.6
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	12.79	—	—	78,723.2
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	224.42	—	—	80,515.9
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	—	—	90,133.5
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	3,483.8	51,653.4	3,220.63	—	—	110,201.1
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	13,292.4	70,384.1	6,157.2	115	—	234,358.9
2016	29,457.7	60,428.4	89,886.1	2,250	0	33,529.7	1,178.6	12,717.9	47,426.2	129,931	50,297.9	5,917.7	25,770	81,985.5	8,647	1,330.4	—	361,456.2
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	11,460.2	55,004.7	15,398.4	666	—	408,212
2018	35,411.0	41,651.7	77,062.6	2,530.0	0	33,681.8	1,425.0	18,302.2	53,409.0	210,832.4	57,915.9	2,404.8	16,336.7	76,657	18,187.5	898.6	—	439,577.6
2019	40,091	43,624.3	83,715.3	3,720.0	0	37,401.0	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	13.8	453,240.7

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

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

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

Source: PBC.

Table 11 Bond custody in bond market

Unit: RMB 100 million

Year	Government debentures			Government-backed agency bonds	Central bank bills	Financial bonds				Interbank certificates of deposits	Corporate debentures				Credit asset-backed securities	International institutional bonds	Standard commercial paper	Interbank custody	Exchange custody	Total custody
	Treasury bonds	Local government bonds	Sub-total			Policy bank bonds	Short-term financing bonds of securities companies	Other financial bonds	Sub-total		Debt financing instruments of non-financial enterprises	Enterprise debts	Corporate debts	Sub-total						
2006	29,048	0	29,048	30	32,300	22,836	0	2,552	25,388	0	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	0	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	0	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	0	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	0	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	0	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	0	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	1	864,460	126,583	991,043

Notes: 1. *Treasury bonds* includes book-entry government bonds and electronic savings bonds.

2. *Other financial bonds* includes interbank and exchange-traded financial bonds.

Source: PBC.

Table 12 Number of interbank bond market participants from 2014 to 2019

Institution			2014	2015	2016	2017	2018	2019
Domestic participants	Incorporated entities	Depository financial institutions	1,088	1,302	1,560	1,745	1,859	2,068
		Other banking financial institutions	158	182	242	278	324	349
		Securities financial institutions	169	171	179	185	189	194
		Insurance financial institutions	148	152	154	163	173	183
		Non-financial institutions	278	280	274	274	274	265
		Other	7	7	21	20	23	23
		Sub-total	1,848	2,094	2,430	2,665	2,842	3,082
	Unincorporated Products	Securities investment funds	1,556	2,151	3,137	3,919	4,212	4,796
		Corporate annuities	1,275	1,431	1,528	1,625	1,684	2,748
		Social Security fund	105	105	106	163	197	206
		Insurance products	145	311	641	976	1,087	1,164
		Trust products	569	666	684	869	949	1,032
		Specific asset management portfolios of fund companies	176	1,140	3,061	3,425	3,315	3,395
		Asset management schemes of securities companies	560	1,388	2,743	3,586	3,965	4,832
		Wealth management products of banks	48	48	445	679	1,006	1,611
		Other	0	0	114	216	320	412
		Sub-total	4,434	7,240	12,459	15,458	16,735	20,196
Overseas participants			180	302	407	617	1,186	2,610
Total			6,462	9,636	15,296	18,740	20,763	25,888

Source: PBC.

Table 13 Interbank bond market settlement agents

No.	Institution	No.	Institution
1	Industrial and Commercial Bank of China	26	Bank of Dalian
2	Agricultural Bank of China	27	Bank of Qingdao
3	Bank of China	28	Bank of Chengdu
4	China Construction Bank	29	Bank of Chongqing
5	Bank of Communications	30	Bank of Hebei
6	China Merchants Bank	31	Bank of Xiamen
7	China Minsheng Bank	32	Fudian Bank
8	China Everbright Bank	33	Jinshang Bank
9	China CITIC Bank	34	Haixia Bank of Fujian
10	Huaxia Bank	35	Bank of Guiyang
11	Industrial Bank Co., Ltd.	36	Bank of Xi’an
12	Shanghai Pudong Development Bank	37	Bank of Dongguan
13	China Guangfa Bank	38	Harbin Bank
14	Bank of Beijing	39	Shunde Rural Commercial Bank
15	Hengfeng Bank	40	Bank of Ningbo
16	Bank of Nanjing	41	Changshu Rural Commercial Bank
17	Bank of Shanghai	42	Baoshang Bank
18	Bank of Hangzhou	43	Hankou Bank
19	Shanghai Rural Commercial Bank	44	HSBC Bank (China) Co., Ltd.
20	Bank of Tianjin	45	Standard Chartered Bank (China) Ltd.
21	Qishang Bank	46	BNP Paribas (China) Ltd.
22	Ping An Bank	47	Deutsche Bank (China) Co., Ltd.
23	Qilu Bank	48	Citibank (China) Co., Ltd.
24	Bank of Urumqi	49	J.P. Morgan Chase Bank (China) Co., Ltd.
25	Bank of Changsha		

Source: CFETS website.

Table 14 Primary dealers for open market operations in 2019

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

Source: PBC.

Table 15 Stock market statistics from 2000 to 2019

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

Source: Wind.

Table 16 Change in stock market turnover and indices from 2000 to 2019

Unit: RMB 100 million

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	1,0453.0	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

Sources: CSRC, SSE, and SZSE.

Table 17 Market makers for RMB trading in the interbank spot foreign exchange market

No.	Institution	No.	Institution
1	Industrial and Commercial Bank of China	16	Bank of Shanghai
2	Agricultural Bank of China	17	Bank of Nanjing
3	Bank of China	18	Bank of Ningbo
4	China Construction Bank	19	BNP Paribas (China) Ltd.
5	Bank of Communications	20	Shanghai Pudong Development Bank
6	China CITIC Bank	21	DBS Bank (China) Co., Ltd.
7	China Merchants Bank	22	HSBC Bank (China) Co., Ltd.
8	China Everbright Bank	23	Bank of Montreal (China) Co., Ltd.
9	Huaxia Bank	24	Citibank (China) Co., Ltd.
10	China Guangfa Bank	25	Standard Chartered Bank (China) Ltd.
11	Ping An Bank	26	J.P. Morgan Chase Bank (China) Co., Ltd.
12	Industrial Bank	27	Sumitomo Mitsui Banking Corporation
13	China Minsheng Bank	28	Deutsche Bank (China) Co., Ltd.
14	China Development Bank	29	Mizuho Bank (China) Co., Ltd.
15	Postal Savings Bank of China	30	Bank of Tokyo-Mitsubishi UFJ (China) Co., Ltd.

Source: CFETS.

Table 18 RMB/FX central parity rates from 1994 to 2019

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	1131	—	—	—	—	—	—	—	—	—	—	—	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

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

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

Source: SAFE.

Table 19 Futures market trading from 1993 to 2019

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

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

Source: China Futures Association.

Table 20 Gold market trading from 2003 to 2019

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

Source: Shanghai Gold Exchange.

Table 21 OTC gold businesses of commercial banks from 2007 to 2019

Year	Trading volume/ value	Account gold		Physical gold			Others								
		USD-denominated (10,000 oz, USD100 million)	RMB-denominated (metric ton RMB 100 million)	Proprietary (metric ton RMB 100 million)	Agent (metric ton RMB 100 million)	Gold accumulation and regular investment (metric ton RMB 100 million)	Gold leasing (metric ton RMB 100 million)	Gold lending/ borrowing (metric ton RMB 100 million)	Gold pledging (metric ton RMB 100 million)	Domestic USD gold forwards (10,000 oz, USD100 million)	Domestic USD gold options (10,000 oz, USD100 million)	Domestic USD gold swaps (10,000 oz, USD100 million)	Domestic RMB gold forwards (10,000 oz, RMB 100 million)	Domestic RMB gold swaps (10,000 oz, RMB 100 million)	Domestic RMB gold options (10,000 oz, RMB 100 million)
2007	Trading volume	157.68	352.71	6.09	3.96	—	33.11	1.20	—	204.93	8.48	—	—	—	—
	Trading value	11.08	607.05	11.20	7.16	—	56.40	2.31	—	11.84	0.60	—	—	—	—
2008	Trading volume	293.09	1,332.55	33.12	4.13	—	73.99	11.40	—	574.85	6.28	—	—	—	—
	Trading value	25.37	2,546.30	66.68	8.18	—	141.50	20.16	—	54.44	0.58	—	—	—	—
2009	Trading volume	579.96	1,381.16	40.73	3.43	0.54	91.29	7.56	—	162.06	2.29	—	—	—	—
	Trading value	57.34	2,923.48	89.90	7.64	1.30	191.98	15.09	—	15.98	0.22	—	—	—	—
2010	Trading volume	418.67	1,205.15	80.40	3.06	12.27	155.80	10.63	0.27	257.82	1.74	—	3.09	—	—
	Trading value	51.47	3,227.49	222.90	8.53	35.29	413.25	28.85	—	32.75	0.21	—	8.78	—	—
2011	Trading volume	447.20	1,864.40	129.50	6.16	30.30	301.30	31.99	4.56	407.04	6.06	17.99	5.09	—	—
	Trading value	72.21	6,271.71	428.50	21.49	102.18	970.55	104.92	—	64.69	0.90	2.74	17.59	—	—
2012	Trading volume	424.35	1,458.89	126.20	10.55	59.85	465.01	54.80	7.43	1,331.50	61.46	49.93	20.95	—	—
	Trading value	70.71	4,947.18	443.70	41.20	205.82	1,583.70	187.23	—	222.01	10.17	8.35	70.91	—	—
2013	Trading volume	497.26	1,864.54	198.63	24.89	298.24	947.65	407.23	39.85	991.99	146.88	524.56	29.76	18.63	—
	Trading value	70.39	5,159.69	618.25	87.76	838.09	2,656.29	1,094.43	78.96	136.48	20.39	75.63	79.86	60.86	—
2014	Trading volume	250.37	910.78	91.36	25.16	594.24	1,370.69	474.80	17.14	1,735.95	40.87	341.08	197.29	10.35	0.03
	Trading value	31.59	2,289.79	250.76	94.19	1,483.77	3,438.19	1,180.97	32.83	218.64	5.18	43.68	496.33	26.01	0.07
2015	Trading volume	377.34	1,109.83	128.18	27.54	535.02	1,582.71	849.22	27.47	2,414.39	28.74	1,314.93	737.86	309.82	0.31
	Trading value	43.95	2,609.08	321.01	100.54	1,252.41	3,739.06	2,009.87	74.63	281.36	3.37	151.75	1,767.57	7,101.86	0.74
2016	Trading volume	685.04	1,889.54	143.47	34.40	463.96	1,827.78	1,242.59	3.42	1,359.40	50.53	1,814.90	799.26	32.01	0.08
	Trading value	86.47	5,064.28	396.04	135.83	1,239.66	4,855.60	3,319.76	6.00	168.84	6.34	217.35	2,134.97	85.47	0.21
2017	Trading volume	577.48	1,951.19	101.47	27.97	378.72	1,778.05	1,216.60	0.83	707.64	73.92	3,280.59	1,074.17	98.92	1.16
	Trading value	72.87	5,344.52	288.74	117.22	1,044.04	4,901.43	3,367.16	1.66	89.45	9.28	414.87	2,982.79	277.73	3.34
2018	Trading volume	593.63	2,984.04	95.66	36.04	257.61	984.48	790.58	0.17	965.25	51.45	7,792.08	867.28	58.15	314.27
	Trading value	76.39	8,035.55	269.00	146.13	700.93	2,677.72	2,149.29	0.30	122.81	6.57	996.77	2,384.96	159.77	890.08
2019	Trading volume	758.14	3,277.63	116.05	42.74	247.01	769.12	1,448.03	0.04	475.99	40.25	9,129.24	414.16	217.02	433.44
	Trading value	107.11	10,391.20	372.13	164.67	772.06	2,355.38	4,431.75	0.07	66.39	5.63	1,258.21	1,280.18	686.48	1,381.71

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 2007—2013, covers leases only from 2014 onwards. Volume of gold lending/ borrowing, comprising gold lending and borrowing for the years 2007—2013, covers lending only from 2014 onwards. Volume of gold pledging is the weight of gold received as pledge.

Source: Gold Market Monitoring and Analysis System of PBC Shanghai Head Office.

Table 22 Interest rate derivatives trading from 2006 to 2019

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	4368	—	—

Source: CFETS.