



Developing Safe, Robust, and Efficient Derivatives Markets in China

International Swaps and
Derivatives Association

DECEMBER 2021

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Executive summary

Objectives of this report

China’s capital markets, one of the largest in the world, have experienced significant growth and development over the last decade, with Chinese regulators introducing multiple measures aimed at developing stable, liquid and efficient capital markets that support the domestic real economy and attract foreign investment. China’s latest Five-Year Plan¹ sets forth financial stability—through promoting market liberalization, enhancing market access, and initiating financial reforms—as a key priority.

The development of a safe, robust and efficient derivatives market in China is an integral building block in achieving this policy objective. It is also an important goal shared by the International Swaps and Derivatives Association (ISDA), whose mission is to foster safe and efficient derivatives markets to facilitate effective risk management for all users of derivatives products.

In recent years, the Chinese government has taken major steps to support the development of the derivatives market through implementing regulatory and legislative reforms, broadening derivatives use cases and market access, and enhancing market infrastructure. Of particular significance is the Draft Futures and Derivatives Law which was introduced for second reading at the Standing Committee of the National People’s Congress in October 2021 (Draft Futures and Derivatives Law). The draft legislation introduces a comprehensive legal framework for the operation of futures and over-the-counter (OTC) derivatives markets in China. Crucially, the Draft Futures and Derivatives Law represents a seminal milestone for the derivatives market as it represents the first step in China’s legislative history to expressly acknowledge the enforceability of close-out netting at a national law level. This is an important step forward for China’s derivatives market, as close-out netting is the single most important mechanism for the reduction of credit risks associated with derivatives contracts², and netting enforceability is an indispensable foundation for safe and efficient derivatives markets.

Nonetheless, there is still work to be done before the legislation passes and the enforceability of netting is confirmed. To confirm the enforceability of close-out netting and related financial collateral arrangements,

¹ 《中华人民共和国国民经济和社会发展第十四个五年规划和 2035 年远景目标纲要》，“CPCCC’s Proposals for the Formulation of the 14th Five-Year Plan (2021–2025) for National Economic and Social Development and the Long-Range Objectives Through the Year 2035” (“the Proposals”).

² Recognition of netting (i) allows counterparties to reduce their obligations into a single net payment due from one party to another – thereby allowing exposures to be recognised on a net instead of gross basis, resulting in a more efficient use of credit lines, facilitates the taking of collateral to offset exposures and lowers capital reserves required to satisfy regulatory capital requirements, (ii) reduces costs, increases market liquidity and reduces credit and systemic risks and (iii) is a pre-requisite to the creation of repurchase markets and the development of liquid derivatives hedging markets.

related provisions in the Draft Futures and Derivatives Law would need to be clarified. ISDA is working with Chinese authorities, market participants and other industry associations to clarify these provisions and to ensure that the finalized Futures and Derivatives Law confirms the enforceability of close-out netting and related financial collateral arrangements.³

Chapter 2 Part 3 of the Draft Futures and Derivatives Law, which covers close-out netting and relates to OTC derivatives, reflects extensive dialogue among Chinese authorities, ISDA, market participants and industry associations on the importance and benefits of close-out netting and financial collateral regimes for financial markets. As China continues to liberalize its financial markets, recognition of netting will remove a major barrier to international participation, supporting the development of liquid and efficient capital markets. If the legislation passes – with provisions clarified to provide for legal certainty of close-out netting and enforceability of financial collateral – the next step will be for key policymakers and market participants to consider the further developments that are necessary or beneficial to promote a robust and efficient derivatives market in China. To that end, ISDA has commissioned the Boston Consulting Group (BCG) to develop this white paper to provide insights and recommendations for further development of China’s onshore derivatives market. This white paper aims to:

- Articulate how the **derivatives market** will help **contribute to China’s financial system and capital markets, and ultimately support continued economic growth**;
- Provide an **overview of the different types of derivatives**, their **contributory role in the capital markets**, the **current state of play**, and **market participation** (players, platforms, venues etc.); and
- **Recommend policy measures and actions** to aid in developing a robust, safe, and efficient derivatives market for all market participants in the following areas: **government and regulatory policies, trading practices, risk management practices and risk governance, and market infrastructure**.

Other than the Draft Futures and Derivatives Law, another significant step taken by the Chinese regulators recently to provide positive reinforcement of the enforceability of close-out netting in China is the Notice on Issues Concerning the Measurement Rules for the Default Risk Assets of Derivatives Counterparties (No. 124 [2021] of the General Office of the CBIRC)⁴ (the “**CBIRC Final Notice**”) issued by the China

³ ISDA and ASIFMA submitted a joint response on 28 May 2021 to the NPC on the public consultation for the first reading of the Draft Futures Law, and a joint response on 21 November 2021 to the NPC on the public consultation for the second reading of the draft legislation – renamed the “Draft Futures and Derivatives Law”.

⁴ 《关于衍生工具交易对手违约风险资产计量规则有关问题的通知》(银保监办发[2021]124号)

Banking and Insurance Regulatory Commission (CBIRC) on 23 November 2021. Crucially, the CBIRC Final Notice expressly clarifies, reinforces and affirms the uniform position across different departments and branches of the Chinese government (including the CBIRC, other financial regulators, the legislature and the judiciary) regarding the validity and enforceability of close-out netting applicable to PRC financial institutions.

This paper is predominantly focused on the wholesale market rather than the retail market for derivatives.

An overview of China's onshore derivatives market

The use of derivatives products is beneficial for market participants who are increasingly looking for ways to hedge their risks or to gain exposure to underlying assets — in a manner aligned with their risk tolerance and risk management practices. Derivatives offer greater flexibility and efficiencies in risk management and portfolio management, enabling users to customize transactions to suit their exact risk and return needs.

Chapter 1 gives an overview of China's onshore derivatives market which comprises exchange-traded and over-the-counter (OTC) derivatives.

China's exchange-traded derivatives market has been steadily growing over the last few years, experiencing a 15 percent Compounded Annual Growth Rate (CAGR) increase in total traded notional, from 2016 to 2019⁵. In 2019, commodity derivatives were the main products traded on exchanges, accounting for 72 percent of the total traded notional of USD 44 trillion, followed by equity derivatives at 24 percent and interest rate derivatives at 5 percent⁶.

The OTC onshore market has been stable over the same period, with FX derivatives being the main product traded (85 percent of total traded notional).⁷ China's gross domestic product (GDP) has grown from USD 9.6 trillion in 2013 to USD 14.3 trillion⁸ in 2019, making it the second largest economy in the world. During this period China's share of global GDP has risen from 12.4 percent to 16.3 percent. However, the daily average turnover of OTC derivatives in China as a percentage of the global turnover during this same period is only approximately 1.0 percent⁹. Compared with other economies such as Japan's, which had a 5.8 percent share of global GDP¹⁰ but a 3.3 percent¹¹ share of the global daily average turnover of OTC derivatives in 2019, this suggests that China's OTC derivatives market is relatively small for an economy of its size — with ample room to grow to support the needs of the real economy.

In terms of the regulatory framework, China's onshore derivatives market is governed by different regulatory bodies, including the People's Bank of China (PBOC), the China Securities Regulatory Commission (CSRC), CBIRC, the State Administration of Foreign Exchange (SAFE), and the State-owned Assets Supervision and Administration Commission (SASAC), depending on type of market

⁵ Calculated from CSRC, SAC, CFA data

⁶ Calculated from CSRC, SAC, CFA data

⁷ Calculated from BIS, CFETS, CSRC, SAC, CFA data

⁸ China's gross domestic product (GDP), World bank data, 2019

⁹ Calculated from BIS Triennial Survey Data, including OTC interest rate derivatives and FX derivatives, 2019

¹⁰ Japan's gross domestic product (GDP), World bank data, 2019

¹¹ Calculated from BIS Triennial Survey Data, including OTC interest rate derivatives and FX derivatives, 2019

participant, trading venue, and product. The main master agreement used for onshore OTC FX, interest rate, and gold and credit derivatives transactions is the National Association of Financial Market Institutional Investors (NAFMII) Master Agreement, while for OTC derivatives traded by securities companies, futures companies, and asset managers, it is the Securities Association of China (SAC) Master Agreement. For cross-border transactions with foreign financial institutions, the ISDA Master Agreement is often used.

The main onshore derivatives market infrastructure consists of exchanges (CFFEX, SSE, SZSE, SHFE, DCE, ZCE, SGE), OTC-centralized trading venues (CFETS, CSIS), and an OTC central counterparty (SHCH). The majority of products are centrally cleared and settled, with OTC equities derivatives, OTC commodity derivatives and OTC credit derivatives settled bilaterally.

Over the last few years, China has expressed its intent to open its economy and continue to reform its capital markets. In the recent 2020 China International Fair for Trade in Services,¹² President Xi Jinping reiterated China's commitment to further opening up the economy, easing market access, and driving cooperation with the international community. At the same time, the government has supported the development of the derivatives market through:

1. Regulatory and legislative reforms:

- Publication of the CBIRC Final Notice on 23 November 2021, which expressly clarifies, reinforces and affirms the uniform position across different departments and branches of the Chinese government (including the CBIRC, other financial regulators, the legislature and the judiciary) regarding the validity and enforceability of close-out netting applicable to PRC financial institutions.
- Introduction of the Draft Futures Law for first reading at the Standing Committee of the National People's Congress in April 2021 and subsequent introduction of the revised bill – renamed “Draft Futures and Derivatives Law” – for second reading in October 2021. The Draft Futures and Derivatives Law introduces a comprehensive legal framework for the operation of futures and over-the-counter (OTC) derivatives markets in China, and expressly acknowledges the enforceability of close-out netting

¹² 习近平在 2020 年中国国际服务贸易交易会全球服务贸易峰会致辞. Speech by Chinese President Xi Jinping at the Global Trade in Services Summit of the 2020 China International Fair for Trade in Services, http://www.xinhuanet.com/politics/leaders/2020-09/04/c_1126454718.htm.

- Collaboration and alignment among regulatory bodies through the establishment of the Financial Stability and Development Committee (FSDC) in 2017
 - Allowing use of the ISDA Master Agreement by foreign institutions when trading OTC RMB-related derivatives with Chinese counterparties¹³
 - Considering amending the “Commercial Banking Law of the People's Republic of China” and strengthening the resolution regime¹⁴ in October 2020
2. Broadening derivatives use cases and market access:
- Stimulating the growth of spot markets by driving Chinese bond inclusion in global indices
 - Liberalizing interest rates in 2019 by changing the calculation methods for the Loan Prime Rate (LPR) and adopting the new rate as the benchmark lending rate for banks
 - Internationalization of commodities futures channel in 2018 and the gradual inclusion of seven China commodities futures¹⁵ accessible by overseas investors through this channel
 - Enhancing access to the OTC derivatives market by allowing a broader range of participation by domestic institutions, opening the onshore derivatives market to foreign institutions via China Interbank Bond Market (CIBM) Direct, Qualified Foreign Institutional Investor (QFII) and Renminbi Qualified Foreign Institutional Investor (RQFII) access channels
3. Enhancement of market infrastructure:
- CIBM Direct and Bond Connect integrating Tradeweb and Bloomberg to offer investors the ability to directly execute trades and send booking messages downstream to agent banks, thereby greatly simplifying the trading process
 - Major technical enhancements being made for Chinese domestic trading platforms, enabling low-latency, multi-electronic execution capabilities

¹³ In February 2020, 《关于进一步加快推进上海国际金融中心建设和金融支持长三角一体化发展的意见》, “Opinions on Further Accelerating the Building of Shanghai into an International Financial Center and Financial Support for the Integrated Development of the Yangtze River Delta” was issued and it was the first time that an official document explicitly indicated that all foreign institutions may also use ISDA agreements to conduct OTC derivatives transactions with Chinese counterparties in the Chinese interbank market.

¹⁴ 《中华人民共和国商业银行法（修改建议稿）》, “Commercial Banking Law of the People's Republic of China (proposed edit version)”, PBOC, http://www.gov.cn/hudong/2020-10/16/content_5551867.htm

¹⁵ The seven internationalized commodities contracts include: RBD Palm Olein, crude oil, TSR 20 rubber, low-sulphur fuel oil, iron ore, bonded copper, and purified terephthalic acid

- Setting up Shanghai Clearing House (SHCH) to provide centralized and standardized clearing services for OTC spot and derivatives transactions in both RMB and foreign currencies, and continuously optimizing the clearing platform

Market Participants

This paper categorizes market participants into PRC participants, non-PRC participants with China presence and non-PRC participants without China presence.¹⁶ There are six main groups of institutional participants present in China’s derivatives market: **commercial banks, securities companies, futures companies, asset managers, insurance companies, and corporates (non-financial institutions)**. Chapter 2 details the characteristics of the different groups of market participants, how derivatives serve their risk management and business needs, and the limitations and challenges they currently face in the PRC derivatives markets.

Depending on their operational and risk management needs, these entities participate in the derivatives markets to manage risk exposures, for efficient portfolio management and/or to provide derivatives transaction services for their clients. For market participants, the ability to participate efficiently and safely in the derivatives market enhances their risk management capabilities. This in turn contributes to the stability of the capital markets and the wider economy by lowering systemic risk. Chapter 3 elaborates on the benefits of the derivatives market for China’s financial and economic development, and details how a safe, robust and efficient derivatives market can contribute to China’s economic policy goals.

Benefits of a robust, safe, and efficient derivatives market for China

The Communist Party of China Central Committee (CPCCC) has made clear its goal for the Chinese economy to continue on a strong and stable growth trajectory. As set out in the guidelines for the 14th Five-Year Plan, the “dual circulation”¹⁷ development strategy — a robust cycle of domestic demand and innovation (“domestic circulation”) as the main driver of the economy, and foreign markets and investors (“international circulation”) as a second engine of growth — is set to be the central theme for the next phase of high-quality development in China.

A robust, safe and efficient derivatives market can contribute to the above policy objectives. Derivatives enhance the ability of market participants to manage risks, and hence improve the efficiency and safety of capital markets, which in turn helps to channel capital into productive sectors of the economy. The use of derivatives products to manage market, credit, FX and interest rate risks not only enhances the ability of domestic companies and investors to manage risks, but also increases the attractiveness for foreign

¹⁶ Foreign investors which have no onshore presence and access China’s market via various access channels

¹⁷ Translated from the Chinese term “双循环”, as stated in the guidelines for the 14th Five Year Plan released on 3 November 2020, http://www.gov.cn/zhengce/2020-11/03/content_5556991.htm.

investors to participate in the local market – hence contributing to the “international circulation” policy strategy.

Chapter 3 gives a detailed explanation of how the derivatives market performs the essential risk management function of transferring and redistributing financial market risks, and in so doing contributing to the “dual circulation” development strategy:

- **Better risk management** by providing diverse hedging tools, which enables companies to effectively mitigate risks while leveraging financial tools in the capital market to catalyze both innovation and business expansion. This not only fuels innovation at domestic companies, thereby boosting “domestic circulation,” but also contributes to attracting international investors and promoting “international circulation.”
- **Transparent price discovery** through the use of futures and forwards products to predict future spot market prices of underlying assets. Market price transparency can facilitate market participation for risk management and business needs. With regard to commodities pricing, China can greatly benefit from developing a derivatives market with the scale and breadth to match international markets, thereby enabling Chinese companies to access liquidity at appropriate prices in order to safeguard their commodities import and export businesses.
- **Lower financing and funding costs** as financial institutions and corporates benefit from additional protection against market, credit, FX and interest rate risks—and are therefore able to allocate resources more efficiently (issuing more credit, investing in product innovation, increasing production, etc.).
- **Accelerated opening up of the capital markets** and increased attractiveness to foreign investors by providing risk management tools, robust market infrastructure, and transparent and rigorous market rules, thereby enabling a greater inflow of capital and investments into China’s economy.

Recommendations to Scale the Derivatives Market in China

The evolution of China’s derivatives market is largely dependent on the functioning and size of its underlying capital market. A growing spot market leads to greater demand for, and helps expand the use and trading of, derivatives. Conversely, continued development and broader participation in the capital market becomes challenging without a similarly scaled derivatives market. With a more established derivatives market, China can move further toward rebalancing its capital funding from a model where banks act as the main intermediary providing loans to one with direct financing from capital markets.

Chapter 4 proposes detailed recommendations of priority actions that, taken together, would help facilitate the development of a more robust and established derivatives market. The recommendations are summarized here:

1. Strengthen the risk governance framework for financial instruments (detailed in section 4.1.1):

- All companies, whether financial or nonfinancial, need to have a well-designed and well-monitored risk framework in place to protect both themselves and the overall financial system. Doing so safeguards their stability and resilience in an efficient and established market.
- Many financial and nonfinancial institutions in China have recognized the importance of maintaining a robust risk management practice and organizing risk governance model along the Three Lines of Protection approach:
 - a. First line of protection: Conduct timely and adequate training for frontline staff; reinforce checks and balances by setting up business unit-level risk management functions; undertaking a disciplined approach to risk management by regularly conducting risk and control assessments.
 - b. Second line of protection: Establish effective risk management policies; ensure risk management independence by having firm-wide matrix reporting in place and centralizing risk functional units; exert full compliance oversight, monitoring, and control of risk management policy implementation; and review and challenge the effectiveness of first-line risk and control practices.
 - c. Third line of protection: Strengthen risk-oriented internal compliance; prioritize key risk areas; disclose material malpractice and risks; conduct re-assessment of firm-wide risks; and produce independent reports for board members and senior management.

2. Promote the use of derivatives as a risk management tool (detailed in section 4.1.2):

- The derivatives market is still in its early expansion stage in China, and market participants may be less familiar with the uses and benefits of derivatives products. As a result, market participants tend to be more cautious about utilizing them.

- Policymakers and industry bodies should promote awareness of the benefits of using derivatives as a risk management tool and support market participants in developing risk management systems and compliance frameworks to effectively manage derivatives transactions. To enhance industry expertise in derivatives management, regulators, policymakers, and industry bodies could launch educational initiatives for financial sector professionals, similar to those run by the Institute of Banking and Finance in Singapore. Additionally, in order to develop thought leadership and encourage regional and international collaboration, the same groups could consider setting up a center of knowledge and learning along the lines of *Sasana Kijang*, which was established by Bank Negara Malaysia in 2011.¹⁸
3. **Increase the number of professionals with risk management expertise (detailed in section 4.1.3):**
- According to the 13th Five-Year Plan talent shortage catalog¹⁹ released by Shanghai Financial Services Office, there is a significant shortage of expertise in both derivatives market research and financial product development.
 - With a larger pool of experienced and knowledgeable market participants, derivatives could become effective tools for reducing financial risks for individual institutions—and hence decrease overall risk levels in the economy. In addition, regulators and policymakers would gain greater confidence in the safety and stability of the derivatives market.
 - Both government and market participants (e.g., academics, practitioners, and market and trading infrastructure specialists) should consider introducing measures to attract international talent and help build domestic capabilities. For example:
 - a. Promoting the establishment of advanced financial engineering courses at domestic educational institutions. Educators can study and benchmark against leading finance courses in large financial centers such as France, the UK, and the US.
 - a. Establishing cross-discipline courses to provide talent with financial training in specialized fields (e.g., law, computer science, statistics) in order to build supporting capabilities.

¹⁸ Sasana Kijang, <https://www.bnm.gov.my/sasana-and-lanai-kijang>

¹⁹13th Five-Year Plan talent shortage catalog – “上海金融领域“十三五”紧缺人才开发目录,” <http://www.sh-italent.cn/Article/201703/201703060022.shtml>

- b. Relax the restriction on international financial talent working in China, such as recognizing foreign professional licenses, treating their overseas work experience the same as their domestic work experience, and allowing, where appropriate, foreign professionals to take qualification exams in English.

4. **Increase the size and breadth of the market participants base (detailed in section 4.2.1):**

- One attribute of a well-functioning and highly liquid derivatives market is a broad range of market participants that want to actively trade derivatives products in order to enhance and strengthen their business operations and risk management capabilities. Although regulators have made meaningful strides toward easing access to China's derivatives market, the diversity of market participants remains low. To a large extent, this is because of high barriers intended to safeguard the stability of the market by constraining liquidity, which in turn keeps institutions from entering the market.
- There should be a phased easing of requirements to access the derivatives market in order to increase the size of the institutional investor base and broaden the range of institutions eligible to trade derivatives. Specific recommendations include:
 - a. Further promoting and implementing interest rate reforms and encouraging market participants to use interest rate derivatives to hedge risks from interest rate fluctuations.
 - b. Creating a more-level playing field for market participants by permitting more commercial banks, insurance companies, and foreign institutional investors to trade government bond futures.
 - c. Taking a phased-in approach to allowing insurance funds and asset managers to utilise derivatives for efficient portfolio management transactions such as for conducting macro hedging against risks across an entire portfolio or for synthetic replication of desired portfolio exposures, and allowing insurance funds to act as risk bearers of credit derivatives contracts—similar to other established markets, such as in the US and Japan.
 - d. Moderating qualification requirements for access to the OTC equity options market in order to allow more companies to trade in the market, such as by relaxing the assessment criteria for trade volume history, the value of assets under management, and amount of experience trading in the market.

- e. Enhance international access to the onshore futures market by ensuring that all overseas market participants have ready access to approved Overseas Intermediaries (OIs) which can provide them with trading services on China's futures exchanges.²⁰ This would involve widening the list of approved OIs so that all overseas market participants have greater access to brokers in their home jurisdictions who are approved OIs and who can facilitate their participation in the onshore futures market.
- f. Moderating the 3-year securities trading experience requirement for asset management companies that otherwise have proven experience offering products overseas, thereby attracting large non-PRC asset managers to enter the derivatives market as funds.
- g. Broadening access to derivatives products via offshore channels, including by introducing interest rate derivatives, allowing FX hedging with more trading entities on Bond Connect, and opening access to the OTC equity derivatives market under QFI.

5. Improve supporting measures to promote credit derivatives use (detailed in section 4.2.2):

- Despite credit derivatives being introduced in 2010, their trading volume remains relatively low, and the market is largely illiquid. As China's bond market grows, there exists a need to increase utilization of credit derivatives for credit-risk protection to support the development of a safe and efficient bond market. Hindering investors from trading credit derivatives is their difficulty in pricing credit derivatives due to a lack of both available historical data (e.g., default rate, recovery rate) and a developed bond rating system.
- Risk bearers of credit derivatives contracts should strengthen internal valuation models. Specifically, credit researchers should be set up at the front lines of business in order to conduct credit analysis of reference entities and build quantitative models. Additionally, back offices need to be staffed with risk-monitoring personnel responsible for reviewing related processes, drafting risk limits, and verifying valuation models. At the same time, professional legal compliance, auditing, and clearing personnel should also be in place to coordinate risk management operations.

²⁰ Under new exchange rules that came into effect in 2020, international investors are now permitted to participate directly and trade the seven contracts either through a domestic Chinese futures broker that is a member of the exchange, or through an "Overseas Intermediary", a category of broker that does not trade directly at the exchange but has authorization to set up accounts with domestic futures firms on behalf of international clients. (<https://www.fia.org/marketvoice/articles/china-continues-expand-international-derivatives-access>)

- Government supervision of credit rating agencies should be strengthened to hold companies accountable for ratings issuances while introducing rules to require clear disclosure of analytical rating methods and parameters used by rating agencies to enhance transparency and build rating-agency credibility. Chinese policymakers and regulators have taken an important step in this direction with the joint issuance (by the MOF, PBOC, NDRC, CBIRC, and CSRC) of a public consultation document on proposed rules for strengthening supervision of credit rating agencies.²¹

6. Implement capital relief qualifications for commercial banks that use credit derivatives (detailed in section 4.2.2):

- Compared with other more established markets, there is relatively lower demand for credit derivatives in China. This is partly due to the lack of additional benefits enjoyed by commercial banks that utilize credit derivatives. Currently, only the six large banks²² that adopted internal models have benefited from the relief under the capital rules,²³ unlike in international markets, where credit derivatives can be used by most commercial banks to reduce regulatory capital requirements and therefore enhance capital efficiency.
- Expanding capital relief benefits by providing more guidance on recognizing CRM (in addition to CDS and TRS) as a qualified capital relief tool, and exploring the potential methodology of allowing banks using the weight approach to qualify for capital relief using credit derivatives.

7. Adopt a registration-based system for new product listings on exchanges (detailed in section 4.2.3):

- Compared with international markets, the product range on China’s exchange-traded markets is relatively narrow, with asset classes such as commodities considerably more developed than equities and interest rates. A prudent approval process that ensures stringent regulation and oversight of products is in place, accompanied by relatively long approval processes, which acts as a key impediment to expanding the product range.

²¹ 关于《关于促进债券市场信用评级行业高质量健康发展的通知（征求意见稿）》公开征求意见的通知，<http://www.pbc.gov.cn/tiaofasi/144941/144979/3941920/4215457/index.html>

²² Including Bank of China, Agricultural Bank of China, Industrial and Commercial Bank of China, China Construction Bank, Bank of Communications, and China Merchant Bank

²³ 《商业银行资本管理办法》“Measures for the Administration of Capital Adequacy Ratios of Commercial Banks,” CBRC (now CBIRC), http://www.moj.gov.cn/Department/content/2013-05/28/594_206338.html

- In line with registration-based capital market reform, regulators should consider adopting a registration-based system for new product listings and simplifying the registration and review process for product launches, by allowing similar or same futures products listings on multiple domestic and international exchanges in order to improve price discovery.

8. Establish a more comprehensive product portfolio for exchange-traded derivatives (detailed in section 4.2.3):

- The characteristics of exchange-traded derivatives products, such as a standardized contracts and central trading venues, are attractive to a broad range of institutional and corporate investors. Exchange-traded products enable better liquidity in the market and serve as efficient tools for price discovery, which are essential to a nascent market such as China's. There is a need to further develop an extensive portfolio of exchange-traded derivatives products in order to achieve efficient management of investments and risks.
- A more comprehensive portfolio of products should be introduced, such as exchange-traded CNY/USD futures and options, long-dated government bond futures, technology sector indices futures and options (such as for the STAR Market 50 Component Index), and more options contracts to corresponding futures that already exist. In addition, there should be further opening up of the derivatives market to global investors, allowing them access to a comprehensive portfolio of products, in order to allow all market participants to better manage and hedge their risk. A key component of further liberalization of the derivatives market is accelerated internationalization of commodity futures and options.

9. Improve the securities lending business to enhance market liquidity (detailed in section 4.2.4):

- Short selling is an important trading mechanism to enhance price discovery and liquidity in the overall capital market, which also reduces trading costs and the mispricing of derivatives. Currently, only approved securities companies may conduct securities lending, which is necessary for short selling, and securities lending can only be done through the China Securities Finance Corporation. This restricts the number of securities that are available for lending, and increases the costs of lending, leading to overall inefficiencies in the securities lending market.

- The universe of eligible stocks for margin trading and securities lending should be expanded, as currently eligible names make up only 42 percent of A-share stocks,²⁴ and overseas markets such as that of the U.S. allow all listed stocks to be used in margin trading and securities lending transactions.
- Broader participation in the securities lending business should be encouraged by relaxing restrictions on the types of institutions that may carry out securities lending, such as corporates and institutional investors. Launched in 2019, the Science and Technology Innovation Board (STAR) market of the Shanghai Stock Exchange (SSE) with its expanded scope of participation in securities lending to include asset management and insurance companies, serves as an example framework that can be adopted more widely across the main boards.

10. Ensure finalized Futures and Derivatives Law confirms the enforceability of close-out netting and related financial collateral arrangements (detailed in section 4.3.1):

- The need for a reliable close-out netting regime has been cited by market participants as the most important issue for the derivatives market in China. As such, market participants greatly welcome and highly commend the provisions pertaining to close-out netting enforceability in the Draft Futures and Derivatives Law. ISDA is working with Chinese authorities, market participants and other industry associations to clarify some of the provisions in the draft legislation – addressing these issues would be critical to confirming the enforceability of close-out netting and related financial collateral arrangements in China.²⁵

11. Improve credit mitigation abilities through enhancing collateral management capabilities and processes (detailed in section 4.3.2):

- Presently, a large proportion of non-centrally cleared OTC derivatives transactions remain uncollateralized. With the increase in participation by foreign market participants accustomed to using collateral, there is an imminent need to strengthen the capabilities of domestic market participants and third-party service providers to manage collateral.
- Credit mitigation abilities should be improved through greater efficiency of collateral management processes by:
 - a. Facilitating the use of collateral based on the complexity and size of trades; and

²⁴ “China Securities Sector – A, Securities lending: a blue ocean opportunity?” UBS.

²⁵ ISDA and ASIFMA submitted a joint response on 28 May 2021 to the NPC on the public consultation for the first reading of the Draft Futures Law, and a joint response on 21 November 2021 to the NPC on the public consultation for the second reading of the draft legislation – renamed the “Draft Futures and Derivatives Law”.

- b. Building capabilities by investing in the development of talent, systems and processes to enable efficient and accurate collateral management processes. Best practices on data standards, collateral valuation, settlement, reporting, client onboarding etc. observed by international bodies and market participants, such as ISDA and its members, can serve as guides for a target model to be adopted.

12. Allow trading counterparties to freely choose master agreements based on mutual consent rather than be compelled by regulatory mandate (detailed in section 4.3.3):

- Broadly, foreign market participants use non-Chinese master agreements internationally, while market participants onshore in China generally must use either NAFMII or SAC master agreements. The inability to use international master agreements in China’s derivatives market has often been cited by foreign participants as an obstacle to managing credit risk effectively, and thus disincentivizes them from entering it.
- Regulators should consider a phased approach to allow all market participants in PRC to freely choose any of the three different master agreements, based on mutual consent, as long as both parties’ choice complies with Chinese law and market rules.

13. Central Counterparties (CCPs) should prioritize gaining permanent exemption from derivatives clearing organization (DCO) registration from the Commodity Futures Trading Commission (CFTC), and recognition as a third-country CCP by the European Securities and Markets Authority (ESMA) and Bank of England (detailed in section 4.3.4):

- CCPs in China are not recognized as qualified CCP (QCCP) compliant with Principles for Financial Market Infrastructures standards (PFMI) by key foreign regulators such as CFTC, ESMA and Bank of England that supervise major foreign financial institutions. In the absence of international recognition, CFTC-regulated entities could be subject to a prohibition on using Chinese CCPs. ESMA and Bank of England-regulated institutions could face risk weights of more than 1,250 percent on their exposure to CCPs that have not been recognized under the European Market Infrastructure Regulation (EMIR), compared with 2 percent if the CCPs are recognized. Such excessively high capital charges would be a significant disincentive for European entities to participate with non-recognized CCPs.

- Chinese CCPs should prioritize compliance with international standards by providing Public Quantitative Disclosures according to the CPMI-IOSCO standards²⁶ and providing self-assessment of compliance with the PFMI. This would be an important step in enabling the recognition of all key domestic CCPs by major regulators such as CFTC, ESMA, and Bank of England and ensure non-PRC market participants can continue to trade centrally cleared products via Chinese CCPs.

14. Strengthen the risk management framework at CCPs to maintain systematic stability (detailed in section 4.3.5):

- The G20²⁷ financial reforms set out a goal to promote the use of central clearing to reduce credit risks in financial markets. Currently, the majority of OTC interest rate and FX derivatives, as well as all exchange-traded derivatives are centrally cleared in China. The trading volume of derivatives transactions is expected to grow in future, and along with an increasing demand from market participants there is growing interest in the importance of risk management capabilities of CCPs.
- In order to manage systematic stability in the market, there is a need for CCPs in China to continue to strengthen their risk management framework. In addition to the implementation of close-out netting provisions, the following four recommendations should be considered. More details on clearing risk management best practices can be found in the ISDA CCP Best Practices paper published in January 2019²⁸.
 - a. Strengthen the stress-test framework at CCPs and ensure the scenarios used in margin calibration include stress scenarios, cover a highly diverse set of potential market conditions to reduce procyclicality, and cover current risk;
 - b. Improve the availability of liquidity and funding to cover shortfalls during periods of market stress;
 - c. Increase transparency and communication between CCPs and market participants to incorporate feedback on ways to enhance the risk management framework, and thereby provide clearing members with greater confidence in the risk management capabilities of CCPs.

²⁶ “Public quantitative disclosure standards for central counterparties,” BIS, <https://www.bis.org/cpmi/publ/d125.pdf>.

²⁷ G20 is an international forum for the governments and central bank governors from 19 countries (including China) and the European Union (EU).

²⁸ CCP Best Practices, <https://www.isda.org/a/cigME/CCP-Best-Practice.pdf>.

- d. Chinese CCPs should aim to provide Public Quantitative Disclosures according to the CPMI-IOSCO standards²⁹ and provide self-assessment of compliance with the PFMI. This would increase market participants' confidence in the CCPs' risk management framework, and is also an important step towards achieving DCO exemption and third-country CCP recognition by other regulators (as highlighted in Section 4.3.4).

15. Clarify the scope of Cyber Security Law and explore possible mechanisms to allow for cross-border data transfer (detailed in section 4.3.6):

- The Cyber Security Law explicitly requires financial institutions to locally store personal information and critical business data collected and generated during their operations within China. While having cyber security standards to protect the integrity of data is an important and necessary measure, there should also be provisions to ensure data protection requirements do not affect the ability of market participants to perform risk management functions and comply with international anti-money laundering, Know Your Customer (KYC) rules and other global mandatory requirements.
- In order for market participants to leverage their global risk management systems for effective risk management, it is important that domestic and foreign firms which operate on a cross-border basis can have access to risk management data for market, credit, and liquidity risk. This can be achieved by the following:
 - a. Clarify the scope of the Cyber Security Law, such as the categorization of Critical Information Infrastructure (CII), on what constitutes important business data with respect to capital markets, and incorporate mechanisms for market participants to obtain approval for cross-border data transfer for legitimate business reasons.
 - b. Build and expand nationwide the pilot program introduced in the “Implementation Plan for the Pilot Program of Comprehensively Deepening the Innovation and Development of Trade in Services in Shanghai” on supervising cross-border flow of necessary data for internal management and risk control, as proposed by the Shanghai Municipal Government.

²⁹ Public quantitative disclosure standards for central counterparties, BIS, <https://www.bis.org/cpmi/publ/d125.pdf>.

16. Enhance communication of regulatory rules and framework to market participants (detailed in section 4.4.1):

- There are multiple government and self-regulatory bodies that supervise the derivatives market in China. Challenges currently exist for market participants in trying to first obtain a complete view of the regulatory requirements and then comprehending the rules and ensuring compliance with them.
 - a. The multiple-regulator structure has resulted in a comprehensive regulatory framework, but at the same time has made it challenging for market participants to fully understand the roles and responsibilities and jurisdictional boundaries of each regulator; and
 - b. Information and channels needed to find qualification requirements and obtain necessary market licenses are fragmented.
- Regulatory bodies could enhance communication of regulatory rules and framework to market participants, detailing the role and goal of each authority, the primary body or activity each regulates, and affiliations or relationships with other bodies, including:
 - a. Providing a clear definition of the particular role a regulator has in domains that fall under multiple jurisdictions;
 - b. Implementing periodic cross-regulator and cross-department communications channels to ensure continuous engagement on regulatory changes and rule implementations; and
 - c. Establishing a cooperation framework on cross-regulator collaboration, communication, and resource and knowledge sharing.
 - d. Domestic regulatory authorities should continue to participate in international supervisory oversight organizations and forums and engage the regulatory authorities of other jurisdictions. Best practice principles in supervisory colleges³⁰, as laid out by the Basel Committee on Banking Supervision, should be adopted when engaging with other national regulatory authorities.

17. Enhance transparency in future regulatory plans (detailed in section 4.4.2):

- The policy uncertainty in China is an impediment for companies to invest due to the risk of being non-compliant, which leads to disruption of their trading activities. Market participants

³⁰ “Revised good practice principles for supervisory colleges, Basel Committee on Banking Supervision,” <https://www.bis.org/publ/bcbs276.pdf>

see challenges in both operating generally and committing to long-term investments without having a long-term view of the regulatory landscape;

- There should be an enhancement of the transparency of future regulatory plans – giving adequate notification for new rules, sufficient lead time for implementation, and avenues for industry consultation. In addition, when regulatory consultations, circulars, notices, and market and technical documentation are published, a mechanism could be established to allow non-PRC participants to use, under certain conditions and in addition to the Mandarin version, an English version.

18. Foster an open market consultation process in order to improve communication between regulators and market participants (detailed in section 4.4.2):

- It can be challenging for market participants to prepare for major regulatory changes that significantly impact their operations, if not provided the opportunity to be involved at an earlier stage in the consultation process. In addition, in some instances regulations have taken effect immediately after the closing of consultation process, without leaving adequate time for companies to make necessary operational changes to comply with new rules;
- Regulators should provide adequate notification for new rules with an open consultation process and publication of consultation conclusions, and also allow sufficient lead time before the implementation of new regulations upon completion of the consultation process. For example, the Monetary Authority of Singapore typically provides a 6-month window between the closing date of consultation process and the implementation of rules and requirements.

1 Overview of the derivatives market in China

Derivatives are financial instruments in the form of agreement contracts—classified as forwards, futures, swaps, and options—the values of which are derived from one or multiple underlying assets. They are also embedded in structured offerings, such as index-linked wealth management products issued by commercial banks.

Derivatives are essential tools for investors and companies to mitigate risks and improve cashflow stability. They also play an important role in providing price discovery, improving liquidity, and stimulating the real economy vis-à-vis the functioning of China’s capital market.

This paper focuses on the onshore derivatives market, which refers to derivatives trading that takes place in venues in PRC. The derivatives market is further divided into exchange-traded³¹ and OTC markets. The following section provides an overview of the evolution of the China’s derivatives market.

1.1 Evolution of derivatives market

1.1.1 Exchange-traded derivatives

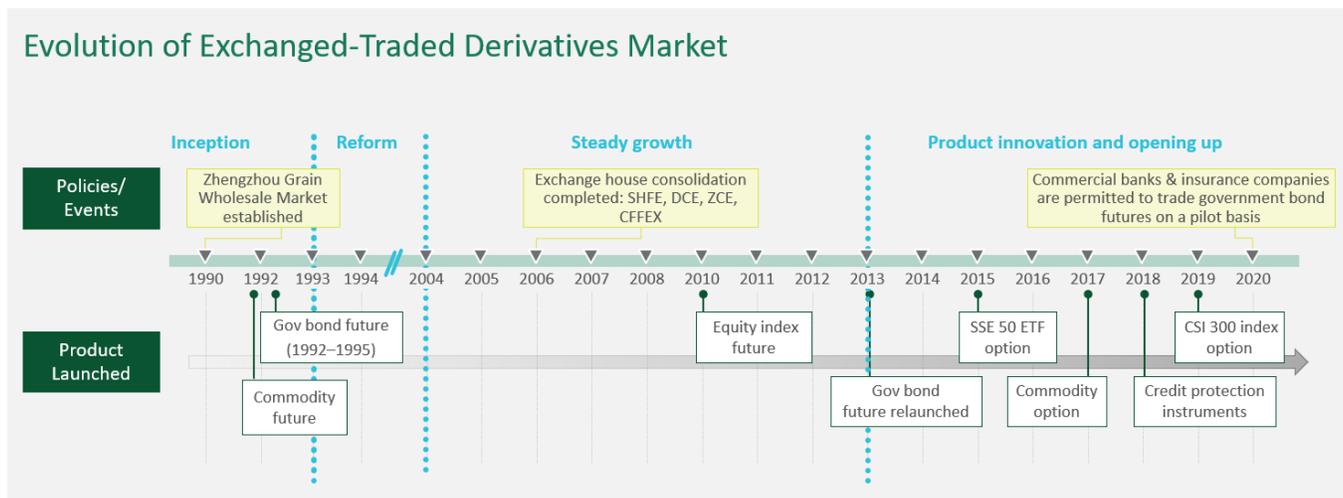


Figure 1. Development of the exchange-traded derivatives market

Futures are the dominant product type within exchange-traded derivatives in China, accounting for 99 percent of notional value traded in 2019.³² The futures market in China started in the early 1990s as economic reform gathered pace. In October 1990, Zhengzhou Grain Wholesale Market was established, and forward contracts were introduced. In October 1992, Shenzhen Nonferrous Metals Futures Exchange

³¹ Exchange-traded market is commonly divided into financial and nonfinancial market (i.e., commodities).

³² Trading value of 2019, statistics from SCRC.

introduced the first standard futures contract in China, the “Standard Contract for Special Grade Aluminum Futures,” which led to the transition from forward contracts to futures transactions.³³ In December of that same year, government bond futures were introduced by SSE. The futures products were well received by the market and experienced substantial growth within a year.

Aided by other positive government reforms, China’s futures market went through its own reform and a cycle of expansion, followed by a period of sound and steady growth. By the end of 2006, the futures exchanges had gradually consolidated into four: Shanghai Futures Exchange (SHFE), Dalian Commodity Exchange (DCE), Zhengzhou Commodity Exchange (ZCE), and China Financial Futures Exchange (CFFEX). Experiencing a similar cycle, government bond futures were not reinstated until 2013, when a 5-year government bond future was launched on CFFEX. Currently there are three government bond futures in China: 2-year, 5-year, and 10-year, providing interest rate risk management tools that cover government bond spot products in the short term, midterm, and mid-to-long term.

The development of onshore equity index futures came later than that of commodity futures and bond futures, in 2010. During 2010–2015, accelerated development of equity-linked futures emerged after the launch of CSI 300 Index Futures, CSI 500 Index Futures, and SSE 50 Index Futures.³⁴

³³ “CSRC China Capital Market Development report,” China Securities Regulatory Commission

³⁴ The CSI 300 consists of the 300 largest stocks listed on the Shanghai and Shenzhen stock exchanges. The CSI 500 consists of small and mid-cap companies on those two exchanges, and the SSE 50 consists of the 50 largest companies listed on the Shanghai Stock Exchange.

The launch of credit protection tools marked the subsequent development of exchange-traded derivatives. As part of the push by the Chinese government to support direct financing via the bond market for corporates while enhancing risk management tools in light of the increased number of bond defaults since 2017, a credit protection contract was introduced on SSE in November 2018³⁵ and later on the Shenzhen Stock Exchange (SZSE) as the first exchange-traded credit derivatives product in China. In addition, in December 2019,³⁶ a credit protection certificate was introduced on SSE and later in 2020 on SZSE as the first transferrable³⁷ exchange-traded credit derivative. The development of credit protection tools is still in its initial phase (38 credit protection contracts and 5 credit protection certificates were completed in SZSE).

The futures market continues to open up. For instance, in February 2020, regulators jointly announced that commercial banks and insurance companies could begin trading government bond futures. The Administrative Measures for Securities and Futures Investment Made in China by Qualified Foreign Institutional Investors and RMB Qualified Foreign Institutional Investors that took effect in November 2020 expands the investment scope for QFII/RQFII to the onshore futures market.³⁸ Expanding futures into the realm of investable product types provides higher flexibility for banks and insurers in choosing risk management tools, as well as fosters better price discovery in the trading of the underlying spot assets, thereby facilitating more liquidity in the market. The launch of 30-year government bond futures is expected in the short term, which will provide insurers and other such investors with highly liquid standardized exchange-traded tools to better hedge interest rate risks from longer-term products, such as insurance or pension liabilities, that typically have long contract durations.

³⁵ SSE launched credit protection contracts in Nov 2018 (SSE announcement: http://www.sse.com.cn/aboutus/mediacenter/hotandd/c/c_20181102_4671285.shtml). SZSE launched credit protection contracts in Jan 2019 (SZSE announcement: http://www.szse.cn/lawrules/rule/bond/bonds/trade/t20190118_565167.html)

³⁶ SSE launched credit protection certificates in Dec 2019, SZSE launched in Oct 2020 (SSE announcement: http://www.sse.com.cn/lawandrules/guide/zqznlc/c/c_20191209_4961915.shtml; SZSE announcement: http://www.szse.cn/disclosure/notice/t20201027_582683.html).

³⁷ Credit protection contract is exchange-traded but non-transferable after initial trade.

³⁸ 《合格境外机构投资者和人民币合格境外机构投资者境内证券期货投资管理办法》, “Guidelines on the Participation of Qualified Foreign Institutional Investors (QFII) and Renminbi Qualified Foreign Institutional Investor (RQFII) in Onshore Securities and Futures Trading,” effective November 1, 2020; http://www.csrc.gov.cn/pub/zjhppublic/zjh/202009/t20200925_383650.htm

Current state – market size of exchange-traded derivatives

By the end of December 2019, a total of 78 futures and options products had been listed (Figure 2).³⁹

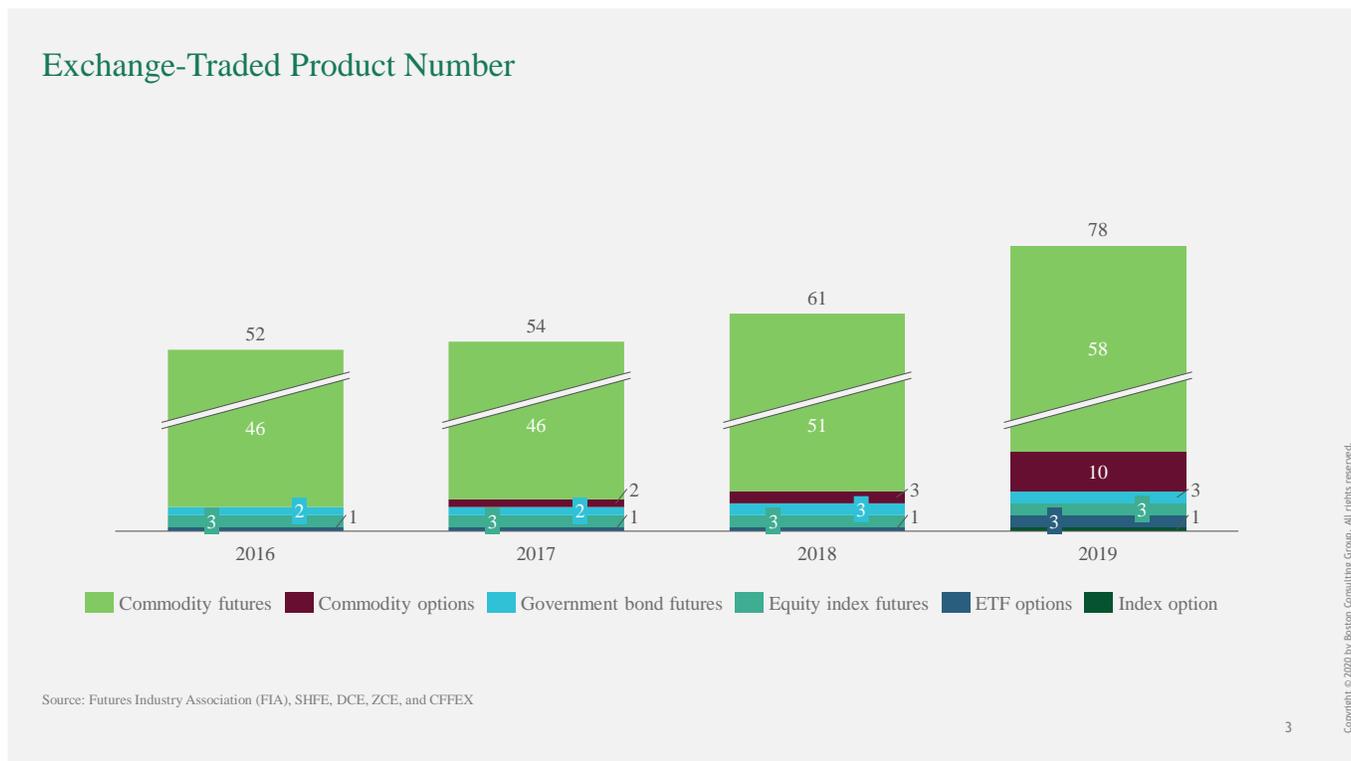


Figure 2. Number of listed exchange-traded products

According to the Futures Industry Association (FIA), SHFE, DCE, ZCE, and CFFEX were ranked the 10th, 11th, 12th, and 28th largest derivatives exchanges in the world by volume of trades in 2019. For commodities, SHFE, DCE, and ZCE were the first, second, and fourth largest exchanges by volume of trades. China has the largest derivatives exchange market in several agricultural commodities products, including soybean meal futures, rapeseed meal futures, and palm olein futures. The total traded notional value of China’s exchange-traded derivatives was USD 44.6 trillion in 2019.⁴⁰ This represents an increase of 35 percent from USD 33.1 trillion in 2018.

Since the consolidation of the futures market in the 1990s until 2010, only commodities futures have been traded on the derivatives exchanges. China is both a major producer and consumer of commodities, and the trading of commodities is a significant part of its economy. As such, a deep and liquid commodities derivatives market is essential to provide readily available tools to protect China’s producers and consumers from fluctuations in commodities prices. The trading of commodities derivatives has grown

³⁹ 《中国金融稳定报告（2020）》，“Financial Stability Report 2020,” PBOC

⁴⁰ China Futures Association (CFA) statistics, <http://www.cfachina.org/CXFW/zgsyw/xxgszgs/index.html>

steadily, both in volume of trades and variety of products, to support the rapid expansion of the real economy.⁴¹ As of 2019, commodities accounted for 76 percent of the total traded notional value of all exchange-traded derivatives. Within the commodities market, the largest asset category by notional numbers was metals, accounting for 51 percent of commodities trades; the largest asset category by volume of trades was energy and chemical, accounting for 59 percent of commodities trades. The market grew by 20 percent between 2018 and 2019.

When the CSI 300 futures was introduced on CFFEX in 2010, there were large volumes of trades, reaching USD 12 trillion⁴² in notional amount in their first year of introduction. By 2013, the annual notional number of equities products traded had overtaken commodities. The expansion of the equity futures market was driven by a mixture of strong growth in the underlying stock market and a relaxation of such regulations as the 2010 “Guiding Opinions on Carrying out the Pilot Work of Margin Trading of Securities Companies” issued by the China Securities Regulatory Commission (CSRC)⁴³, which permitted margin trading and short selling tied to a specific underlying. Equity derivatives trading continued to increase as more products were introduced, and reached its peak in 2015. Following the 2015 stock market turbulence, regulators introduced more precautionary measures, including rules and fees designed to discourage and reduce margin trading and short selling, and the market experienced a sharp decline in trading volume. However, since 2018, the trading volume has been recovering. As of 2019, there are six equity derivatives products traded on exchanges with a notional value of USD 10.5 trillion, accounting for 24 percent of the exchange-traded market.⁴⁴ The most frequently traded products are the CSI 300 Index Futures and CSI 500 Index Futures.

The third asset class of derivatives traded over the exchange in China are interest rate products. There are currently three government bond futures (2-year, 5-year, and 10-year maturities). The market has undergone rapid growth since its introduction, with a CAGR of 91 percent growth between 2013 and 2019. In 2019, government bond futures made up 5 percent of the exchange-traded derivatives market.

⁴¹ The real economy refers to all nonfinancial elements of an economy

⁴² SCRC, <http://www.csrc.gov.cn/pub/newsite/sjtj/qhscyb/index.html>

⁴³ 《关于开展证券公司融资融券业务试点工作的指导意见》, 2010 “Guiding Opinions on Carrying out the Pilot Work of Margin Trading of Securities Companies”, CSRC, http://www.csrc.gov.cn/zjhpublish/G00306201/201001/t20100122_175838.htm

⁴⁴ SCRC (<http://www.csrc.gov.cn/pub/newsite/sjtj/qhscyb/index.html>), SSE and SZSE

For exchange-traded credit derivatives, according to statistics from SSE, in 2019, there were a total 38 credit protection contracts on bonds totaling USD 17.6 billion in size, and five credit protection certificates on USD 9.4 billion worth of bonds traded.⁴⁵ As investors become familiar with credit derivatives, they will increasingly turn to credit protection contracts and credit protection certificates for credit risk management.

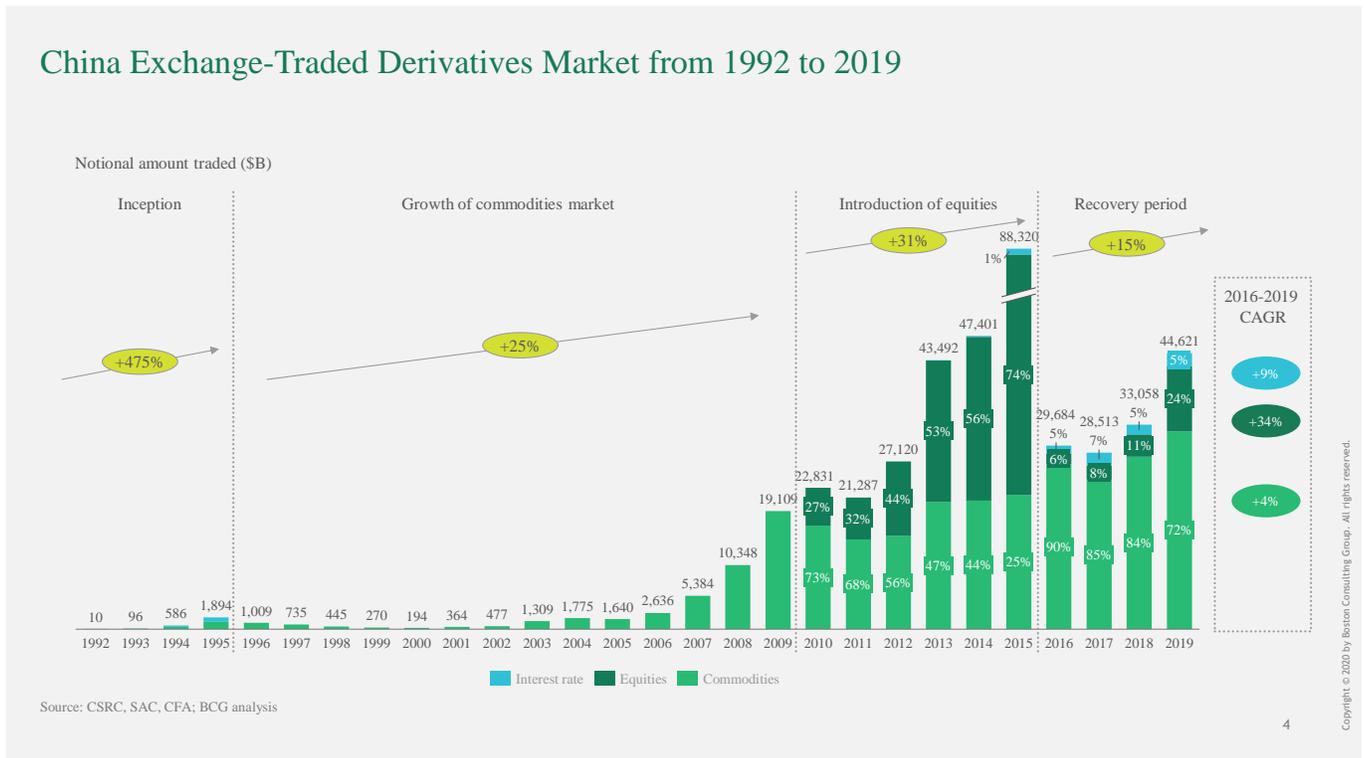


Figure 3. Notional number of China exchange-traded derivatives traded from 1992 to 2019

⁴⁵ 2019 SSE Bond Market Annual Report, <http://www.sse.com.cn/aboutus/research/report/c/5026905.pdf>.

1.1.2 Over-the-counter (OTC) derivatives

The emergence and development of the OTC derivatives market has been closely linked to China's market reforms, which are transitioning the nation's economy from centrally planned to market-oriented and facilitating the development of its capital market.⁴⁶

OTC interest rate derivatives

The acceleration of interest rate liberalization was critical for the development of the interest rate derivatives market. In 2004, after embarking on an interest rate liberalization reform for almost 10 years,⁴⁷ the People's Bank of China (PBOC) removed ceilings on lending rates and floors on deposit rates, and lowered the lending rate floor to 0.9 times that of the benchmark interest rates of RMB loans,⁴⁸ thus enabling the commercial pricing of loans and deposits and increasing interest and liquidity in interest rate derivatives products. During the same time period, the bond market experienced progress with the reissuance of short-term financing bonds⁴⁹ in 2005.⁵⁰ In the face of multiple factors such as raising interest rates, sluggish corporate bond issuances, and weak equity financing, the reissuance of short-term financing bonds became the major force for direct financing tools. In 2005, corporate bonds accounted for 6.4 percent of funding for nonfinancial institutions, showing a substantial growth from 1.1 percent in 2004.⁵¹ Deregulation of interest rates led to higher interest rate levels, increased interest rate volatility, and narrower interest rate spreads. In addition, holding larger bond positions left banks exposed to increased interest rate volatility. To provide the ability to manage interest rate risk, bond forwards were introduced in 2005. In 2006, RMB IRSs were introduced as a pilot in the interbank bond market, and then fully launched in 2008. More products were added to the suite of hedging tools later on ([Figure 4](#)).

⁴⁶ China has a multilayer capital market—a layered market structure according to diversified market capital demand, allowing for more companies to have access to direct financing. For example, for equity market, this includes Main Boards (securities exchange), Small & Medium Size Enterprise Board, and OTC market.

⁴⁷ China formally embarked on interest rate liberalization reform in June 1996 when the interbank-offered rate became fully market priced. 2014, Asia Focus, "China's Interest Rate Liberalization Reform."

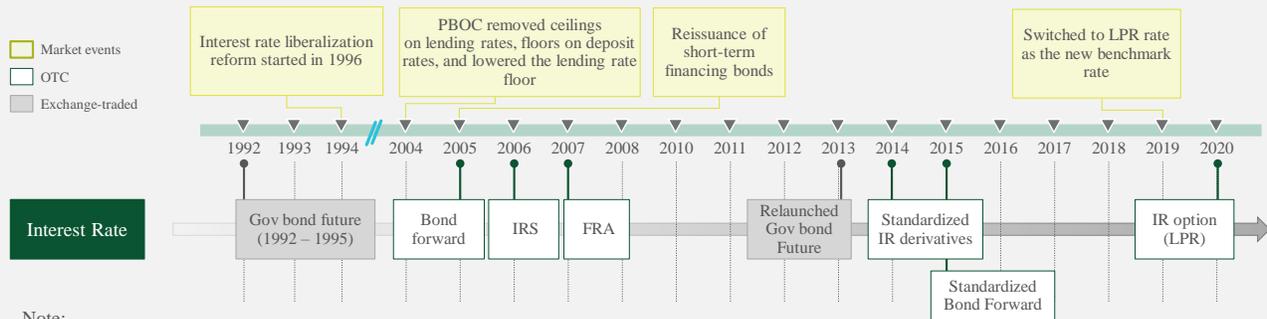
⁴⁸ Benchmark interest rate for RMB loan set by PBOC. Current benchmark interest rate is 4.35% (<1 year); 4.75% (1–5 years); 4.90% (>5 years).

⁴⁹ Financial bonds are issued by securities companies for the purpose of short-term financing (within 1 year) in the interbank bond market.

⁵⁰ Short-term financing bonds were first piloted in 1989, and were later suspended in 1997 due to multiple default events. Reissuance of short-term financing bonds happened after 《短期融资券管理办法》, "Measures for Administration of Short-term Financing Bonds of Securities Companies" was issued by PBOC in 2005.

⁵¹ Including corporate bond, commercial paper, medium term notes. 《中国货币政策执行报告(2005)》, "Monetary Policy Report 2005." PBOC.

Interest Rate Derivatives



Note:

- FRA (Forward rate agreement): a forward contract in which two parties agree to exchange interest payments on a future date
- Standardized interest rate derivatives: IRS and FRA products with standardized expiry and interest duration.

Note: LPR (Loan Prime Rate); IR (Interest rate); TRS (Total return swap); FRA (Forward rate agreement); CRMA (Credit Risk Mitigation Agreement); CRMW (Credit Risk Mitigation Warrant); CDS (Credit default swap); CLN (Credit-linked Notes); XCY (Cross-currency)

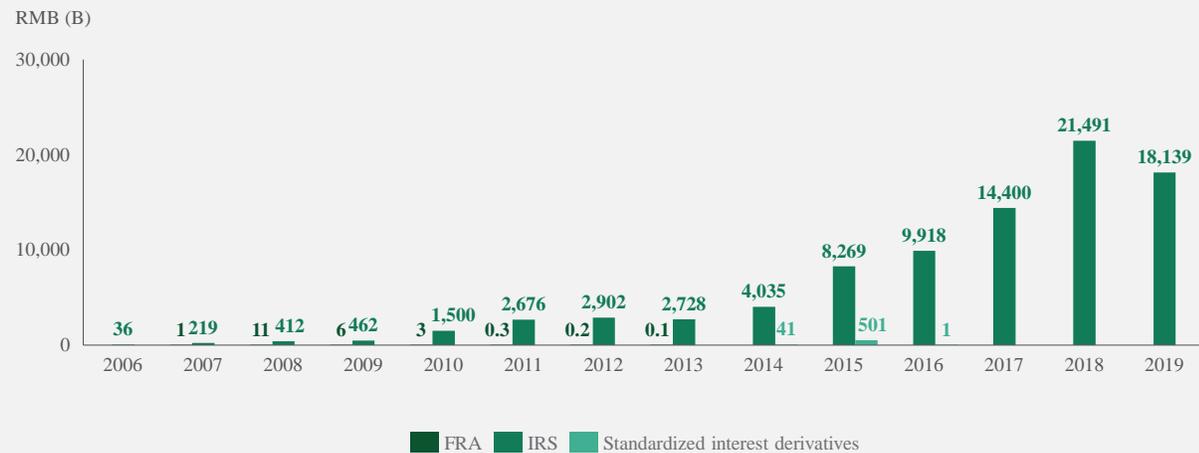
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Figure 4. Development of interest rate derivatives products

On August 17, 2019, continuing the interest rate reform, PBOC switched to the 1-year LPR as the benchmark lending rate. LPR is based on 18 qualified commercial banks' lending rates for their best clients and equals the medium-term lending facility rate plus a risk premium. Compared with the benchmark interest rate, LPR is a better reflection of the market situation for loans. The LPR reform facilitated the introduction of new products in the market (i.e., RMB Interest Rate Option (IRO) in March 2020). These new products are swap options and cap/floor options linked to the 1-year and 5-year LPRs.

Annual Notional Value of Interest Rate Derivatives (2006–2019)



Note: Numbers of FRA and Standardized interest rate derivatives did not disclose from 2017-2019
Source: PBOC annual report

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Figure 5. Notional value of interest rate derivatives products (2006–2019)

Annual Turnover and No. of Transactions of Bond Forward (2006–2016)



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Figure 6. Annual turnover and number of transactions of bond forwards (2006–2016)

Interest rate derivatives grew in importance as China moved toward a market-driven interest rate model in the early 2000s, with several reforms to interest rate pricing implemented since 2004. With greater

flexibility regarding transaction terms (i.e., duration, underlying benchmark interest rates), IRS has dominated the trading of bond/interest rate derivatives since 2010 (**Figure 6**). In 2019, the most traded products by commercial banks were IRSs on the 7-day fixed repo rate (FR007), making up 70 percent of the total interest rate derivatives turnover, followed by IRS-based Shibor 3M with 27 percent. IRS on FR007 is more active because the pricing of FR007 is determined by a large group of market participants, reflecting a real market situation. On the other hand, Shibor is determined by wholesale interest rate quotes from 18 commercial banks rather than a transaction-based rate. Bond forwards and forward rate agreements (FRAs) are rarely traded because it is difficult to find counterparties with the same initial time, delivery time, and underlying bond. Interest rate products accounted for 13 percent of the OTC market in 2019, and exhibited 22 percent of CAGR from 2016 to 2019. This is different from the composition of derivatives market globally, in which interest rates comprises the largest asset class (accounting for 73 percent of all OTC derivative notional in 2019).⁵²

⁵² BIS Statistics, <https://stats.bis.org/statx/toc/DER.html>

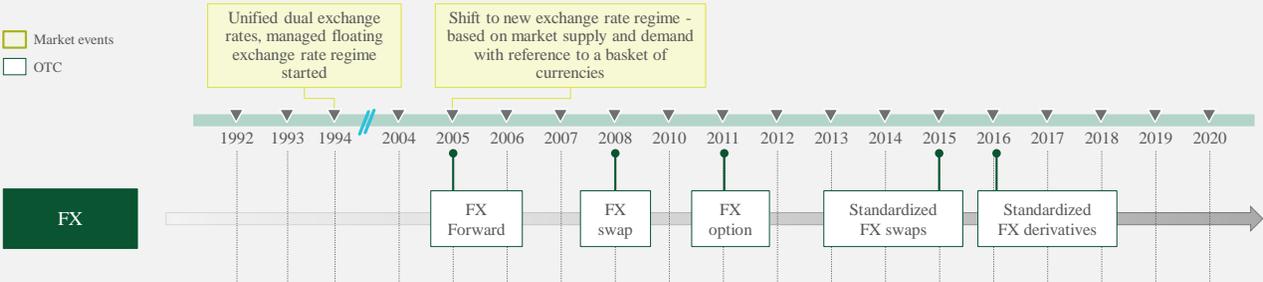
OTC FX derivatives

On January 1, 1994, China unified its dual exchange rates (RMB's official exchange rate and the foreign market exchange rate), thus marking the establishment of the managed floating exchange rate regime. After 1997, in the wake of the Asian financial crisis,⁵³ China narrowed the RMB exchange rate band to prevent competitive currency depreciation in the region and a worsening of the crisis. In 2005, when the external environment and internal conditions improved, China modified its managed floating exchange rate regime by moving into a **regime based on market supply and demand, with reference to a basket of currencies. In 2005, following the shift to the new exchange rate regime and a series of policy initiatives by authorities, the use of RMB derivatives expanded into the onshore market.**

Later that year, in August 2005, FX forwards (RMB against foreign currencies) were introduced in the interbank market. FX swaps (RMB against foreign currencies) were introduced as a pilot in April 2006 and formally in August 2007 upon release of the related rules. FX options were subsequently introduced in April 2011, followed by standardized FX swaps in February 2015 and standardized FX forwards in May 2016 (**Figure 7**). These products provide hedging tools for banks that allow for greater flexibility in managing their foreign currency positions.

⁵³ The 1997–98 Asian financial crisis began as a currency crisis when Bangkok unpegged the Thai baht from the U.S. dollar, setting off a series of currency devaluations and massive flights of capital. In the first six months, the value of the Indonesian rupiah was down by 80 percent, the Thai baht by more than 50 percent, the South Korean won by nearly 50 percent, and the Malaysian ringgit by 45 percent. Collectively, the economies most affected saw a drop in capital inflows of more than USD 100 billion in the first year of the crisis.

Exchange Rate Derivatives



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Figure 7. Transaction data for interest rate derivatives products

While several products have been developed in all asset classes, FX derivatives dominate the OTC derivatives market, accounting for 85 percent of all OTC derivatives traded in 2019. The FX derivatives market has experienced rapid growth over the last decade, which coincides with economic events in China. Since China began FX rate reform in 2005, there has been an increased need to hedge FX risks. In addition, as China began to engage with the international community, expand business beyond its borders, and conduct more cross-border projects, such as the One-Belt-One-Road initiative,⁵⁴ there has been an increase in the proportion of institutions' balance sheets being in foreign currencies, resulting in a growing need to manage FX risk. By 2016, total FX derivatives trading exceeded spot trading, especially in RMB/FX swaps instruments, at 1.3 times the notional value of the spot market.⁵⁵ As of 2019, the volume of China's FX transactions was USD 29.1 trillion, with a year-over-year (YoY) growth of 0.2 percent, and trading volume of spot and derivatives products totaling USD 11.4 trillion and USD 17.8 trillion, respectively.⁵⁶

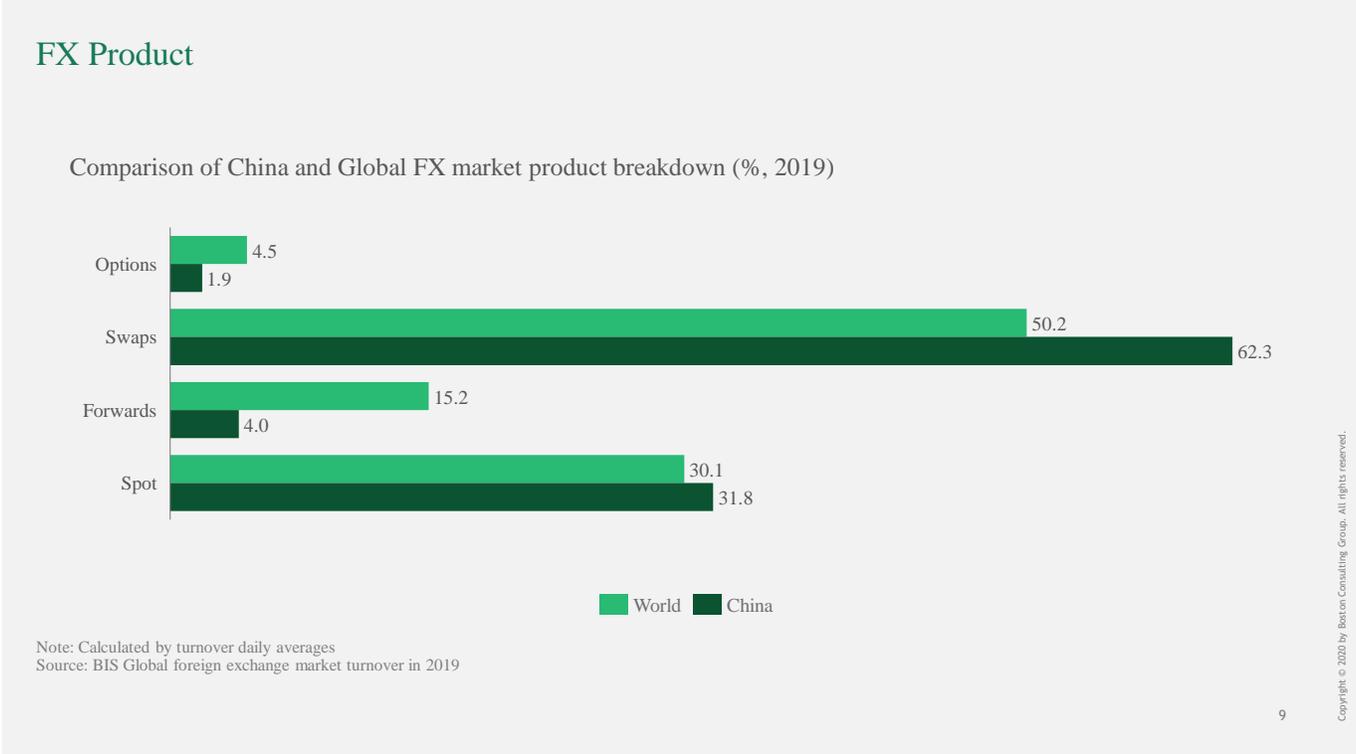


Figure 8. Comparison of FX products

⁵⁴ One Belt One Road is a global infrastructure development strategy adopted by the Chinese government in 2013 to invest in nearly 70 countries and international organizations.

⁵⁵ 《2016 年中国国际收支报告》, "China's balance of payments report," 2016, SAFE, <http://www.safe.gov.cn/safe/2017/0330/5263.html>

⁵⁶ 《2016 年中国国际收支报告》, "China's balance of payments report," 2019, SAFE, <http://www.safe.gov.cn/safe/2020/0327/15828.html>

Among FX derivatives products, FX swaps (including cross-currency swaps)⁵⁷ are the dominant product type, accounting for 96 percent of the notional number traded in 2019 (Figure 8). Currently there are swap contracts on the Chinese yuan-onshore (CNY) against the euro (EUR), Japanese yen (JPY), Hong Kong dollar (HKD), and British pound (GBP). USD/CNY accounted for more than 99 percent of the notional number traded of all FX swaps in 2019, with other currency compositions being only negligible.⁵⁸

OTC credit derivatives

Prior to 2010, credit derivatives did not exist in China, as there was no demand for credit protection because defaults on bonds were relatively rare. After years of rapid growth in loan amounts, in 2010, credit loans from commercial banks in China reached RMB 10 trillion. In order to improve the market risk-sharing mechanism and promote sustainable and healthy development of the bond market, two credit risk mitigation (CRM) programs were launched by NAFMII in 2010:⁵⁹ Credit Risk Mitigation Agreements (CRMAs) and Credit Risk Mitigation Warrants (CRMWs). While regarded as China's version of the credit default swap (CDS), CRM has several unique characteristics that make it different from the internationally traded CDS. For example, the reference obligation of a CDS contract includes a list of bonds with the same features (i.e., governing law, currency, seniority, etc.) from the same issuer, while CRM only references one specific bond.⁶⁰ CRMAs are similar to CDSs – the issuer of CRMA sells protection to the buyer against potential losses due to a default by the bond issuer, thereby enabling bond investors to hedge the underlying credit risk of the bond issuer. This contributes to facilitating market liquidity in bonds. CRMA is an OTC transaction between two parties, similar to an IRS, and the contract is not transferrable in the market. CRMW is a standardized contract issued by a qualified third-party institution, such as a bank, and is tradable in the secondary market.

⁵⁷ RMB/FX swap involves the actual exchange of two currencies (RMB against FX) on a specific date at a rate agreed in the contract, and a reverse exchange of the same currencies on a specific date further in the future at another rate. RMB/FX cross-currency swaps involve the exchange of interest payments in two currencies (RMB and FX) for an agreed period of time and may involve the exchange of principal amounts of the two currencies at a pre-agreed exchange rate at an agreed time in the future.

⁵⁸ Date source: CFETS (<http://www.chinamoney.com.cn/chinese/mtmoncjgl/>).

⁵⁹ 《银行间市场信用风险缓释工具试点业务指引》，“Guidelines for the Pilot Operation of Credit Risk Mitigation Instruments in the Interbank Market,” announced by NAFMII in October 2010, http://www.nafmii.org.cn/ggtz/gg/201204/t20120406_11887.html

⁶⁰ “What hinders foreign interest in China's onshore credit derivative market?” Derrick Hung, Jun 2019, The Asset <https://theasset.com/capital-markets/37960/what-hinders-foreign-interest-in-chinas-onshore-credit-derivative-market#:~:text=In%20October%202018%2C%20the%20People's,lower%20their%20bond%20financing%20cost.>

Due to limited functionality of hedging against defaults of a single underlying default event, the trading volume of CRM has remained low. In addition, about 80 percent of corporate bonds have a credit rating above AA+⁶¹ and most of are held by leading large banks, which gives them an inherently low risk of defaulting.

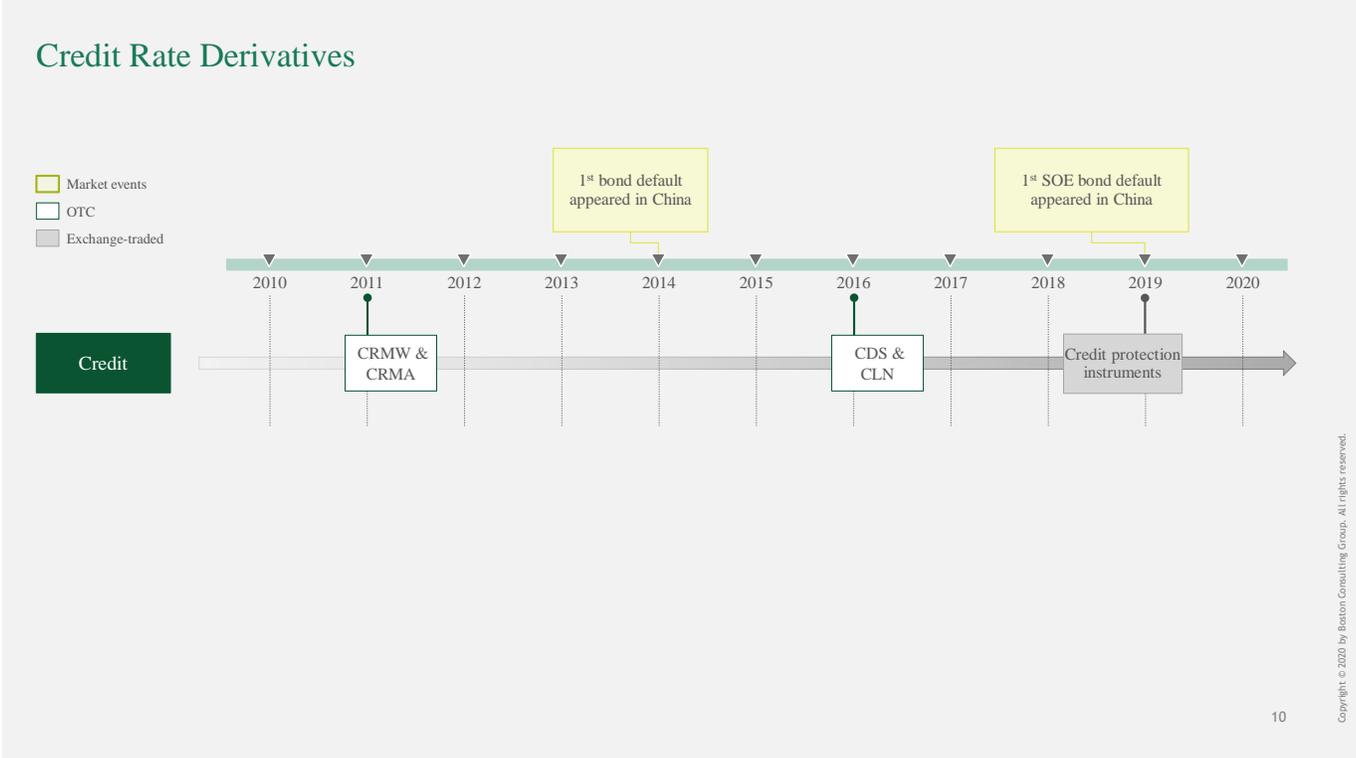
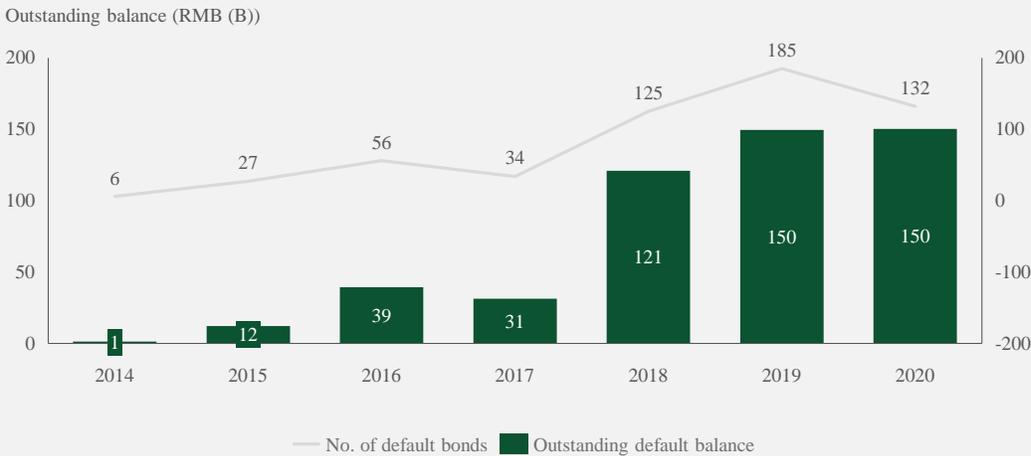


Figure 9. Development of credit derivatives products

In September 2016, CDS and credit linked notes (CLN) were introduced into the market. Although these products follow similar structures and mechanisms as the international products, the overall volume of credit derivatives traded in China remains quite low. This is due to a combination of investors’ perception of the likelihood of defaults, and difficulty with pricing and trading due to the lack of market liquidity.

⁶¹ Calculation based on Corporate bonds and medium- and short-term notes issued in 2019, data from WIND.

Default Event of Bonds from 2014–2020 (as of November 30, 2020)



Source: WIND

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Figure 10. Default event of bonds from 2014 to 2020 (as of November, 30 2020)

The increasing number of default events since 2017 has not only driven the creation of more credit derivatives products such as credit protection tools by the exchanges, but also stimulated the issuance of CRMW since 2018 (206 percent YoY growth in terms of the increase in the number of new issuances from 2018 to 2019⁶²). However, trading volume for CRMA and CDS remain low, as, by design, the instruments are non-transferable upon initial trading. For CLN, its trading volume is low as it is still a relatively new product and participants are yet to familiarize themselves with the complexity of pricing credit protection on multiple underlying bonds. Furthermore, the lack of a developed and creditworthy ratings industry for bonds makes it inherently difficult to price credit derivatives accurately against potential defaulting events. Although credit derivatives still accounted for a relatively small proportion of the overall OTC market in 2019 (<2 percent), it is expected to boost the market's confidence in corporate bonds and ease the difficulty of financing as credit derivatives products evolve.

⁶² Monthly release on bond market business operations, SHCH, <https://www.shclearing.com/sjtj/ywfx/>

OTC equity derivatives

In 2012, driven by the bullish underlying stock market, total return swaps (TRSs) were introduced into the market. TRS is the exchange of payments based on a set interest rate, either fixed or variable, with one party making payments based on the return of an underlying asset, such as an index. Payments include both the income TRSs generate and any capital gains. In China, there are two types of TRS: financing swaps and securities lending swaps. Financing swaps are used to provide investors with the potential to achieve superior returns and take on more highly leveraged positions to gain equity risk exposure, while the interest rate legs act as a fee for the leverage. Securities lending swaps are used to lend an underlying asset to an investor in exchange for a fee. After the 2015 stock crisis, Chinese authorities temporarily suspended financing swaps in order to avoid another buildup of leverage in the stock market.⁶³ Trading volume of TRSs has been growing at a rather mild pace since 2015.

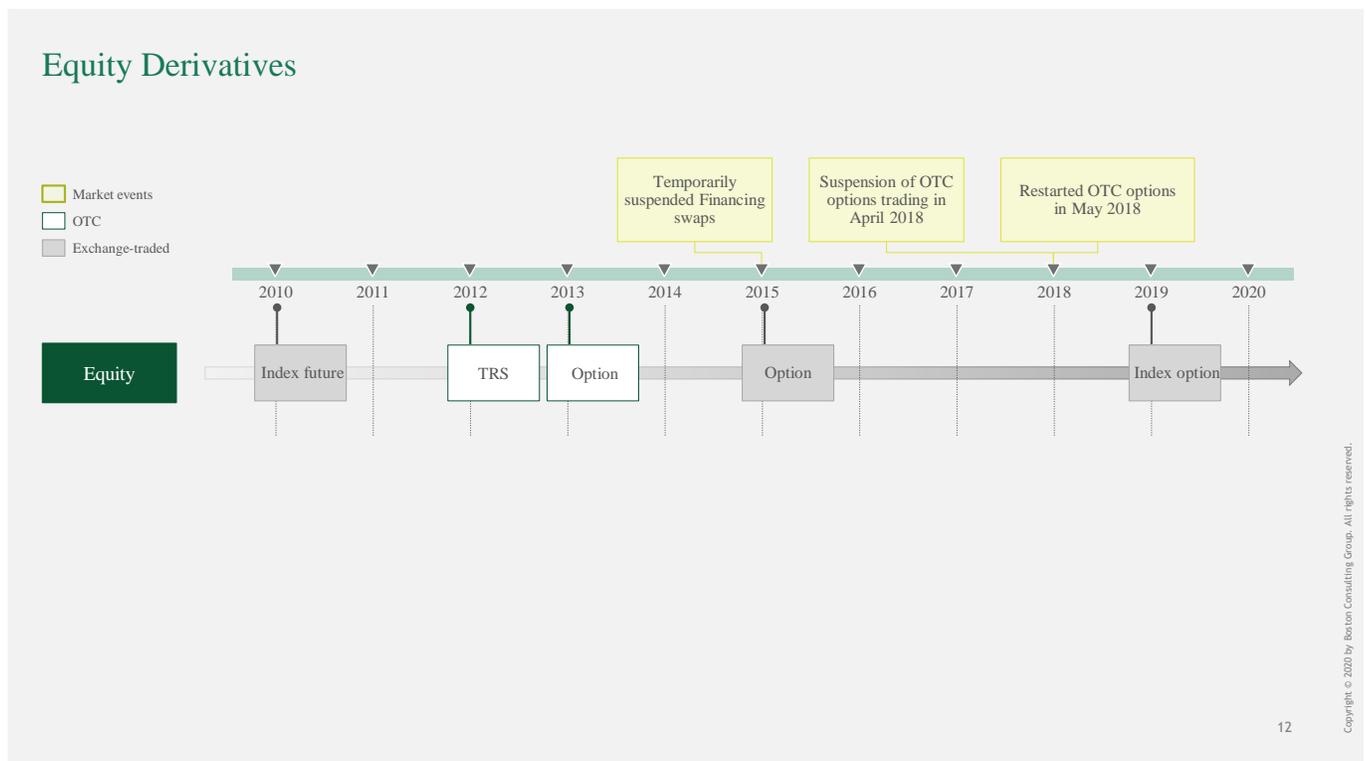


Figure 11. Development of equity derivatives products

⁶³ CSRC press release: http://www.csrc.gov.cn/pub/newsite/zjhxwfb/xwfbh/201511/t20151127_287275.html.

The other OTC equity derivatives product is options. The first transaction in OTC equity options was conducted in August 2013 by Guosen Securities. By 2017, following a bull market and due to strong demand from private equity funds, the number of OTC equity options transactions had grown substantially by over 480 percent within one year.⁶⁴ However, after the occurrence of incompliant events, such as the selling of split shares of OTC options to retail investors with insufficient risk tolerance, leading to the suspension of OTC options trading in April 2018. Guidelines on restarting OTC options trading were announced by the Securities Association of China (SAC) in May 2018,⁶⁵ thereby introducing the tiering system of market participants and specifying the threshold of qualified investors and the range of underlying assets to ensure the healthy development of OTC options market.

The annual incremental notional number of equities derivatives has grown rapidly since their introduction, with a CAGR of 49 percent between 2016 and 2019.⁶⁶(Figure 12) However, with a much shorter history compared with FX and interest rate derivatives products, equity derivatives account for only ~1 percent of the overall OTC market in terms of notional number traded as of 2019.

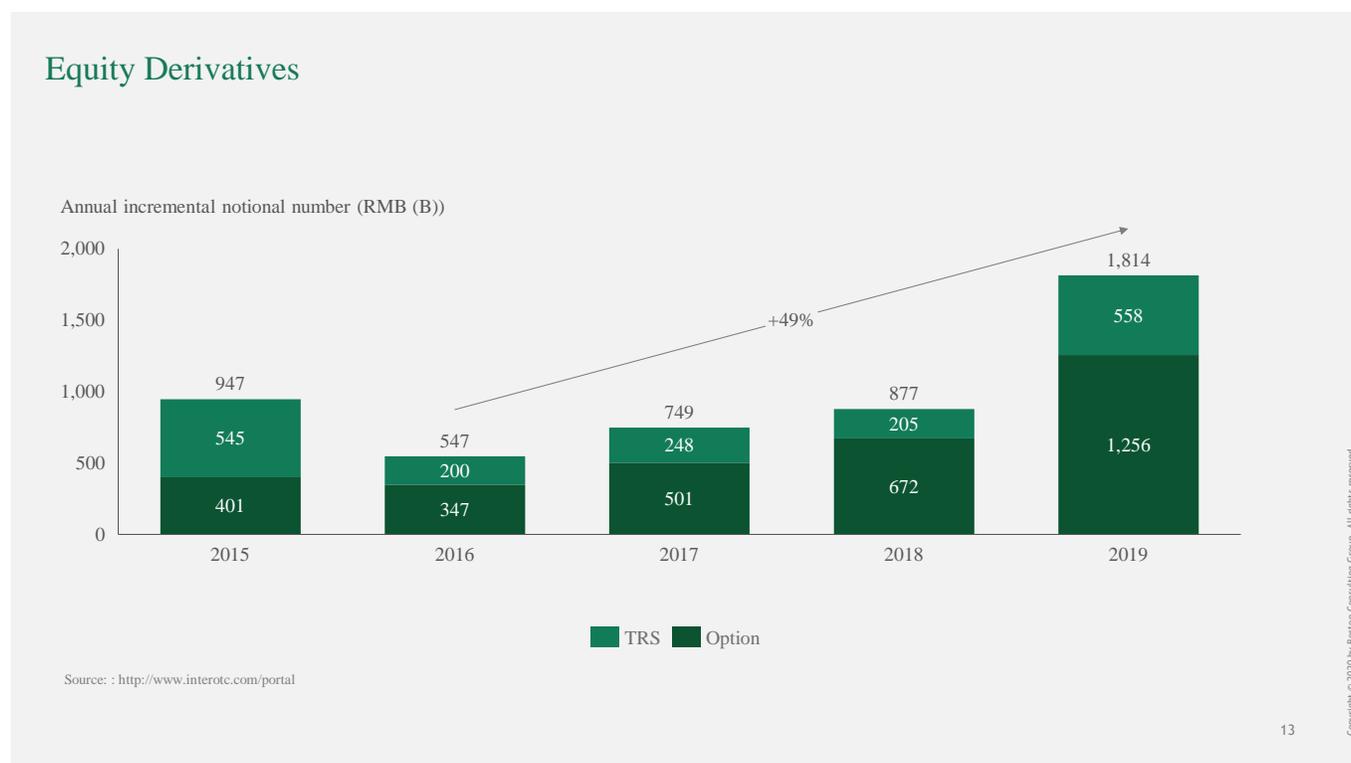


Figure 12. Annual incremental notional number of equity derivatives (2015-2019)

⁶⁴ Source: <https://www.interotc.com.cn/portal/newportal/index.html>

⁶⁵ 《关于进一步加强证券公司场外期权业务自律管理的通知》, “Notice of the Securities Association of China on Further Strengthening the Self-discipline Management of Over-the-Counter Options Business of Securities Companies.”

⁶⁶ Source: <https://www.interotc.com.cn/portal/newportal/index.html>

OTC commodity derivatives

The OTC commodity derivatives products provide corporates with more effective and targeted tools to hedge against price volatility and perform functions such as price discovery. Although the trading of commodity futures has a long 20-year history in China, the OTC commodity trade wasn't introduced until 2014, when the subsidiary of Luzheng Futures completed the first option on Crude Palm Oil Futures. Among all OTC commodities derivatives trades, bullion OTC derivatives are traded only at SGE, which is the platform for physical delivery under bullion OTC derivatives traded.

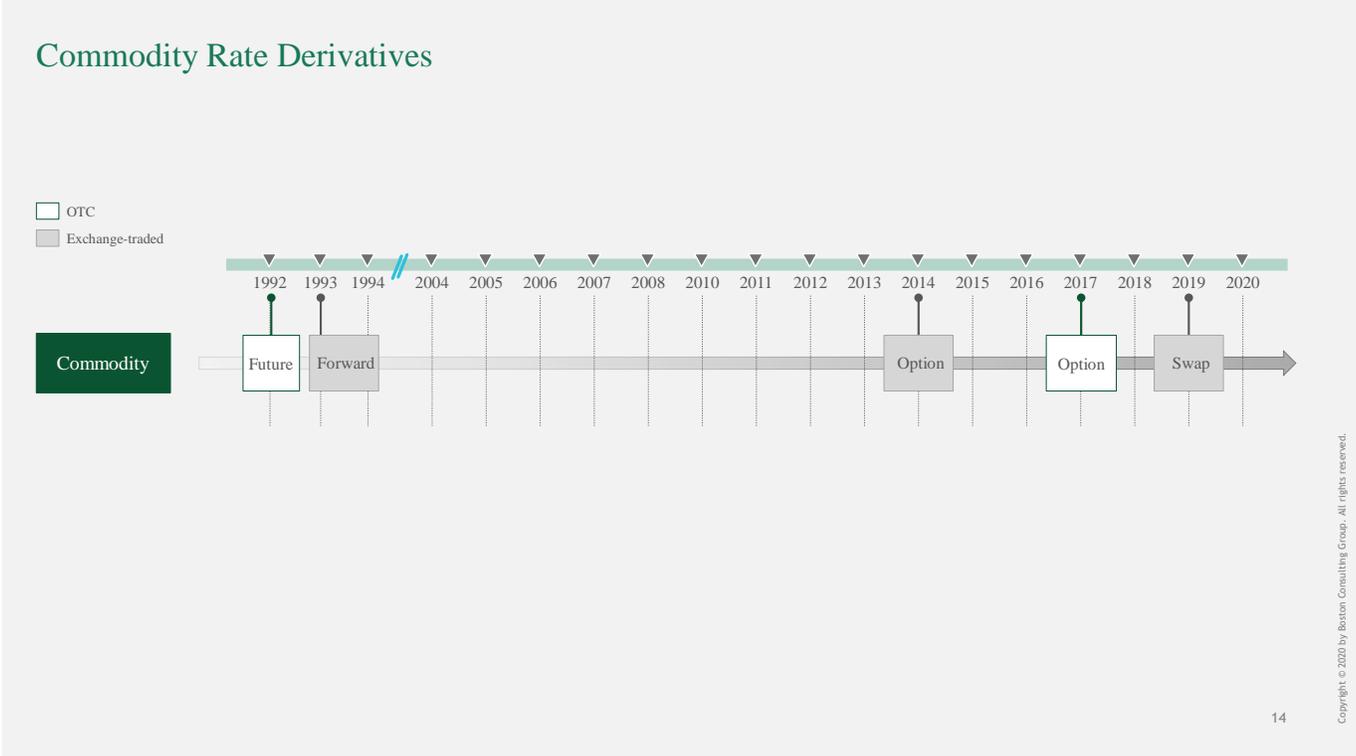


Figure 13. Development of commodity derivatives products

Strong demand for risk management from nonfinancial corporates is driven by the high volatility of commodity prices, leading to growth of trading volume and expansion of product diversity. OTC commodities derivatives have grown rapidly since their introduction, exhibiting a CAGR of 238 percent between 2016 and 2019.⁶⁷ The reasons for the higher growth are linked to the relatively new and growing markets, as well as a continuing increase in trades on the underlying assets driven by the real economy. Among OTC commodity products (i.e., options, swaps, and forwards), commodity options accounted for 90 percent of the notional value traded in 2019. However, compared with the overall OTC market in China,

⁶⁷ Source: China Future Association, <http://www.cfachina.org/servicesupport/researchandpublishin/statisticalsdata/>

OTC commodity derivatives accounted for a relatively small proportion (<1 percent) in terms of notional number traded.

Summary

After years of development, the derivatives market has become larger and broader. According to the China Foreign Exchange Trading System (CFETS), SAC, and China Futures Association (CFA) statistics, the notional amount outstanding of China’s OTC derivatives market reached USD 20.5 trillion notional number in 2019, a 2 percent decrease from 2018. The OTC market grew rapidly over the previous seven years, from USD 3 trillion in 2012. This represents a 2012–2019 CAGR of 31 percent, a much faster growth rate than in other markets globally.

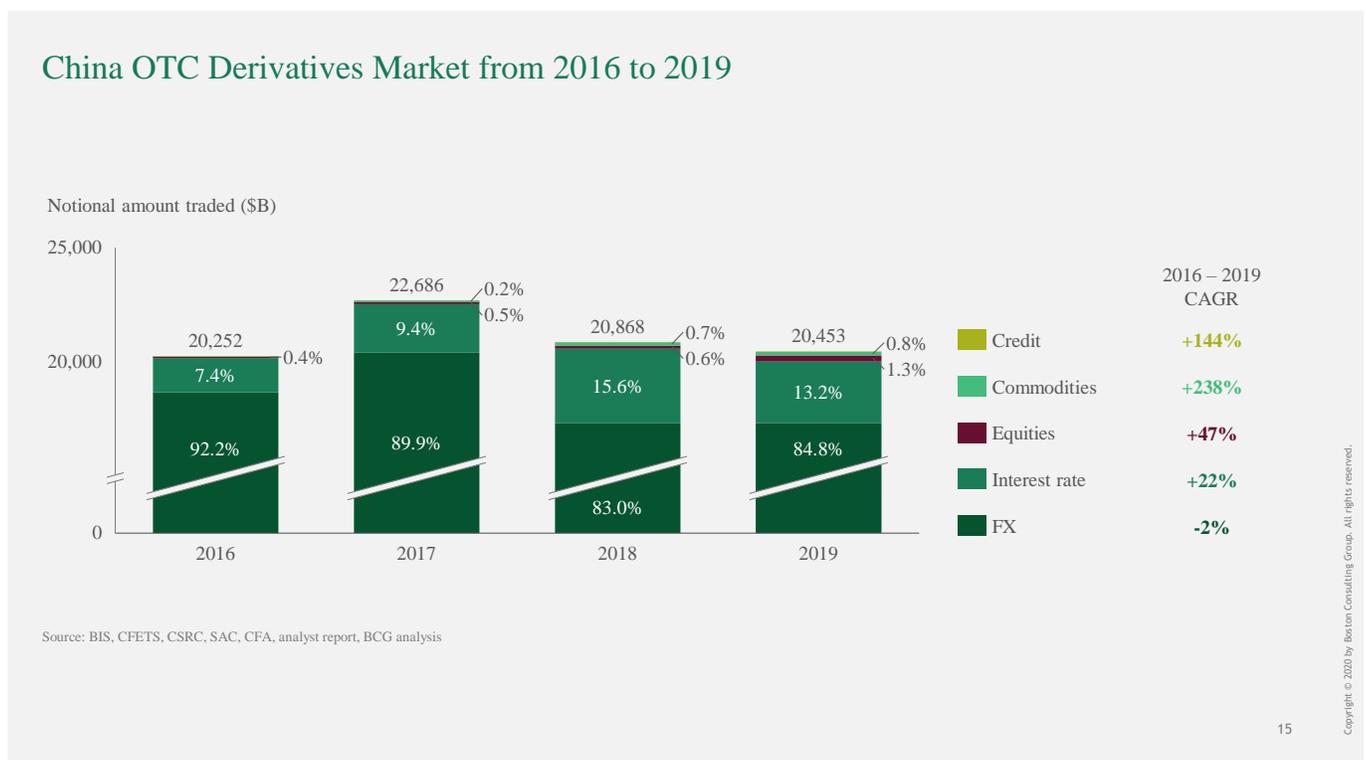
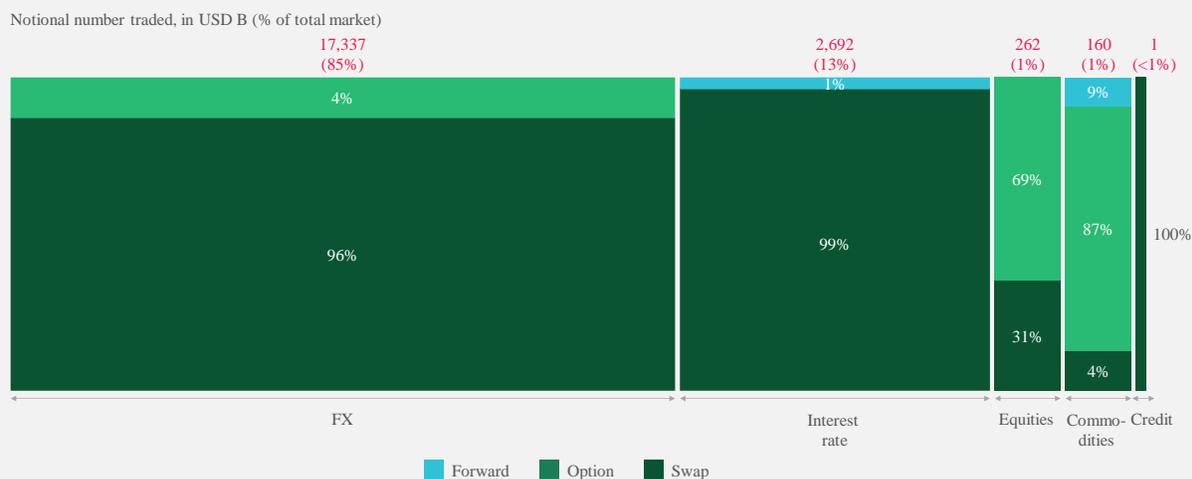


Figure 14. Notional amount of OTC derivatives traded in China from 2016 to 2019

In 2019, FX Derivatives Accounted for 85% of the Notional Number of Traded



Source: CFETS, SAC, CFA, analyst report; BCG analysis

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Figure 15. Proportion of OTC derivatives trades in 2019, by asset and instrument type

China's gross domestic product (GDP) has grown from USD 9,570 billion in 2013 to USD 14,343 billion in 2019 to make it the second largest economy in the world, and during the same period China's share of global GDP has risen from 12.4 percent to 16.3 percent (Figure 16).⁶⁸ However, the daily average turnover of OTC derivatives in China as a percentage of the global turnover is only approximately 1.0 percent⁶⁹. Compared with other economies such as Japan's, which has only a 5.8 percent share of global GDP⁷⁰ and a 3.3 percent⁷¹ share of the global daily average turnover of OTC derivatives (Figure 17), this suggests that China's OTC derivatives market is relatively small for an economy of its size — with ample room to grow to support the needs of the real economy.

Derivatives products have been serving as effective hedging tools for different types of market participants, contributing to the stability and safety of the financial system. In addition, derivatives are an important component in providing price discovery, improving liquidity, and stimulating the real economy in the functioning of China's capital market. The benefit of developing the derivatives market are addressed in Chapter 3.

⁶⁸ China's gross domestic product (GDP), World bank data, 2013~2019.

⁶⁹ Calculated from BIS Triennial Survey Data, 2019.

⁷⁰ Japan's gross domestic product (GDP), World bank data, 2019.

⁷¹ Calculated from BIS Triennial Survey Data, 2019.

Country GDP percentage share of Global GDP

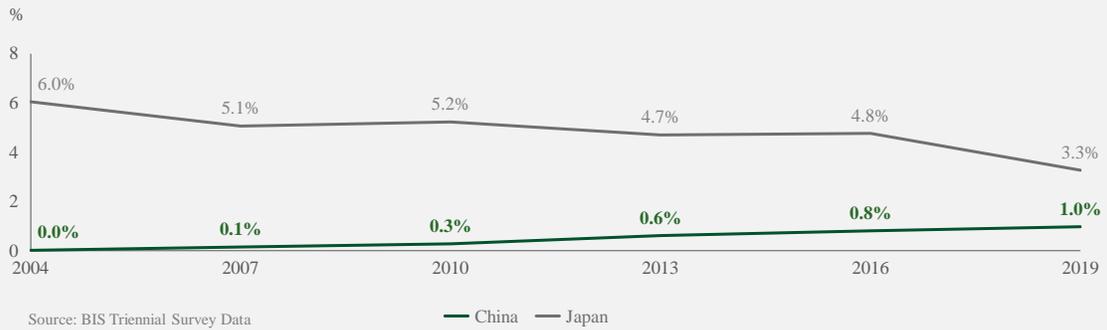


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Figure 16. Country GDP percentage share of Global GDP

OTC Derivatives Turnover (% share of global turnover)



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Figure 17. OTC derivatives turnover percentage share of Global turnover

Table 1. Derivatives products in China⁷²

Asset Class	Instrument	Derivatives Product Type	Year of Launch	Exchange Traded or OTC	Trade Execution Venue	Regulatory Body	2019 Volume (USD, B)
FX	Forward	Currency forward	2005	OTC	CFETS	SAFE	65
		Standardized currency forward	2016				
	Swap	Currency swap	2006	OTC	CFETS	SAFE	16,318
		FX swap	2007				
		Standardized currency swap	2015				
Option	Currency Options	2011	OTC	CFETS	SAFE	594	
Interest rates	Forward	Bond forward	2005	OTC	CFETS	PBOC/ CBIRC	22
		Forward rate agreement	2007				
		Standardized bond forward	2015				
	Future	Government bond future, 5-year	2013	Exchange	CFFEX	CSRC	259
		Government bond future, 10-year	2015				1,308
		Government bond future, 2-year	2018				577
	Swap	RMB interest rate swap	2006	OTC	CFETS	PBOC/ CBIRC	2,627
		Standardized interest rate swap	2014				
	Option	Interest rate options (IRO)	2020	OTC	CFETS	PBOC/ CBIRC	N/A

⁷² Source: CSRC, SAC, CFA, CFETS, SSE, SZSE, interotc.com.cn

Asset Class	Instrument	Derivatives Product Type	Year of Launch	Exchange Traded or OTC	Trade Execution Venue	Regulatory Body	2019 Volume (USD, B)
Equities	Future	CSI 300 index future	2010	Exchange	CFFEX	CSRC	3,865
		CSI 500 index future	2015				2,877
		SSE index 50	2015				1,189
	Swap	Total return swap (TRS)	2012	OTC	OTC/CSIS	CSRC	81
	Option	Stock option	2013	OTC	OTC/CSIS	CSRC	182
		SSE 50 ETF option	2015	Exchange	SSE		2,533
		CSI 300 ETF option	2019	Exchange	SSE		28
		CSI 300 ETF option	2019	Exchange	SZSE		N/A
		CSI 300 index option	2019	Exchange	CFFEX		0.2
	Commodities	Future	Commodity future	1990	Exchange	SHFE/DCE/ZCE	CSRC
Forward		Commodity forward	1993	OTC	OTC/DCE/SGE	CSRC/PBOC	15
Option		Commodity option	2014	OTC	OTC/DCE/SGE	CSRC/PBOC	144
			2017	Exchange	SHFE/ZCE	CSRC	
Swap		Commodity swap	2018	OTC	OTC/DCE/SGE	CSRC/PBOC	6

Asset Class	Instrument	Derivatives Product Type	Year of Launch	Exchange Traded or OTC	Trade Execution Venue	Regulatory Body	2019 Volume (USD, B)
Credit		Credit risk mitigation agreement (CRMA)	2010	OTC	OTC	PBOC/NAFMII	1
		Credit risk mitigation warrant (CRMW)	2010	OTC			<1
		Credit default swap (CDS)	2016	OTC			<1
		Credit linked note (CLN)	2017	OTC			<1
		Credit protection contract	2018	Exchange	SSE/SZSE	CSRC	N/A
		Credit protection certificate	2019	Exchange			N/A

1.2 State of the market

1.2.1 Regulatory framework

As is the case in many countries, China’s derivatives market is regulated by different regulatory bodies, depending on the type of institution, trading venue, and product type. Regulators include government and self-regulatory organizations (SROs), and derivatives trading is subject to both participant and product-level rules, which can be outlined by one or multiple regulators.

All exchange-traded derivatives share a similar regulatory governance model under CSRC. According to the “Regulation on the Administration of Futures Trading,” CSRC is the authorized regulatory institution for futures products. Under CSRC, the Department of Futures Supervision is a functional department, responsible for overseeing the futures market, with the following main tasks:⁷³

- Formulating detailed regulations and rules for the supervision of the futures markets;
- Supervising business activities of futures exchanges;
- Examining the establishment of futures exchanges, futures settlement institutions, and futures investment consulting institutions, as well as their qualifications for futures business;
- Reviewing listed futures, option products and contract rules;
- Supervising the trading, settlement, delivery and other business activities of relevant market participants;
- Supervising the trading behavior of the futures market;
- Supervision of the commodity and over-the-counter derivatives markets;
- Responsible for the futures market function evaluation and international development; and
- Taking the lead in handling major problems and risks in the futures market.

CFA, the SRO under the supervision and management of CSRC, has formulated a code of conduct and standard of practice for the futures industry, and supervises and inspects the business activities of futures companies. Exchanges also serve as product-level SROs as all futures transactions take place in authorized

⁷³ 《期货监管部机构职能》, “Department of Futures Supervision,” CSRC (http://www.csrc.gov.cn/pub/newsite/qhjgb/qhjgbjgzn/201404/t20140410_246739.html).

exchanges.⁷⁴ All parties involved in the trading of futures must follow the access qualifications and operational rules set by the exchanges.

The OTC derivatives market in China is supervised along different industry sectors, products, and trading venues. The regulatory framework for the derivatives market in China consists of national legislation, rules, and regulations made by the governmental regulators and self-regulatory organizations. Governmental regulators include the China Banking and Insurance Regulatory Commission (CBIRC, previously known as the China Banking Regulatory Commission), CSRC, PBOC, Ministry of Finance of the People's Republic of China, the State Administration of Foreign Exchange (SAFE), and SASAC. SROs include NAFMII, SAC, AMAC, and CFA. In China, the regulatory framework for derivative transactions operates under an institutional approach, with some elements of functional supervision.

For financial institutions that are legally established within China for the public to deposit funds into, such as commercial banks, urban credit cooperatives, rural credit cooperatives, and insurance companies, CBIRC is authorized to supervise and regulate their engagement in derivatives product transactions.⁷⁵ With CBIRC serving as the prudential regulator for derivatives product transactions, PBOC has mandated the use of prescribed forms of industry documents for derivatives products⁷⁶ such as RMB Interest Rate Swap Business⁷⁷ and Forward Rate Agreement Business,⁷⁸ and regulated the interbank derivatives product transactions within supervised marketplaces such as CFETS and Shanghai Clearinghouse (SHCH). For securities houses, futures companies and asset managers that are engaged in derivatives product transactions, CSRC is the authorized regulator. The self-regulatory organizations SAC, CFA, and Asset Management Association of China (AMAC) are supervised by CSRC and provide operational guidance and prescribed forms of industry documents for derivatives product transactions (such as the SAC Master Agreement for the onshore securities industry).

Regulators also govern the cross-border activities of PRC-based financial institutions and their subsidiaries that fall under the regulators' supervisory jurisdictions.

⁷⁴ CFFEX, SHFE (including INE), DCE, ZCE and the to-be-established Guangzhou Futures Exchange.

⁷⁵ 《金融机构衍生产品交易业务管理暂行办法》，“Interim Measures for the Management of the Dealings of Derivative Products of Financial Institutions,” http://www.gov.cn/gongbao/content/2011/content_1893973.htm

⁷⁶ 《中国银行间市场金融衍生产品交易主协议》，“Master Agreement of Financial Derivatives Trading in Interbank markets”，http://www.gov.cn/gzdt/2009-03/16/content_1260307.htm

⁷⁷ 《中国人民银行关于开展人民币利率互换业务有关事宜的通知》，“Announcement of RMB Interest Rate Swap Business”，<http://www.pbc.gov.cn/jinrongshichangsi/147160/147171/147358/147400/2847554/index.html>,

⁷⁸ 《远期利率协议业务管理规定》，“Forward Rate Agreement Business”，http://www.gov.cn/zwgk/2007-10/09/content_770955.htm

Table 2. Target and content of each regulatory body of derivatives transaction

Type of Regulation	Entity	Target and Content of Regulation
Government regulated	People's Bank of China (PBOC)	OTC derivatives trading, including interest rate swaps, forward rate agreements, bond forwards, bullion OTC derivatives in SGE; issuance, and trading of asset-back securities on the national interbank bond market, etc.
	China Securities Regulatory Commission (CSRC)	Exchange-traded derivatives e.g., stock index futures, stock options, financial derivatives trading activities by securities firms, securities funds, and futures brokers
	China Banking and Insurance Regulatory Commission (CBIRC)	Participation by diversified banks, commercial banks, insurance companies, credit cooperatives, policy banks, asset management companies, trusts, finance companies of enterprise groups, financial leasing companies, and branches and subsidiaries of foreign banks set up within China in financial derivatives business activity
	Ministry of Finance	Financial accounting regulation of accounting systems of companies involved in financial derivative trading and investment in financial derivatives by China Investment Corporation and/or its subsidiaries
	State Administration of Foreign Exchange (SAFE)	Foreign exchange derivatives business
	State-owned Assets Supervision and Administration Commission (SASAC)	Central SOE participation in financial derivatives business

Type of Regulation	Entity	Target and Content of Regulation
CSRC regulated	China Financial Futures Exchange (CFFEX)	Derivatives launched by exchanges and participants involved in derivatives trading
	Shenzhen Stock Exchange (SZSE)	
	Shanghai Stock Exchange (SSE)	
	Commodity Exchanges including SGE, DCE, ZCE, SHFE (including INE) and the newly-established Guangzhou Futures Exchange	
Self-regulated	Industry associations including NAFMII, Securities Association of China, China Futures Association, Asset Management Association of China	Respective members of the association and market infrastructure involved in derivatives trading
	Other market infrastructures including CCDC and SHCH	

Unified documentation for OTC derivatives product transactions in China

A master agreement is used to provide certain legal and credit protections for parties that enter into OTC derivatives transactions. In order to regulate and further support the development of the derivatives market in China, **regulators have unified the documentation for specified OTC derivatives product transactions conducted in certain onshore markets.**

For onshore transactions traded between market participants in the interbank market, NAFMII Master Agreement must be used to document OTC FX, interest rate, gold, and credit derivatives transactions.⁷⁹ In addition, **SAC Master Agreement** is used for OTC derivatives transactions entered into by securities companies, futures companies, and fund management companies. Besides, bespoke master derivative agreements (a.k.a. Minimaster) developed by individual onshore banks are commonly used between banks and corporate clients for corporate clients' general hedging needs.

With the continuing growth and opening up of China's financial market, there is an increased push by foreign market participants to use other international master documents (such as ISDA Master Agreements) for their onshore derivatives transactions. A joint opinion was published by PBOC, CBIRC, CSRC, SAFE and Shanghai Municipal Government in February 2020, encouraging offshore participants to sign NAFMII Master Agreement, SAC Master Agreement and ISDA Master Agreement at their respective discretion when entering into the onshore derivatives market in Shanghai.

For cross-border transactions by PRC financial institutions, the standard documentation developed by ISDA is also used.

⁷⁹ <https://www.isda.org/a/9pREE/Chinese-Derivatives-Market-and-Legal-Trends.pdf>; http://www.gov.cn/gzdt/2009-03/16/content_1260307.htm.

1.2.2 Market infrastructure

In this white paper, "market infrastructure" refers to systems or platforms that provide services for trading, clearing, and settlement. In China's derivatives market, there are currently nine key market infrastructures: six exchanges, two OTC centralized trading venues, and one OTC central counterparty.

For exchange-traded derivatives products, all contracts are centrally cleared and settled. Financial futures and options trades take place on CFFEX, SSE and SZSE.⁸⁰ Commodities derivatives are traded, cleared, and settled across three futures exchanges: SHFE, DCE, and ZCE.

CFFEX is the exchange for all bond futures and most equity index futures and options. It provides an electronic trading platform along with clearing and cash-settlement services. CFFEX is recognized as a QCCP by CSRC. Government bond futures are physically settled and processed through China Central Depository & Clearing Co. (CCDC), the central depository for government bonds. **SSE** provides trading execution and clearing and settlement services for two exchange traded fund (ETF) options: CSI 300 ETF and SSE 50ETF, as well as two exchange-traded credit derivatives. **SZSE** provides trading execution and clearing and settlement services for CSI 300 ETF options, as well as two exchange-traded credit derivatives.

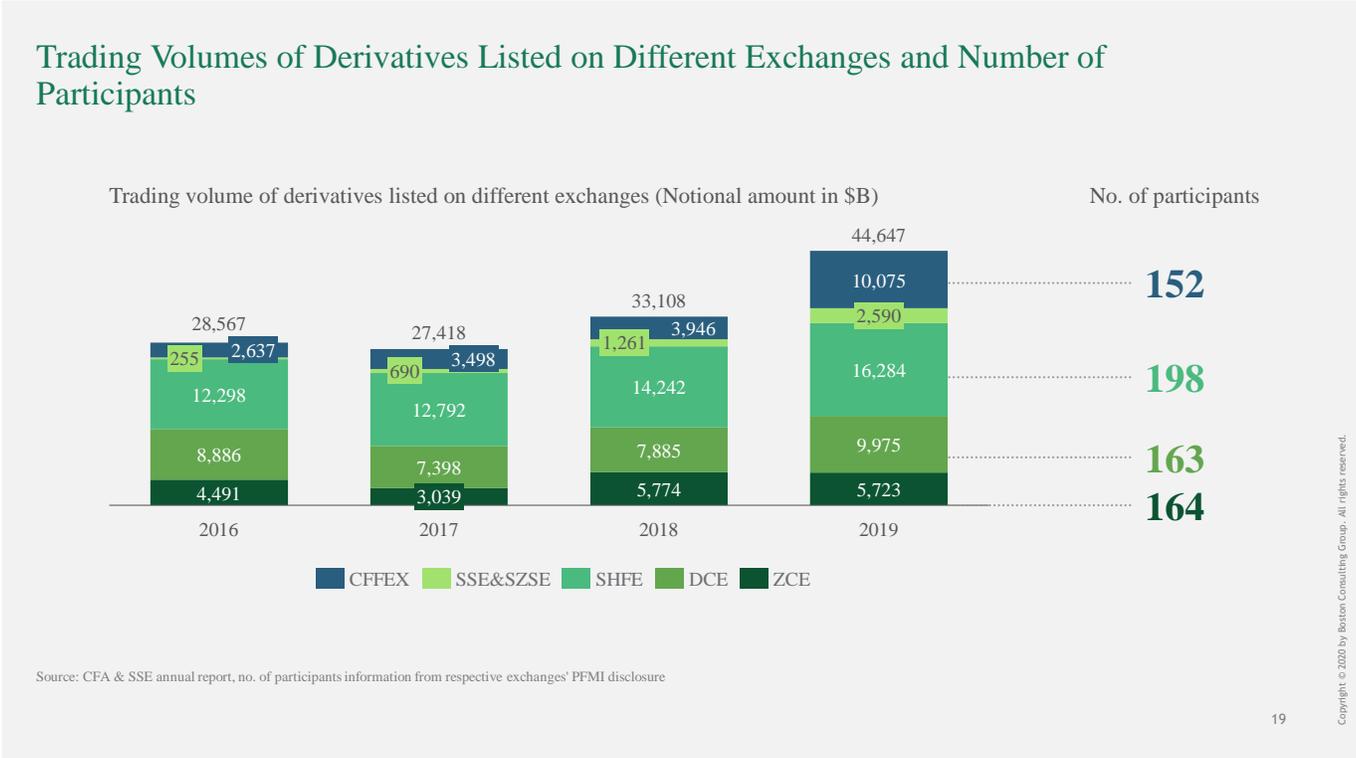


Figure 18. Volumes of derivatives listed on different exchanges and participants information

⁸⁰ Financial derivatives refer to non-commodities derivatives.

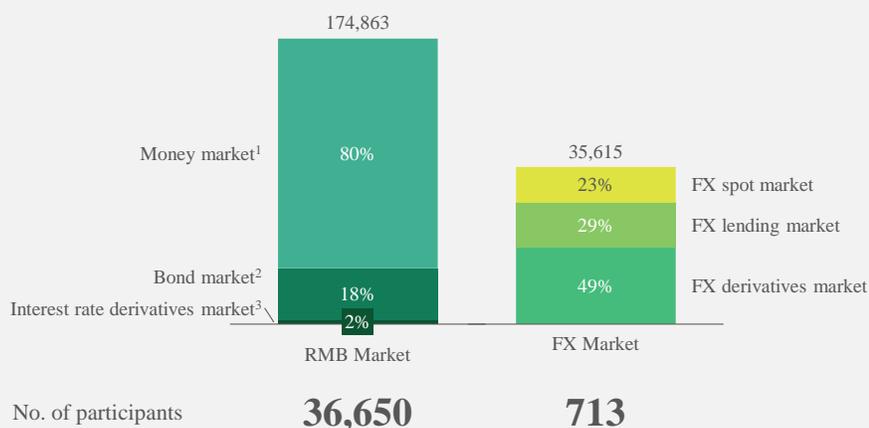
The three exchanges for commodities futures are exclusive in terms of types of products traded. **SHFE** is the main exchange for trading metals, but it also trades energy and chemicals. **DCE** trades futures contracts, underlined by a variety of agricultural and industrial products. **ZCE** specializes in agricultural and chemical product futures. All three exchanges were recognized as QCCP by CSRC in 2019.

Within the OTC derivatives market, there are separate trading venues and clearing and settlement infrastructures for different underlying assets. For all the interbank derivatives transactions,⁸¹ trading execution takes place through CFETS, and most of the IRS transactions are centrally cleared and settled with SHCH. For equities derivatives, transactions are facilitated on China Securities Internet System Co., Ltd. (CSIS), but trades are cleared and settled bilaterally. For commodity derivatives, trading execution takes place across different electronic platforms offered by DCE and Shanghai Gold Exchange (SGE). Several key market infrastructure roles are further explained ahead.

CFETS provides electronic trading facilities and services for issuance, trade, post-trade processing, information, benchmark and training services for interbank FX market, money market and bond market. It offers quotation, matching, analysis, and communication services, as well as post-trade services such as trade confirmations, trade compression, and trade reversals. It also records all interbank trade information. In recent years, CFETS has automated its transaction procedures to achieve straight-through processing (STP), including upgrades of its C-Trade matching system, launching the electronic FX trading system iSupport, and improving connectivity to different trading and quoting systems, such as Bloomberg, etc.

⁸¹ Interbank derivatives refer to interest rates, FX, and credit derivatives trades.

Trading Volumes of Different Products and Number of Participants on CFETS (2019, in \$B)



1. Includes credit lending, pledged repo, and outright repo products 2. includes cash bond products such as interbank certificate deposits, Policy Financial Bond, treasury bond, medium term note, SCP(Super & short-term commercial paper), securities lending, local government bond and etc. 3. Includes all the interbank IR derivatives based on different reference rate such as Shibor and FR007
Source: CFETS Annual report and website

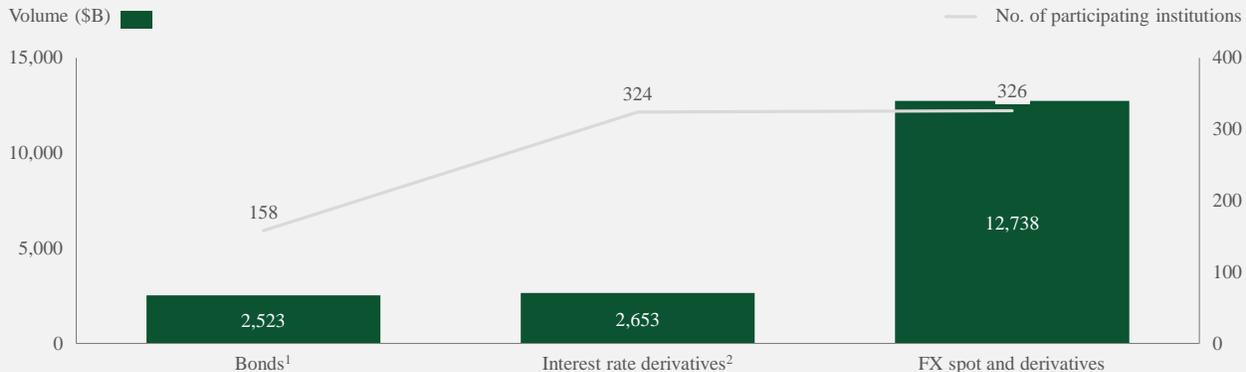
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Figure 19. Trading volumes and number of participants on CFETS⁸² (2019)

SHCH is the main clearing and settlement facility for interbank transactions (e.g., interest rate swaps, FX, CDS, Standard Bond Forward Contracts) and some commodity derivatives transactions (e.g., forwards, swaps, and options on metal, freight, energy, industrial goods, agriculture, carbon emissions). SHCH also provides margin management and collateral management services. It is recognized as a QCCP by PBOC. **CSIS** is the main trading marketplace for equities derivatives products. Its STP electronic platform provides services such as quotation, matchmaking, trade confirmation, and trading-report generation.

⁸² CFETS monthly data release, 2019, CFETS, <http://www.chinamoney.com.cn/dqs/cm-s-notice-query/fileDownload.do?mode=open&contentId=1557142&priority=0>

Volumes of Main Products Cleared at SHCH & Number of Participating Institutions (2019)



1. Includes cash bond and repo 2. Includes IRS and standard bond forward
Source: SHCH CCP PFMI Disclosure

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Figure 20. Volumes of main products cleared at SHCH and number of participating institutions⁸³

⁸³ SHCH CCP PFMI Disclosure, 2020, http://english.shclearing.com/aboutus/PFMIDisclosure/202002/t20200228_644523.html?xyz=0.46504281616215026

State of the Market for PRC Derivative Market

	Asset Class	Trade execution venue	Clearing & Settlement venue	Settlement Method
China exchange derivative products	T-bond futures	CFEX	CFEX ¹	Central
	Equity index futures/options			
	Credit protection contract/certificate	SSE / SZSE	SSE / SZSE	
	Commodity futures/options	DCE / SHFE / ZCE	DCE / SHFE / ZCE	
China OTC derivative products	Rates	CFETS	SHCH	Central
		OTC	OTC	Bilateral
	FX	CFETS	SHCH	Central
	Credit	PBOC approved systems	OTC	Bilateral
	Equities	CSIS / OTC	OTC	Bilateral
	Commodities (others)	DCE	SHCH	Central
			DCE	
	Commodities (Gold)	SGE	SGE	Bilateral

1. For treasury futures, the settlement involves the physical delivery of the futures, which are handled by CCDC
 Note: CFEX = China Financial Futures Exchange; CCDC = China Central Depository and Clearing Corporation; SSE = Shanghai Stock Exchange; SZSE = Shenzhen Stock Exchange; DCE = Dalian Commodity Exchange; SHFE = Shanghai Futures Exchange; ZCE = Zhengzhou Commodity Exchange; CFETS = China Foreign Exchange Trading System; SHCH = Shanghai Clearing House; CSIS = China Securities Internet System; SGE = Shanghai Gold Exchange

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Figure 21. Mapping of key market infrastructure in China's derivatives market

1.3 Recent market trends

Since 2017, China has made the opening of its economy, and the continued reform of its capital market key priorities in its development roadmap. At the 19th National Congress of the Communist Party of China, President Xi Jinping stated that China's aim to reform its foreign exchange and financial system is part of the overall opening of its markets to foreign investors. In the recent 2020 China International Fair for Trade in Services, he reiterated China's commitment to further opening up, easing market access, and driving cooperation with the international community. These remarks show a determination by top leaders in China to build an open, international, collaborative capital market.

In addition, in the aftermath of the global financial crisis of 2007-2008, China has also implemented measures introduced in the G20 financial regulatory reforms, including mandating the use of qualified central counterparties and greater use of collateral in OTC trades. With the focus on ensuring the stability and safety of the capital market, China will continue to invest and build out its market infrastructure, responding to the needs of both domestic and foreign investors

With the government's support, the derivatives market will likely continue to grow, reflecting the continued development of the capital market. Support from government has been in three main areas:

1. Reform of regulatory and legislative frameworks

There has been tremendous progress in developing regulatory and legislative frameworks which guide and protect participants in China's derivatives market. In particular, the introduction of the Draft Futures and Derivatives Law in 2021 providing a comprehensive legal framework for the operation of futures and OTC derivatives markets in China represents a seminal milestone – particularly as it provides, for the first time in China's legislative history, express legislative protection for close-out netting enforceability. ISDA is working with Chinese authorities, market participants and other industry associations to ensure the finalized Futures and Derivatives Law confirms the enforceability of close-out netting and related financial collateral arrangements. This critical development follows the release of the “Commercial Banking Law of the People's Republic of China (Revised Draft)”⁸⁴ in October 2020, which explicitly mentions the mechanism of close-out netting during resolution of a commercial bank and limits the resolution stay to two working days in line with the recommendation made by FSB⁸⁵. The CBIRC also announced in January 2018 its “Rules for the Measurement of Default Risk Assets of Counterparties in the Trading of Derivatives,”⁸⁶ which make reference to the Standardized Approach for measuring Counterparty Credit Risk (SA-CCR) of Basel III and clarify the method of defining close-out netting portfolios.

In addition, collaboration and alignment between multiple regulatory bodies have been enhanced, which has helped to resolve problems of regulatory gaps, regulatory arbitrage, and regulatory overlap. In 2017, FSDC was established, under the jurisdiction of the State Council; its goal is to coordinate financial regulation and reforms between PBOC and other regulatory agencies. The "Guiding Opinions on Regulating the Asset Management Business of Financial Institutions"⁸⁷ was released shortly thereafter, with a consultation draft issued by PBOC in conjunction with CBIRC, CSRC and SAFE, that combines requirements for the asset management industry in order to regulate it, unify the regulatory standards for similar types of asset management products, and prevent and control financial risk. Prior to the new rules,

⁸⁴ 《中华人民共和国商业银行法（修改建议稿）》，“Commercial Banking Law of the People's Republic of China” (Revised Draft), <http://www.gov.cn/xinwen/2020-10/16/5551867/files/75c0820dba14419c8f8194c130c26609.pdf>

⁸⁵ “FSB Key Attributes”, BIS, https://www.bis.org/fsi/fsisummaries/fsb_key_attributes.htm

⁸⁶ 《中国银监会关于印发衍生工具交易对手违约风险资产计量规则的通知》，Notice of “Rules for the Measurement of Default Risk Assets of Counterparties in the Trading of Derivatives,” CBIRC, <https://www.cbirc.gov.cn/cn/view/pages/governmentDetail.html?docId=272543&itemId=861&generaltype=1>

⁸⁷ 《关于规范金融机构资产管理业务的指导意见》，"Guiding Opinions on Regulating the Asset Management Business of Financial Institutions," SAFE, <http://m.safe.gov.cn/safe/2018/0427/8876.html>

there were significant differences among the business rules of asset management businesses, as they were regulated by different financial regulatory authorities.

Furthermore, in order to attract foreign investors, regulators have introduced the use of the ISDA Master Agreement, the most frequently used agreements on the international market. In February 2020, PBOC, CBIRC, CSRC, SAFE and Shanghai Municipal Government jointly issued the “Opinions on Further Accelerating the Building of Shanghai into an International Financial Center and Financial Support for the Integrated Development of the Yangtze River Delta.” For the first time, an official document explicitly indicates that all foreign institutions may also use ISDA agreements to conduct OTC derivatives transactions with Chinese counterparties in the Chinese interbank market.

2. Broadening derivatives use cases and opening market access

The evolution of major derivatives markets has been based on active trading markets of the underlying spot asset. OTC derivatives are derived from spot markets, which directly serve the needs of physical industries. The large fluctuations in spot market prices provide an incentive for the launch and development of OTC derivatives. To that end, China has made progress in stimulating the growth of its spot markets. In 2019, Bloomberg and JP Morgan announced they would add Chinese bonds to their underlying indices, after a series of enhancements from PBOC to qualify for the inclusion. In September 2020, the Financial Times Stock Exchange (FTSE) Russell announced plans to add Chinese government bonds to its flagship FTSE World Government Bond Index in 2021.

There have been encouraging changes from China’s continuous efforts in market-based interest rate reform on the mainland. In 2019, China introduced changes to the calculation methods for the LPR and adopted the revised new rate as the benchmark lending rate for banks. The change to the LPR was a move to liberalize interest rates, and as a result, increase the role of market forces in determining rates. Market-driven interest rates fluctuate with changes in market and economic conditions. In light of increasing volatility in interest rates, financial institutions should experience increasing demand for interest rate hedging tools such as IRSs in the OTC market.

China's drive to open its commodities futures markets has gathered steam. The launch of the crude oil futures contract in 2018 was the first such contract that was open to direct participation by international investors. As of December 2020, seven⁸⁸ internationalized commodities futures contracts have been introduced. The opening up of the commodities futures market provides foreign investors with a new venue for managing risk and identifying investment opportunities.

Over the last four years, China has made meaningful strides toward easing access to the OTC derivatives market for institutions. Domestically, China has opened different segments of its derivatives markets to a broader range of institutions, including banks, securities companies, asset managers, and insurance companies. On the other hand, foreign institutions can trade derivatives products such as IRS, bond forwards, and FX derivatives through the China Interbank Bond Market (CIBM) Direct scheme, QFII and RQFII. In addition, regulators have been exploring product expansion in Bond Connect from cash bonds to derivatives products.⁸⁹

3. Enhancement of market infrastructures

There have been many advances in market platform infrastructures for both foreign and domestic investors in recent years. Bond Connect and CIBM Direct schemes were launched in 2017 as new channels for foreign investors to invest in the Chinese fixed income market. For the first time, international platforms Tradeweb and Bloomberg became integrated into the schemes that offer investors the abilities to directly execute trades and send booking messages downstream to agent banks, greatly simplifying the trading process. In 2020, both Tradeweb and Bloomberg launched the request for quote (RFQ) service for CIBM Direct, increasing transparency and efficiency for foreign investors to trade on the China bond market.

Furthermore, there have been major technical enhancements on Chinese domestic trading platforms. CFETS launched the FX2017 platform, based on the NEX Markets platform, at the end of 2017. The upgrade enabled low-latency, multi-electronic execution capabilities on the CFETS FX trading platforms, with the trading experience in line with other developed markets.

⁸⁸ The seven internationalized commodities contracts include RBD Palm Olein, crude oil, TSR 20 rubber, low-sulphur fuel oil, iron ore, bonded copper, and purified terephthalic acid.

⁸⁹ "Bond Connect and China's Bond Market Deeper Opening Outlook," Hong Kong Exchange, 2019, https://www.hkex.com.hk/-/media/HKEX-Market/News/Research-Reports/HKEX-Research-Papers/2019/FIC_BondConnect_201901_c.pdf?la=zh-HK.

There have also been efforts to develop clearing and settlements infrastructure. SHCH was established in 2009 to provide clearing services in the OTC market for financial market participants in China. SHCH provides centralized and standardized clearing services for spot and derivatives transactions in both RMB and foreign currencies, as well as RMB cross-border transactions approved by PBOC. Mandatory central clearing (including both direct and client clearing) of onshore RMB interest rate swap transactions between financial institutions commenced on July 1, 2014. Since then, the introduction of central counterparties has greatly improved participants' credit risk management abilities and aligned domestic clearing practices to global standards. Furthermore, in 2017, SHCH formally applied for recognition by ESMA, which enables SHCH to offer easier access and more capital-efficient clearing services to EU customers.

4. Use of RMB-denominated Chinese Government Bonds as Margin for Derivatives Transactions

China Central Depository & Clearing Co., Ltd. (CCDC) has collaborated with China's futures exchanges to promote the use of RMB-denominated Chinese government bonds as margin for derivatives transactions. In 2015, CCDC and CFFEX launched the pilot service of posting Chinese government bonds as margin for Chinese government bond futures trades. In 2019, CCDC signed a joint agreement with SHFE, DCE, ZCE, CFFEX and INE to introduce the service to China's commodity futures market. The service was launched by DCE, ZCE and SHFE in 2020 and by INE in September 2021, marking the service's full coverage of China's futures market.

The introduction of RMB-denominated Chinese government bonds as margin for derivatives transactions is a milestone in China's derivatives market and has increased the efficiency of the futures market and the liquidity of bond spot market. Since the service's launch, its scale and market participant diversity have been rapidly increasing. Scale has been expanding, with the outstanding balance of collateral posted rising rapidly from RMB 190 million at the end of January 2019 to over RMB 100 billion yuan at the end of August 2021. The diversity of market participants utilizing this service has also been increasing, expanding from futures companies to commercial banks, investment funds, asset managers, as well as overseas investors.

2 Market participants

Participants engage in derivatives transactions for different reasons, depending on their legal identification, the roles they play, and their business types. This paper categorizes market participants as either a PRC participant, foreign firms with onshore presence (i.e. operate via locally incorporated entities), or foreign firms with no onshore presence⁹⁰. There are six main groups of institutional participants present in China’s derivatives market : **commercial banks, securities companies, futures companies, asset managers, insurance companies, and corporates (nonfinancial institutions), and can be further classified into two categories: market makers and end users.** The main market makers in China’s derivatives market are commercial banks, securities companies, and futures companies. All six main groups of institutional participants can be end users in the derivatives market.

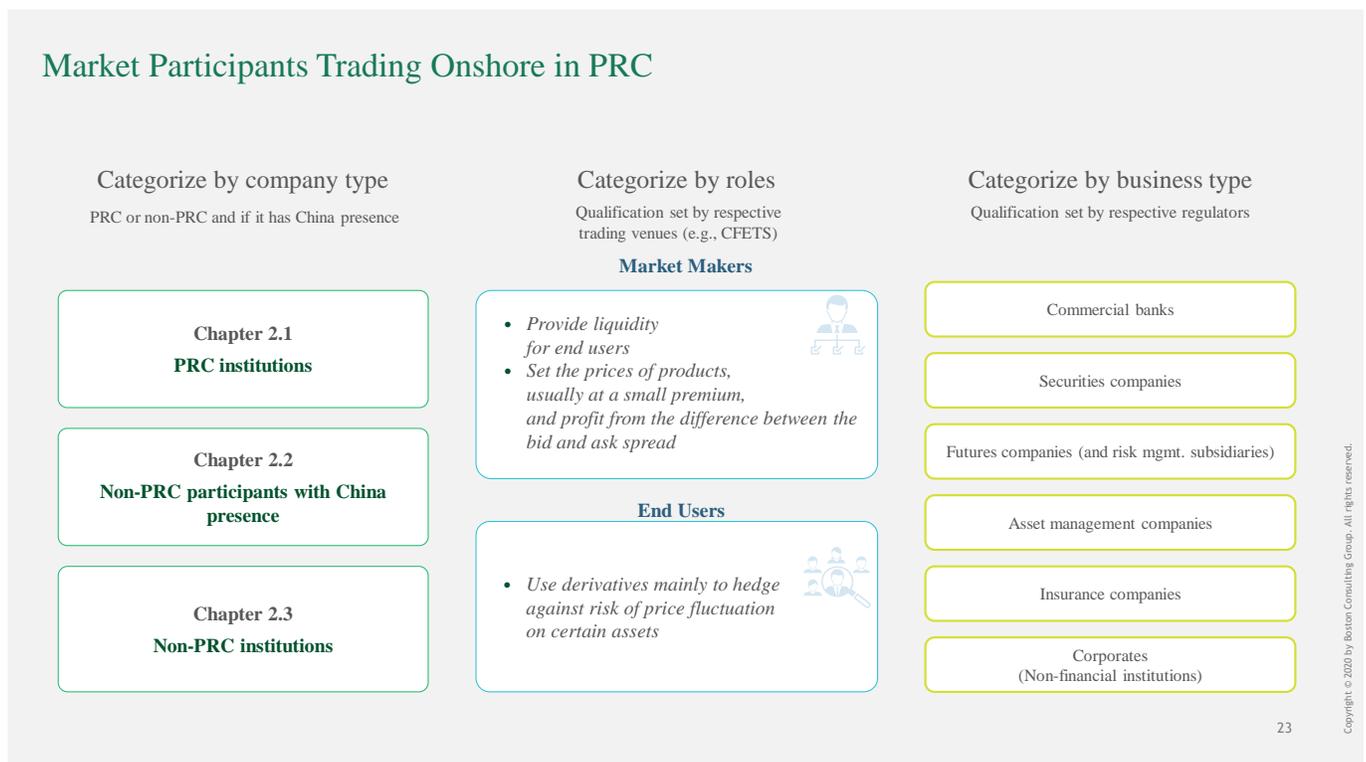


Figure 22. Market participants

There are two types of qualifications market participants need to obtain in order to trade derivatives. First, different groups of institutions must satisfy requirements set out by regulators that supervise their respective industry (e.g., CBIRC for commercial banks and insurance companies, CSRC for securities and futures companies). In addition, the institutions must also obtain qualification from the relevant product-

⁹⁰ Foreign investors which have no onshore presence and access China’s market via various access channels

level regulators in order to be able to trade specific products. The combination of the two qualifications determines the activities and the role market participants can play in the derivatives market.

In China, financial companies can establish subsidiaries to conduct business in more than one of the institution categories. For example, leading commercial banks usually have subsidiaries (e.g., asset management companies or insurance companies) or indirect affiliation⁹¹ of non-banking institutions (e.g., securities companies) that allow them to access different products and provide a wider range of financial services.

This chapter looks at the motivations by different types of market participants for using derivatives instruments in China, and their trading behaviors.

2.1 PRC market participant characteristics

2.1.1 Commercial banks⁹²

Banking institutions that are authorized by CBIRC⁹³ to participate in derivatives trading include commercial banks, policy banks,⁹⁴ and other financial banking institutions. Commercial banks are the main market makers in FX and interest rate derivatives, holding all market-making licenses for FX (30 out of 30),⁹⁵ and the majority of licenses for interest rate (26 out of 30). For banks to qualify as market makers, they must satisfy requirements for a certain level of capital adequacy, trading experience, infrastructure setup, talent, risk management system, etc.

⁹¹ E.g., belonging to the same financial holding companies.

⁹² Refers to commercial banks only, does not include the asset management or wealth management subsidiary under commercial banks.

⁹³ 《金融机构衍生产品交易业务管理暂行办法》，“Interim Measures for the Management of the Dealings of Derivative Products of Financial Institution”, first released by CBIRC in April 2004, later revised in 2007 and 2011.

⁹⁴ Set up by the State Council of China, policy banks are responsible for financing economic and trade development and state-invested projects. Currently there are 3 policy banks: Agricultural Development Bank of China (ADBC), China Development Bank (CDB), and the Export-Import Bank of China (Chexim).

⁹⁵ Data from CFETS as of November 13, 2020, <http://www.chinamoney.com.cn/english/mdtmmbfmm/>.

Commercial banks engage in derivatives transactions for two main purposes: **provide derivatives products and trading facilitation services to clients; and manage credit risk, market risk, and liquidity risk to achieve a desired exposure on their balance sheet as an end user.**

- **Provide derivatives products and facilitate trading:** Commercial banks act as key market makers in FICC markets, and facilitate derivatives trading for other market participants. Commercial banks earn revenue from pricing differences and fees from providing services. Commercial banks leverage their financial products and trading licenses to provide services to both financial and corporate clients seeking access to derivatives products. In addition, banks provide custody and agent banking services to overseas institutions that access China’s derivatives market. Furthermore, banks provide structured investment products to retail customers. Such products are managed by using options to create risk profiles that match the features of the products.
- **Manage risk on the balance sheet:** - Facing large risk exposures from holding assets or liabilities such as foreign currencies, loans, bonds, deposits, etc.—and to reduce risks on their balance sheets—commercial banks use derivatives, such as swaps on interest rates or FX.

FX and interest rate derivatives are the most frequently traded asset classes by banks. For FX derivatives, the most traded products are FX swaps, particularly short-duration swaps (Figure 23). In 2019, FX swaps of three months and shorter comprised 86 percent of all FX derivatives traded (USD 17.8 trillion).

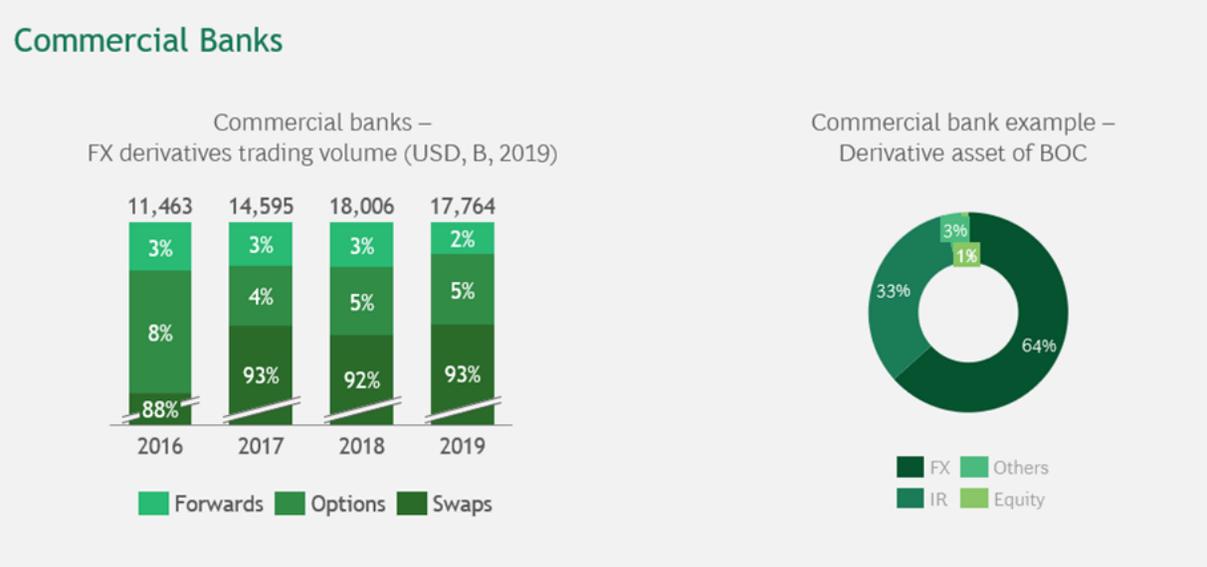


Figure 23. Product traded by commercial banks

Trading volumes for other asset classes such as credit and commodities are significantly lower.

There was, however, an uptick in the issuance of CRM tools in 2018 when the number of corporate bond defaults tripled due to businesses struggling during a cooling economy. However, the issues with the credit derivatives market outlined in Chapter 1 are roadblocks that inhibit market growth. In addition, commercial banks can only trade equity derivatives through brokers such as securities companies, mainly to meet the hedging purpose behind structured products issued.

Driven by further regulatory evolution and product innovation, commercial banks are expected to remain leading players in the derivatives market in China. Driven by continuous growth in foreign currency positions and loan amounts, which grew by CAGR 9 percent and 13 percent, respectively, between 2016 and 2019,⁹⁶ and continuous relaxation of FX policies and interest rate reforms, demand for FX, and interest rate derivatives are expected to increase. Meanwhile, commercial banks are also expected to expand trading portfolios to the wider range of derivatives instruments introduced or reopened in 2020, such as interest rate options and government bond futures. Commercial banks are likely to demand more complex FX and interest rate products to create new risk profiles for hedging risks from increasingly complex structured products offered to retail clients, offer more tools to corporate clients, and reduce the costs of trading derivatives compared with simpler vanilla products. The use of credit derivatives may increase as credit derivatives infrastructures (e.g. a developed credit rating system) and trading rules are built out. Overall, derivatives trading activities by commercial banks will grow steadily, closely reflecting regulatory changes.

2.1.2 Securities companies

According to CSRC, and as outlined in the Securities Law,⁹⁷ securities companies conduct business in securities brokerage, investment consulting, underwriting, margin trading and short selling, securities market making, and proprietary trading. Securities companies are key market making players in the OTC equities derivatives market, holding all seven Tier 1 dealer licenses for equity options.⁹⁸ In addition, four players also hold market-making roles—out of a total of 30 market makers—in the interest rate derivatives market. The OTC equity derivatives market has gradually become more concentrated, as stricter regulations have created barriers for the majority of companies to participate as market makers. In 2019,

⁹⁶ PBOC statistics.

⁹⁷ 《中华人民共和国证券法》, Securities Law, CSRC, http://www.csrc.gov.cn/pub/tianjin/tjfzyd/tjjflfg/tjgjfl/201912/t20191231_368792.htm.

⁹⁸ Tier 1 companies are allowed to conduct derivative trading with any companies qualified to trade equity derivatives, while Tier 2 companies may only trade with Tier 1 companies.

the top five players dominated the market, holding over 70 percent of the outstanding notional OTC equities derivatives positions.⁹⁹

Securities firms engage in derivatives trading in three capacities: (1) as their own risk managers, (2) as market makers, (3) and as brokers for customers that hold brokerage accounts with securities firms. In addition, in recent years, securities companies have also begun to establish asset management subsidiaries to provide investment products and manage client assets (characteristics discussed in 2.1.4 Asset management companies). Securities firms offer both derivatives services to institutional and retail clients in a brokerage capacity, and wealth management structured products to their retail clients. In recent years, there has been an increase in demand from commercial banks to create structured products using OTC options and for securities firms to distribute them to their retail investors. Furthermore, securities firms use derivatives to hedge risks arising from their derivatives transactions, as well as to cover risks from positional exposures on underlying assets from their proprietary investment strategies.

The two most common asset classes of derivatives traded by securities companies are interest rate and equity.

- Interest rate: As FICC business has been growing for them, most of the securities companies have the largest outstanding balances of derivatives products in interest rate derivatives. According to the annual reports of the top five securities companies, in 2019, the total notional number of interest rate derivatives reached USD 234 billion, accounting for 67 percent of the companies' businesses.¹⁰⁰ Interest rate has been the main growth segment of domestic securities companies in their derivatives business.
- Equity: Securities companies trade equity derivatives in both the exchange-traded market and OTC market for their retail and institutional clients, and as market makers. In the OTC market, securities companies trade swaps on indices and single stocks, as well as stock index options. In recent years, the equity swap business has flourished. And with the help of various tools such as loan swaps, index-enhanced swaps, intraday transaction swaps, alpha strategy swaps, product grade swaps, cross-border swaps, etc., securities firms have satisfied customers' demand for securities lending, quantitative hedging, cross-border investment, etc.

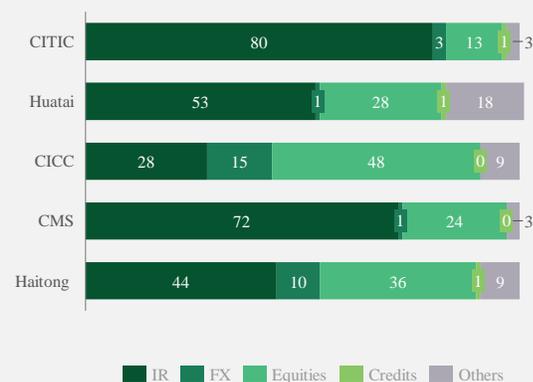
⁹⁹ SAC monthly OTC derivatives report.

¹⁰⁰ 2019 annual reports of China Merchants Securities, CICC, CITIC, Haitong Securities, Huatai Securities.

Securities companies

Securities companies - Product trade

Outstanding notional amount breakdown of 5 leading securities firms (% , 2019)



High concentration in OTC equity derivatives

CR5³ for OTC equity derivatives



*CR5 = concentration ratio of top 5 players (incremental notional amount of top 5 players/total incremental notional amount)

Source: 2019 annual reports of CITIC, Huatai Securities, CICC, China Merchants Securities, Haitong Securities; <http://www.interotc.com/portal>

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Figure 24. Products traded by securities companies

Looking ahead, securities companies have vast growth potential in the derivatives markets. For example, the notional value of derivatives accounted for under 2 percent of the assets on the balance sheets of leading Chinese securities companies in 2019. At top Wall Street firms, the percentage was 35 to 45 percent. The difference provides a view of the potential increase in participation by securities companies in the derivatives market in the long term. A substantial increase in the use derivatives is expected to come from FICC products as part of an increasing shift for securities companies to develop more FICC business, similar to large international investment banks.

In addition, in 2019, CSRC released a statement expressing its aim to foster the creation of securities giants, and encouraged securities companies to begin merging in order to build up all-round capabilities.¹⁰¹ The emergence of Chinese securities giants and the consolidation of resources could lead to greater innovation and participation of securities companies in the derivatives markets. In terms of coupling the increase in use of derivatives from the growth of the asset management and insurance industries with the increased demands from banks to provide structured products featuring equity options risk profiles, the need to trade equities derivatives will grow rapidly. This will drive growth in trading volumes of equity

¹⁰¹ 关于政协十三届全国委员会第二次会议第 3353 号（财税金融类 280 号）提案答复的函，“Regarding the Second Session of the Thirteenth CPPCC National Committee No. 3353 (Financial Tax Finance No. 280) Proposal Reply Letter”, http://www.csrc.gov.cn/pub/zjhpublic/G00306201/201911/t20191129_366705.htm

swaps and options and provide more use cases to motivate the range of products and underlying assets to be expanded.

2.1.3 Futures companies (and risk management subsidiaries of futures companies)

Futures companies are intermediary organizations that are also futures exchange members that primarily provide exchange-traded futures and options brokerage service to customers. According to “Measures for the Supervision and Administration of Futures Companies” issued by CSRC, futures companies can only provide brokerage service and cannot participate directly in the derivatives market. Instead, futures companies can participate indirectly by setting up risk management subsidiaries that are permitted to trade and manage risks.¹⁰² Risk management subsidiaries are regulated by CSRC and are permitted to trade OTC derivatives products. They carry out basic trading, warehouse receipt services, hedging, pricing, and market making. As of October 2020, there were 149 futures companies and 87 risk management subsidiaries registered with CFA.

Futures companies provide brokerage services to two types of companies: nonfinancial institutions and financial institutions (FI). For non-FIs, the largest corporate clients are commodities trading companies (e.g., production, imports, exports of raw materials), manufacturing companies (e.g., electronics), and warehousing and logistics companies. These corporates use futures and options to hedge and fix prices of commodities used in their core operations. For FIs, many of the clients use derivatives to hedge risks within their investment portfolios. In addition, futures companies provide investment advisory services on futures and options trading to both FI and non-FI clients. Since 2015, futures companies have also been collaborating with insurance companies to serve China’s rural economies and help farmers hedge risks through the Insurance plus Futures policy.

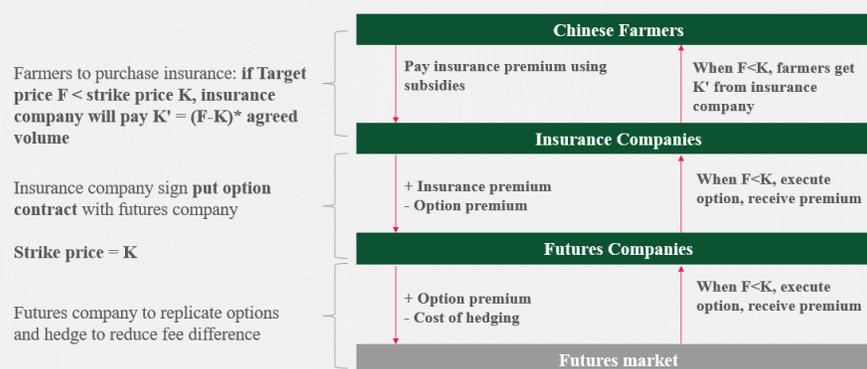
¹⁰² 《期货公司设立子公司开展以风险管理服务为主的业务试点工作指引》，“Guidelines for the Pilot Work of Futures Companies Establishing Subsidiaries to Carry Out Businesses Focusing on Risk Management Services”, CSRC, http://www.csrc.gov.cn/pub/tianjin/tjfzyd/tjflfg/tjbmzg/201303/t20130314_222234.htm

Insurance plus futures

In 2015, The Insurance plus Futures policy was launched by the Chinese government, offering subsidies to insurance companies to underwrite agricultural income insurance for farmers. As of 2018, over 30 futures companies have participated with insurance companies on a wide range of commodity products such as soybeans, corn, eggs, white sugar, cotton, and rubber. To date, over 100 pilot projects have been introduced, offering compensation to millions of rural farmers. It is deemed by policymakers as a sustainable and replicable driver to help transform the current agricultural production system from a state-procurement to a market-priced system.

Under the pilot program, price-fluctuation risks are transferred from the farmers to insurance companies, and then to the futures market. Futures companies therefore play a critical role in the process.

Simplified Illustration of the “Futures Plus Insurance” Program



For example: "insurance + futures" in 2017 in Mengla County in Yunan Province

- Yunan is a relatively impoverished state-level province whose income mostly depends on rubber production; several price slumps in early 2017 resulted in a huge waste of rubber products as well as drainage of the labor force.
- PICC Beijing ("the insurance company") and Zhengshang Industry ("the futures company") collaborated to offer local rubber farmers an Asian put option to hedge against the price fluctuation of the rubber futures contract (RU1801) from June to September of 2017.
- When the arithmetic average of the underlying price over the specified period fell below the specified target price set by farmers, local farmers were compensated the price difference by the insurance company, which then reinsured itself by entering into a put positions contract with the futures company. The futures company then replicated the option in the Shanghai Future Exchange to transfer the risk.
- The pilot program successfully insured a more-than-1,300-hectare area used for rubber production and over 2,000 tons of rubber, and benefited more than 1,000 local farmers, thereby offering relief to the local economy.

References:

- "Natural rubber price risk management through ‘Insurance plus futures’ program—a case study on Mengla county,” 2017, SHFE, <http://www.shfe.com.cn/content/zwbs-2017/2-3.pdf>
- "Practice and development of insurance plus futures” 2020, CFA, http://www.cfachina.org/aboutassociation/industry-poverty-alleviation/experience-introduction/202012/t20201231_14372.html

Currently, futures companies are mainly involved within the exchange-traded derivatives market, which is dominated by commodities products in terms of both trading volume and product type—and within the market there are more futures than options. With the expansion of financial futures, futures companies are also increasingly trading non-commodities derivatives, thereby raising the overall percentage of non-commodity derivatives exchange-traded products from 10 percent in 2016 to 29 percent in 2019. In addition, risk management subsidiaries also trade OTC commodities, equity, and interest rate products for the customization of risks and returns.

The trading behavior of futures companies and their risk management subsidiaries is anticipated to shift in two ways. First, in the face of fierce competition and the squeezing of profits in traditional brokerage fees, more futures companies shifting focus to a wider range of business models, including asset management, risk management and investment advisory, etc., is expected. Engaging in derivatives markets will be the key to providing new services for clients. Second, as institutional customers become familiar with derivatives, and increasingly utilize derivatives for hedging, their demand will drive higher volumes of exchange-traded transactions via futures companies. Furthermore, recent changes, such as allowing international investors to trade futures,¹⁰³ will directly drive an increase in futures companies' trading activities.

¹⁰³ In Nov 2020, China introduced a new copper futures contract open to foreign traders on the Shanghai International Energy Exchange (INE), a subsidiary of Shanghai Futures Exchange.

2.1.4 Asset management companies

According to the “Guiding Opinions on Regulating the Asset Management Business of Financial Institutions” jointly issued by PBOC, CBIRC, CSRC, and SAFE, asset management business is defined as the investment and management of entrusted assets by financial institutions on behalf of investors (e.g., mutual funds, private equity, hedge funds, and asset management arms of banks and securities, futures, and insurance companies). The asset management products offered by these companies are divided into two categories: public offering products and private offering.¹⁰⁴

Asset management companies’ primary business purpose is to achieve superior returns for their investors. For asset management products that are offered publicly, asset managers use derivatives mostly to hedge against risks associated with trading underlying cash instruments. For investment products that are offered privately, derivatives are used with more flexibility. For example, short selling via derivatives products allows managers to gain more flexibility in investment strategies. Furthermore, asset managers often use derivatives to maintain efficient portfolio management, as they provide a more flexible alternative for asset managers to change the risk profiles of portfolios.

Asset managers use a wide range of derivatives instruments, as determined by the strategies outlined in the investments products across equity and interest rate asset classes. Fund companies shift weighting between interest rate and equities—depending on the macroeconomic environment—with the market’s higher volatility typically resulting in a greater use of equities than interest rate. In recent years, banks have begun to provide more structured products that utilize equity derivatives features. Asset management arms of securities and futures companies leverage their parent groups’ expertise to extend their businesses and offer investment product portfolios. Insurance companies typically trade derivatives through asset management companies.

¹⁰⁴ Public offering products can be made available to any investor. Private offering products may only be for qualified investors under requirements from PBOC.

In April 2018, PBOC, CBIRC, CSRC and SAFE jointly issued the “Guiding Opinions on Regulating the Asset Management Business of Financial Institutions (the New AM Regulation)”¹⁰⁵ to strengthen regulatory oversight of China’s disparate asset management products and encourage the development of prudent practices. The new regulation bans several practices often used in asset managers’ investment practices (e.g., investment of public funds into non-standard assets).¹⁰⁶ The new rules, which are set to be fully implemented in 2021, with asset managers likely to shift portfolio constructs in order to comply with them, restrict the use of non-standard assets, such as investment products that were made on the back of the shadow banking system for guaranteeing principle and return. As a result, there will likely be an increased demand for structured products and complex derivatives as replacements that offer similar types of returns. In turn, this will increase the overall demand for forwards and options on assets such as equity index, FX, and interest rates.

Furthermore, as asset managers become more familiar with derivatives products and liquidity improves, there will be opportunities for asset managers to shift portfolios and increase their use of such products as credit derivatives and IRSs. The wide-ranging applications for interest rate and credit derivatives in the foreign investment management industry showcase the potential of derivatives’ use in the domestic market. In foreign asset management products—especially hedge fund products—interest rate and credit derivatives are used not just as a hedging tool, but also in return enhancement strategies, allowing foreign hedge funds to obtain stable excess returns in their derivatives strategies.

2.1.5 Insurance Companies

According to the "Measures for the Administration of the Utilization of Insurance Funds" issued by China Insurance Regulatory Commission (CIRC),¹⁰⁷ insurance companies can invest funds into the following asset classes approved by the state council: bank deposits, bonds, stocks and shares of securities investment funds, and others.¹⁰⁸ Each asset class has a prescribed cap on investment size. As of 2019, the respective amount outstanding of each asset class was USD 365.1 billion (14 percent), USD 926.7 billion

¹⁰⁵ 《中国人民银行 中国银行保险监督管理委员会 中国证券监督管理委员会 国家外汇管理局 关于规范金融机构资产管理业务的指导意见》，“Guiding Opinions of the People's Bank of China, the China Banking and Insurance Regulatory Commission, China Securities Regulatory Commission, and the State Administration of Foreign Exchange on Regulating the Asset Management Business of Financial Institutions”, http://www.gov.cn/zhengce/zhengceku/2018-12/31/content_5433072.htm.

¹⁰⁶ Standard assets are defined as tradable fixed-income instruments or equities. All other assets are classified as non-standard.

¹⁰⁷ 《保险资金运用管理办法》，"Measures for the Administration of the Utilization of Insurance Funds", http://www.gov.cn/gongbao/content/2018/content_5288834.htm.

¹⁰⁸ Includes investments in self-use real estate, equity holdings, infrastructure investments, etc.

(35 percent), USD 352.6 billion (13 percent), and USD 1,036.9 billion (39 percent)¹⁰⁹, respectively. The use of derivatives by insurance companies is capped at a certain percentage of the underlying assets' notional value to ensure they are only used for hedging.¹¹⁰

In addition, insurance funds must be managed by institutions with qualified investment management capabilities set out by relevant regulatory bodies. This is commonly achieved by establishing an asset management subsidiary or entrusting the funds to a qualified third-party investment manager such as securities, futures, or asset management companies.¹¹¹ According to research by Insurance Asset Management Association of China conducted in 2019, 73 percent of insurance funds were managed by the insurance groups' own asset management arms, 25 percent through companies' direct investments in asset management products, and 2 percent by third-party investment managers.¹¹²

According to the "Notice by the General Office of CBIRC of Issuing Three Documents Including the Measures for the Participation of Insurance Funds in Financial Derivatives Trading," qualified insurance asset managers may utilize derivatives in two ways: to efficiently manage and reduce existing risk exposure arising from mismatches between asset and liability positions, and to hedge for prices of future trades needed to meet policy payout requirements. Insurance companies are permitted to trade derivatives OTC and on exchanges if they meet relevant regulatory requirements.¹¹³ However, in practice, insurance companies usually favor exchange-traded derivatives (i.e., government bond futures and index futures), due to the various challenges arising from OTC derivatives trading, such as non-standardized trading contracts, higher requirements of expertise, more regulatory oversight, etc.

Index futures are used to hedge price fluctuations arising from insurance funds' positions in equities, and are expected to take on a bigger role following support from various policies. From 2013 to 2019, the value of investments in stocks and shares of securities investment funds held by insurance companies grew at 21 percent CAGR and accounted for 13.2 percent of their total investment assets.¹¹⁴ This growth

¹⁰⁹ <https://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=887993&itemId=954&generaltype=0>.

¹¹⁰ 《中国银保监会办公厅关于印发保险资金参与金融衍生产品交易办法等三个文件的通知》, "Notice by the General Office of the China Banking and Insurance Regulatory Commission of Issuing Three Documents Including the Measures for the Participation of Insurance Funds in Financial Derivatives Trading", CBIRC, <https://www.cbirc.gov.cn/cn/view/pages/governmentDetail.html?docId=912893&itemId=861&generaltype=1>.

¹¹¹ 《保险资金委托投资管理暂行办法》, "Notice of the China Insurance Regulatory Commission on Issuing the Interim Administrative Measures for the Entrusted Investment of Insurance Funds", CIRC, http://www.gov.cn/gzdt/2012-07/24/content_2190507.htm

¹¹² <http://finance.sina.com.cn/zl/china/2020-10-21/zl-iiznezxr7217674.shtml>.

¹¹³ 《中国银保监会办公厅关于印发保险资金参与金融衍生产品交易办法等三个文件的通知》, "Notice by the General Office of the China Banking and Insurance Regulatory Commission of Issuing Three Documents Including the Measures for the Participation of Insurance Funds in Financial Derivatives Trading", CBIRC, <https://www.cbirc.gov.cn/cn/view/pages/governmentDetail.html?docId=912893&itemId=861&generaltype=1>.

¹¹⁴ 保险业经营情况表, "Insurance business operation table", CBIRC

trend may be further encouraged by the relaxation of an investment cap on equities allocation.¹¹⁵ Furthermore, other easing measures on market participation have been outlined in the new regulation specific to index futures trading, such as adjustment of the cap on index futures position (as a percentage of the total investment size) from a previous 30 percent to 45 percent, and extension of the holding period of products used to hedge future investments, from one to three months.¹¹⁶

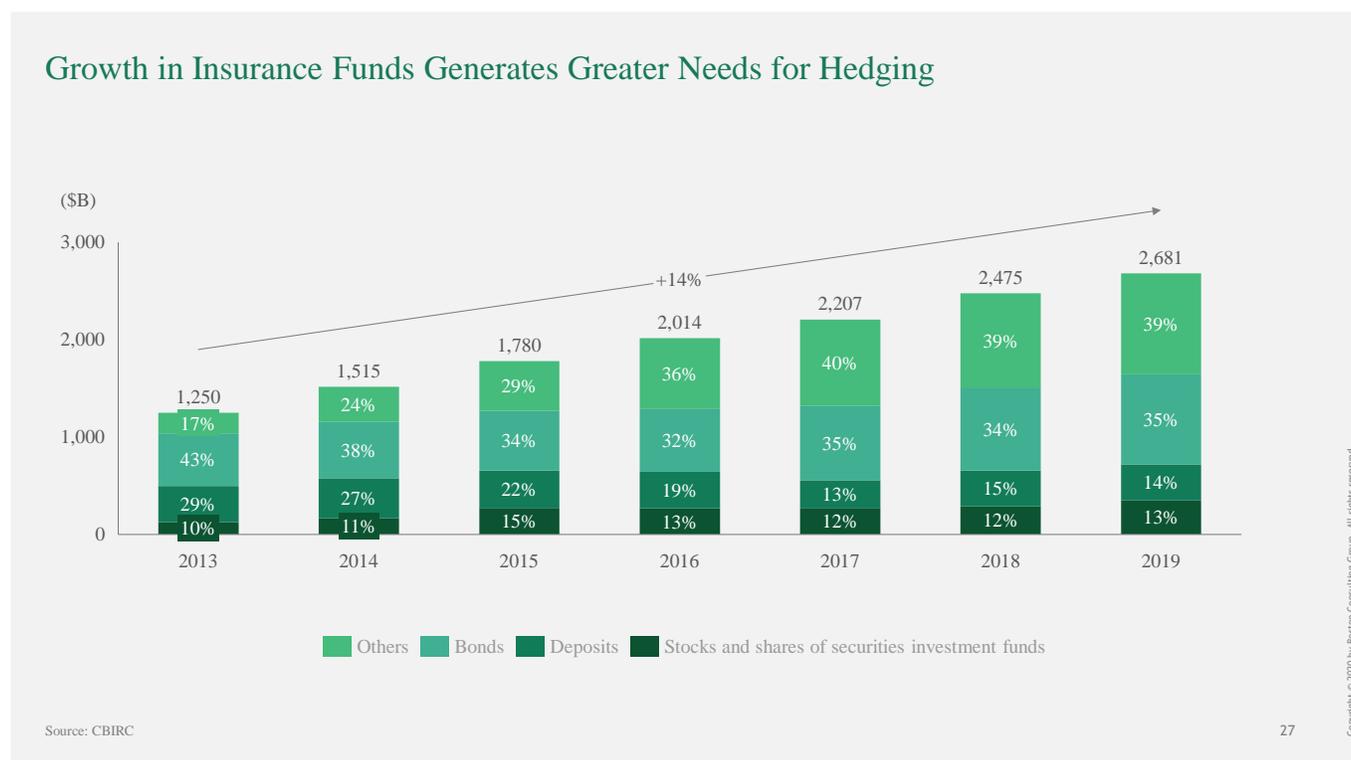


Figure 25. Insurance funds investment breakdown

¹¹⁵ 《中国银保监会办公厅关于优化保险公司权益类资产配置监管有关事项的通知》，“Notice by the General Office of the China Banking and Insurance Regulatory Commission of Matters Concerning Optimizing the Regulation of the Allocation of Equity Assets of Insurance Companies”, CBIRC, http://www.gov.cn/zhengce/zhengceku/2020-07/19/content_5528207.htm.

¹¹⁶ 《保险资金参与股指期货交易规定》，“Notice of the China Insurance Regulatory Commission on Issuing the Provisions on the Participation of Insurance Funds in the Stock Index Futures Trading”, CBIRC, <https://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=912868&itemId=916&generaltype=0>

Having been granted trading access in 2020, insurance companies are expected to begin using government bond futures to hedge interest rate risks arising from positions in interest-rate-linked products.¹¹⁷ In the case of asset liability management, in 2019, Chinese life insurance companies had an average asset duration of 5.8 years and an average liability duration of 12.4 years, generating a gap of 6.7 years.¹¹⁸ Investments in longer-duration government bond futures, particularly with the preparation for launch of 30-year government bond futures, would help increase the duration on the assets' side of the balance sheet and lower the risk of reinvestments.

2.1.6 Corporates (nonfinancial institutions)

Using derivatives to mitigate risks in daily operations by corporates is a common practice in China. There are two main types of corporates that trade and use derivatives in China, each with its own type of trading behavior. The first is trading companies that import, export, and distribute products and materials. These companies trade actively in several derivatives products to match their businesses with various customers across their product offerings. The second is corporates that produce commodities (e.g., agriculture companies) or use raw materials (e.g., manufacturing companies) as part of their core business. These companies often trade in large quantities of only a few derivatives products to safeguard the stability of their operations.

Corporates trade derivatives in order to hedge price movements and ensure stable and healthy cashflow. FX derivatives are the most commonly traded instruments by corporates to mitigate risks arising from conducting import and export business in foreign currencies. Furthermore, corporates also use interest rate derivatives to maintain cashflow stability in their loan and bond obligations. Some corporates do not have access to the exchange-traded market, so in order to hedge their risk exposures they trade OTC derivatives with commercial banks. To hedge against price movements in commodities, corporates transact commodities derivatives with securities and futures companies and other corporates.

As the market develops, derivatives will continue to be an essential tool for corporates to reduce risk and enhance cashflow stability. Corporates are expected to gradually increase their use of derivatives as their core business trading volumes grow. This should translate to greater trading volumes by commercial banks, as each bank's derivatives trading business is partially driven by corporate needs. At the same time, as

¹¹⁷ 《关于商业银行、保险机构参与中国金融期货交易所国债期货交易的公告》，“Announcement for the Participation in the Treasury Futures Transactions at the China Financial Futures Exchange by Commercial Banks and Insurance Institutions”, CSRC, MoF, PBOC, CBIRC, http://www.csrc.gov.cn/pub/zjhpublic/zjh/202002/t20200221_371034.htm.

¹¹⁸ <http://finance.sina.com.cn/zl/china/2020-10-21/zl-iiznezxr7217674.shtml>.

banks develop their capabilities to provide more complex and diversified products, corporates will be key end users.

2.2 Non-PRC participants with China presence

Non-PRC participants can establish locally incorporated entities with approval from either CBIRC or CSRC. Subsidiaries or branches of foreign firms operating in China are governed by the regulatory framework for onshore entities and participate in the derivatives market as onshore entities.

The three main types of such non-PRC market participants are commercial banks, investment banks,¹¹⁹ and asset management companies.

Asset management companies can establish onshore presence by applying as a wholly foreign-owned enterprise (WFOE) or a licensed private fund manager of a wholly foreign-owned entity (PFM WFOE).

Non-PRC commercial banks operating onshore use derivatives much the same way PRC commercial banks do: to hedge risks from their FX firms that cater to international corporates with businesses in China and manage risks from local loan business. Additionally, foreign banks act as the primary market maker of FX and interest rate derivatives in foreign currencies in China, while some of them also provide custodian services for other overseas financial institutions to trade in the China onshore derivatives market.

Foreign-owned securities companies participate in China's derivatives market to both provide Chinese FICC and equities products to their international institutional investors and leverage their expertise and operations abroad to offer products to Chinese investors.

Foreign asset management companies have taken advantage of the relaxation on rules and set up domestic operations that tap into the growing fund industry in China, which stood as the fifth largest in the world in 2020 according to the *Financial Times*.¹²⁰ Similar to their local competitors, foreign asset management companies trade derivatives in order to optimize the risk and return profiles of their product portfolios.

As more international companies look to enter and increase their business operations in China, foreign-owned commercial banks and securities companies will continue to expand in order to better serve their customers. In addition, foreign-owned asset management companies are expected to aggressively expand their onshore operations as they look to compete with domestic players for investors. This will in turn drive greater demand for a derivatives market with diverse products and a higher trading volume. However,

¹¹⁹ Investment banks are financial institutions in North America and Europe that perform similar functions to securities companies in China.

¹²⁰ <https://www.ft.com/content/3b001443-b63c-44ee-8cb5-fc8807ca3bb9>

there are also several challenges that limit non-PRC participants' use of derivatives in China. First, non-PRC financial institutions usually follow regulatory principles of their own countries, and ISDA master agreements are usually used in cross-border transactions, which can differ from Chinese local regulations. Furthermore, most participants leverage group resources globally to support onshore subsidiary operations, including providing legal support and managing risks on an aggregate level. Differences in business practices could create uncertainties and risks, making participants more cautious about conducting trades in China. As a result, derivatives use by these players is expected to increase in the long term, but a strong and robust increase would benefit from more regulatory alignment.

2.3 Non-PRC participants without locally incorporated subsidiaries onshore

China's capital market is among the largest in the world, and the gradual opening of its derivatives market has attracted non-PRC market participants to trade in it. From the introduction of investment schemes for foreign institutions in 2001 to allowing foreign ownership of locally incorporated financial institutions to launching direct investment programs with no investment quota for offshore participants, non-PRC players currently have multiple channels to access China's derivatives market. As of December 2019, non-PRC participants held bonds and stocks worth USD 630 billion in China.¹²¹

Currently, foreign investors can access China's domestic financial market through three methods:

The QFI program, the inter-bank bond market (CIBM Direct), and the Bond Connect scheme. Following a series of policy relaxations in November 2020, QFII and RQFII, the two main inbound investment schemes in China, were integrated into QFI.¹²² In 2016, CIBM Direct was launched as a further step in opening up China's financial markets to a wider range of international investors. The third scheme, Bond Connect, was introduced in 2017 as a cross-border platform linking the financial infrastructures of mainland China and Hong Kong for trading, settlement, and custody of the CIBM bonds.

¹²¹ 2019 SAFE statistics.

¹²² 《合格境外机构投资者和人民币合格境外机构投资者境内证券期货投资管理办法》，CSRC, PBOC, and SAFE released the “Measures for the Administration of Domestic Securities and Futures Investment by Qualified Foreign Institutional Investors (QFII) and RMB Qualified Foreign Institutional Investors (RQFII)” on September 25, 2020. http://www.csrc.gov.cn/pub/zjhpublic/zjh/202009/t20200925_383650.htm

Table 3. Comparison between QFI, CIBM Direct, and Bond Connect

		QFI	CIBM Direct	Bond Connect
Eligible Investors		Commercial banks, securities companies, asset management companies, insurance companies, other institutional investors such as pension funds, charitable foundations, and trust companies	All foreign institutional investors	All foreign institutional investors
Eligible Derivatives Products	Exchange Traded Futures/Options	✓		
	Bond Forward, IRS, FRA	✓	✓	
	FX Derivatives	✓	✓	✓
Trade Size		None	Normally RMB 10 million minimum as industry conventions	RMB 100,000 minimum and incremental as per each security
Registered Investors		295 QFII, 230 RQFII (as of May 2020) ¹²³	392 (as of Sep 2020) ¹²⁴	594 (as of Nov 2020) ¹²⁵
# of Market Makers		Not applicable	11 (as of Jun 2020) ¹²⁶	56 (as of Apr 2020) ¹²⁷

In a move to encourage more foreign investors in China’s financial market and further open up access to foreign investors, over the last couple of years, regulators have been announcing new regulations aimed at simplifying application procedures and unifying rules for various investment channels, as well as removing lock-ups, quotas, and other requirements. In addition to the integration of QFII/RQFII, on

¹²³ Data published by SAFE: QFII, <https://www.safe.gov.cn/big5/big5/www.safe.gov.cn:443/safe/2018/0425/8881.html>; RQFII, <https://www.safe.gov.cn/big5/big5/www.safe.gov.cn:443/safe/2018/0425/8882.html>

¹²⁴ Data from CFETS, exclude overseas central banks and related institutions, <http://www.chinamoney.com.cn/english/mdtmbrmm/#overseas-mkt-mak-1-anchor>

¹²⁵ Bond Connect-approved investors (excluding unincorporated entities), <https://www.chinabondconnect.com/en/Onboarding/Approved-Investors.html>

¹²⁶ Data from CFETS, Bond market makers, including trial market makers, <http://www.chinamoney.com.cn/english/mdtmbrmm/#overseas-mkt-mak-2-anchor>

¹²⁷ Bond Connect market makers, <https://www.chinabondconnect.com/en/Trading/Trading-Bc/Market-Makers.html>

September 1, 2020, CIBM Direct launched an electronic service for foreign investors to trade bonds on China’s interbank bond market, thus allowing direct access to market makers and eliminating agent banks.

Non-PRC participants without locally incorporated subsidiaries are driven by the needs of their offshore clients to trade on the onshore China derivatives market. Offshore clients can become exposed to asset prices such as physical commodities through trades with Chinese companies; and for offshore clients that do not have direct access to the onshore China derivatives markets, they hedge their risks through an offshore financial institution. The offshore financial institutions could then access the onshore market through one of the three access programs to gain exposure to the assets to pass on to their clients. Currently, non-PRC participants have access to exchange traded derivatives and products on the interbank market.

Similar to non-PRC participants onshore, offshore participants are expected to increase their derivatives trading activities as international companies engage in more trades with Chinese companies and participate more in the China market. However, despite there being multiple ways to enter the derivatives market, the fragmentation between the programs and limits on product availability of each of the programs hinders participants’ ability to trade efficiently. As a result, participation from non-PRC participants from offshore channels will only gradually increase as access channels are developed and more products are made available.

Table 4. Summary of market participants

Type	Participant	Most Traded Product Type	Purpose for Derivative Use	Trend/Demand
PRC Players	Commercial bank	<ul style="list-style-type: none"> • FX swaps • Interest rate swaps 	<ul style="list-style-type: none"> • Manage risk on the balance sheet • Market making and trade facilitation • Achieve desired risk exposure 	<ul style="list-style-type: none"> • Demand for FX and interest-rate derivatives remain steady growth while diversifying instruments (e.g., bond futures, interest-rate options) • Increase usage of credit derivatives
	Securities companies	<ul style="list-style-type: none"> • Interest rate • Equities 	<ul style="list-style-type: none"> • Managing risks on own books • Market making and trade facilitation • Asset mgmt. product • Hedge for proprietary investment strategies 	<ul style="list-style-type: none"> • Demand for interest-rate derivatives remain steady • Strong growth in OTC equity derivatives

Type	Participant	Most Traded Product Type	Purpose for Derivative Use	Trend/Demand
	Futures companies	<ul style="list-style-type: none"> • Commodities • Equities 	<ul style="list-style-type: none"> • Provide brokerage services • Market making and trade facilitation* • Hedge for proprietary investment strategies* 	<ul style="list-style-type: none"> • More features companies to start risk mgmt. subsidiary • Increased investment in non-commodities derivatives
	Asset managers	<ul style="list-style-type: none"> • Equities • Interest rate (determined by the strategies outlined in the investment products) 	<ul style="list-style-type: none"> • Achieving superior risk-adjusted returns for investors • Efficient portfolio management purposes • Use of derivatives as more flexible alternative to changing the risk profiles of trading portfolios 	<ul style="list-style-type: none"> • After the “New AM Regulation” was issued, more demand for structured products and complex derivatives
	Insurance companies	<ul style="list-style-type: none"> • Equities • Interest rate 	<ul style="list-style-type: none"> • Managing existing risk exposure due to mismatch between asset and liability positions • Hedging for price of future trades needed to meet policy payout requirements 	<ul style="list-style-type: none"> • Encouraged by the relaxation of regulation, more investment in derivatives is expected • Use of long-term government bond futures to hedge interest rate risks arising from positions in interest-rate-linked products
	Corporates	<ul style="list-style-type: none"> • FX • Interest rate • Commodities 	<ul style="list-style-type: none"> • Mitigating risks in daily operations • Safeguarding the stability of operations • Hedging price movements 	<ul style="list-style-type: none"> • Increased use of derivatives to ensure a stable and healthy cashflow

Type	Participant	Most Traded Product Type	Purpose for Derivative Use	Trend/Demand
	Non-PRC Participants with locally incorporated subsidiaries	<ul style="list-style-type: none"> • FX • Equities • Interest rate • Commodities 	<ul style="list-style-type: none"> • Hedging risk from FX business and local lending business • Market making (mainly FX derivatives) • Provide Chinese derivatives products to their international institutional investors • Optimizing the risk and return profiles of their product portfolios 	<ul style="list-style-type: none"> • Aggressively expanded onshore operations for better competition leading to increased demand for derivatives products • Increased derivatives trading as international companies engage in more trades with Chinese companies
	Non-PRC Participants without locally incorporated subsidiaries	<ul style="list-style-type: none"> • FX • Commodities • Equities • Interest rate 	<ul style="list-style-type: none"> • To help their offshore clients trade on the onshore China derivatives market 	<ul style="list-style-type: none"> • Increased derivatives trading activities as international companies engage in more trades with Chinese companies and participate more in the China market

3 Benefits of a robust, safe, and efficient derivatives market for China

In 2020, the CPCCC revealed its long-range objectives—through the year 2035—outlining China’s determination to continue its strong and stable growth trajectory over the next 15 years. As stated in its 14th Five-Year Plan,¹²⁸ China has entered into a stage of high-quality and coordinated development. The new development pattern of “dual circulation”—which focuses on expanding domestic demands, boosting consumption, advancing scientific and technological innovation, and maintaining the security of its industrial supply chains—is set to be the central strategy for the next phase of high-quality development in China. Externally, China will continue to improve its business environment and better facilitate foreign investments in an effort to meet expectations of a long-term stable development.

To support these development objectives, new and higher requirements are being put forward on the capital markets. December 2020 marked 30 years since the creation of both SSE and SZSE. During that time, the conditions for high-quality development of a disciplined, transparent, open, vibrant, and resilient capital market have only been strengthened.¹²⁹ The efforts moving forward will focus on the continued formation of a complementary multilayer¹³⁰ capital market by the promotion of direct financing, development of the OTC market, greater innovation in the bond market, etc. In addition, SAFE also has highlighted its determination to focus on the two-way opening of the financial market and promote the opening of capital projects in a steady and orderly manner.¹³¹

The derivatives market performs the essential risk management function of transferring and redistributing financial market risks, and thus optimizing the market risk structure in the multilayer capital market. By continuing to develop the efficiency and robustness of its derivatives market, China can benefit in four main areas aligned to its strategic goals: (1) better risk management; (2) transparent price discovery; (3) cheaper financing and products to stimulate the real economy; and (4) accelerated opening of the capital market and attracting of foreign investment.

¹²⁸ 《中华人民共和国国民经济和社会发展第十四个五年规划和 2035 年远景目标纲要》，“CPCCC’s Proposals for the Formulation of the 14th Five-Year Plan (2021–2025) for National Economic and Social Development and the Long-Range Objectives Through the Year 2035” (“the Proposals”).

¹²⁹ From the speech of the chairman of CSRC in the 30-year anniversary symposium on Dec 28, 2020.

¹³⁰ China has a multilayer capital market—a layered market structure according to diversified market capital demand, allowing for more companies to have access to direct financing. For example, for equity market, this includes Main Boards (securities exchange), Small & Medium Size Enterprise Board, and OTC market.

¹³¹ 《2021 年上海市外汇管理工作会议召开》，“Foreign Exchange Control meeting of Shanghai 2021”, SAFE, <https://www.safe.gov.cn/shanghai/2021/0115/1442.html>.

1. Better risk management

A stable and resilient financial market is an essential component in the development of a domestic economy and encouraging foreign investment. While Chinese regulators have long been focused on enhancing the stability and safety of the financial system, the derivatives market could play a larger role in achieving this goal. By improving the derivatives market and providing diverse hedging tools, the Chinese government could enable enterprises to effectively lower and mitigate risks while they employ financial tools in the capital market in order to catalyze both business expansion and innovation. With prudential oversight over trading, both externally (regulators) and internally (managements), derivatives allow companies and investors to maintain healthier balance sheets and more-stable cash flows—and greatly reduce the likelihood of financial distress.

Therefore, by using derivatives for risk management, the capital market becomes more attractive for companies. And as individual enterprises enhance their risk management abilities, systemic risks within the overall economy are ultimately reduced. This not only elevates the financing function and efficiency of the capital market, but also provides the fuel for innovation from young companies, thereby creating a positive cycle that taps the potential of “internal circulation” and improves the business environment to cultivate “external circulation.”

2. Transparent price discovery

Derivatives play a vital role in the determination of the rational market price of an asset, which not only is dependent on the current spot price, but also on predicted future prices. Price discovery refers to the use of derivatives prices to predict future spot market prices of an underlying asset; futures and forwards are particularly important, as they serve to help converge market views and showcase the market-accepted price of an asset. Regulators and central banks can use this information when making decisions about development policies or strategy, as well as when reacting to challenges brought on by changes in the external environment. For companies, this information helps provide transparency to the market and facilitate participation.

Furthermore, for commodities pricing, China can greatly benefit from developing a derivatives market that can compete with key international commodities marketplaces. In 2019, China was the biggest buyer of soybeans, copper, steel, and crude oil, accounting for 29.6 percent, 53.7 percent, 51.3 percent, and 14.8 percent, respectively, of global consumption.¹³² The most-traded futures price benchmarks are listed on

¹³² Data collected from US Department of Agriculture, International Copper Study Group, World Steel Association, BP Statistical Review of World Energy

foreign exchanges such as Chicago Board of Trade (CBOT), London Metal Exchange (LME), Chicago Mercantile Exchange (CME), and New York Mercantile Exchange (NYMEX). Lack of participation from China in setting prices can put Chinese companies at a great disadvantage, causing higher import prices and reducing the efficiency of major projects, such as the One Belt One Road program. However, China has various initiatives underway to boost its influence in the key commodities markets, such as rolling out crude oil futures on SHFE in 2018 and the new copper futures on the Shanghai International Energy Exchange (INE) in 2020. By developing a commodities derivatives market with the scale and breadth to match international markets, Chinese companies can actively influence the setting of rational prices that take into account China's demand and supply—with the benefits in turn trickling down to the physical domestic economy.

Example: **International copper futures' launch is a boost to China's influence on pricing**

In November 2020, following similar initiatives in recent years for crude, iron ore, and other commodities, a new international copper futures contract was launched on INE that was open to foreign firms and traders. This new copper futures contract is denominated in RMB and is free of taxes and customs duty, as delivery is into bonded warehouses.

The parent company of INE, SHFE, has a domestic copper contract that is not accessible to foreign market participants. The pricing of the copper contract on SHFE serves as the benchmark price for spot copper trading only in the local market, while the international copper pricing benchmark (including the copper stored in Shanghai bonded warehouses) is the LME contract, and the CME Group's copper contract in the US.



Launching the new futures contract serves multiple strategic ends:

- **Provides a cheaper and easier path for domestic traders to hedge international price exposure** by reducing FX risks and foreign brokerages fees, thereby avoiding a long settlement process, etc.
- **Gets a higher level of influence on pricing in the key commodities market**, as China accounted for 54 percent of the world's copper consumption in 2019.
- **Boosts RMB adoption** and serves as a push to China's effort to internationalize its currency.

“It is expected that international copper futures will demonstrate its advantages and become one of the pricing benchmarks for cross-border copper trade in the Asia-Pacific time zone in the near future, and contribute to China’s pricing influence in the global commodity market and promote the internationalization of the RMB.” – Xinghai Fang, vice chairman of CSRC.

Reference:

- *Financial times*, <https://www.ft.com/content/2e4c4bbe-8a74-48b8-bbf0-7635e1bec855>.
- *China Securities Journal*, http://www.cs.com.cn/xwzx/hg/202011/t20201120_6112990.html.

3. Cheaper financing and products to stimulate the real economy

Healthy derivatives markets help contribute to overall market efficiency and liquidity through multiple factors (e.g., hedging positions effectively, trading in and out of markets at desired times, continuous price updates, etc.). This translates into lower funding costs due to narrower bid-ask spread and increased competitive participation (by investors and intermediaries). On an indirect level, the use of derivatives can impact economic growth through different channels. Derivatives provide a risk management function that is inseparable from the financing function. On the one hand, banks benefit from additional protection against interest rate, market, and credit risks, which in turn allows them to provide more credit. Thus, banks take up the role of an intermediary by channeling funds to productive industries and increasing credit issuances, thereby providing the necessary financing to stimulate the growth of a domestic-consumption-driven economy. Domestic programs such as new infrastructure and smart cities benefit from a cheaper and more readily deployable capital financing system. By using derivatives, both the financing function and the efficiency of the capital market are continuously improved. In addition, hedging reduces the probability of corporate financial distress and the likelihood that equity holders will pass up potentially value-generating projects; corporates that use derivatives for better risk control experience increased cash flows, lower capital costs, and fewer financial constraints. This leads to more efficient allocation of resources, productive investments, and greater economic growth.

Example use case: Use of credit derivatives products to mitigate risks in bond market

Increasing the proportion of direct financing is essential for building a transparent, open, dynamic, and resilient capital market. Derivatives products such as CRMW serve as critical hedging tools to boost investor confidence and facilitate a more stable and robust bond market. In 2019, 91 CRMWs (RMB 10 billion) were issued to support 62 private enterprises, covering a broad range of private sectors such as industrial, materials, technology, etc.

The first technical default event involving CRMW was in February 2019, when an investor protection clause on two of Beijing Orient Landscape & Environment Co Ltd.'s ("Orient Landscape") bonds was triggered. On the day of the technical default, the valuation of 19 China Minsheng Bank CRMW001 rose rapidly, from RMB 3.04 to RMB 6.46, while the referencing bond 19 Orient Landscape SCP001 fell from RMB 99.78 to RMB 96.35. For investors holding the CRMW+ reference bond portfolio, the total value slightly decreased from RMB 102.82 to RMB 102.81, yielding a one-day return of -0.01 percent, while investors without positions in hedging tools suffered a single day loss of -3.43 percent. In this case, CRMW tools effectively helped investors mitigate the risks brought on by the technical default of Oriental Landscape.

References:

- PBOC, http://www.gov.cn/zhengce/2018-10/27/content_5334976.htm
- Market Research on Chinese CRM products, 2019, China Finance Net, <http://www.financeun.com/newsDetail/34636.shtml>.

4. Accelerated opening of the capital market and attracting of foreign investment

Further liberalizing and expanding the financial system are vital steps in attracting foreign investment and fostering international trade. As a result of the “dual circulation” strategy, the demand for the market to actively manage exchange rate risks will be greater.

A stable and safe derivatives market with a robust infrastructure and established market practices helps contribute to improved capital market structures, thus allowing for increased international integration. The use of derivatives products such as FX swaps and currency options not only allows domestic companies and investors to actively manage risks, but also increases the attractiveness for foreign investors to participate in the local market. China has long been a growth engine for the global economy, and investors are attracted to growth opportunities. Having the tools to better hedge against risks—along with transparent and rigorous market rules—can alleviate concerns foreign investors have over investing, and thereby enable a greater inflow of capital into China’s economy.

Example use case: Development of derivatives market is critical to further inclusion of A shares into global indices, thereby attracting foreign investments

Inclusion of onshore A shares in major global equity indices was an important milestone for internalization of the PRC capital market. Not only did it demonstrate increasing confidence of global investors to the PRC market, but it also marked the recognition of financial reform of China’s capital market.

Critical milestones:

Indices	Events
MSCI (Morgan Stanley Capital International)	<ul style="list-style-type: none"> Increased weight of China A shares in MSCI EMI (Emerging Markets Index) and MSCI ACWI (All Country World Index) since 2017, reaching a composition of 4% and 0.5%, respectively in 2019 Quadrupled the inclusion factor of Chinese large cap stocks from 5% to 20% in 2019
FTSE	<ul style="list-style-type: none"> Completed first phase inclusion of China A shares into its global equity benchmarks in 2020, leading to China A shares comprising approximately 6% of the FTSE Emerging index, and inclusion of 1,051 large, medium, and small-cap China A shares in the FTSE Emerging All Cap Index
S&P	<ul style="list-style-type: none"> Started inclusion of China A shares in S&P Global BMI index and other benchmark indices since 2019, including over 1,000 A-shares stocks with an inclusion factor of 25%

The phased-in inclusions have brought sizeable foreign capital into the onshore market as investors automatically shift their portfolio to include more A shares. In the case of MSCI inclusion, **the total Northbound Connect portfolio value has grown by USD 84 billion.**

A safe and robust derivatives market would further contribute to these developments, as it is considered one of the key factors for both indices’ inclusion and further weighting increases.

- FTSE outlined "**Developed Derivatives Market**" as one of the criteria when evaluating the quality of equity markets.
- MSCI announced that China A share's weighting would further increase if the regulators could take initiatives toward areas including access to **hedging and derivatives**, short settlement cycle of China A shares, trading holidays of Stock Connect, and availability of Omnibus trading mechanism in Stock Connect.

References:

- "MSCI Completes the Successful Implementation of Final Phase of the 20% Partial Inclusion of China A Shares in MSCI Indexes," 2019, MSCI.
- "Further Weight Increase Of China A Shares In MSCI Indexes," 2019, MSCI.
- "FTSE Russell completes landmark inclusion of China A Shares," 2020, FTSE Russell.
- "FTSE QUALITY OF MARKETS CRITERIA (ASIA PACIFIC)," 2020, FTSE Russell.
- "China A-Share Inclusion – An Update One Year Later," 2020, S&P Global.

Together, the four benefits outlined can lead to a much stronger and more comprehensive capital market in China, and help further its national goals. Increasing the scale and breadth of China's capital market and fostering greater vibrancy of trades with international participants within the Chinese economy will bolster the use of RMB and further accelerate the internationalization of RMB as a global trading reserve currency.

4 Recommendations to develop the market

As outlined in Chapter 3, derivatives can play an important role in accomplishing China’s economic goals. The evolution of the derivatives market is largely dependent on the functioning and size of the underlying capital market. As China begins to move toward rebalancing its capital funding from a model in which banks act as the main intermediary providing loans to one with direct financing from the capital markets, the growth of the underlying capital market will lead to greater demand of derivatives and drive the expansion of its use.

Conversely, continued development of the capital market—and broader participation therein—will be challenging without a similarly scaled derivatives market, as a well-functioning derivatives market underpins an efficient, developed capital market. A dynamic and liquid derivatives market is essential to enabling derivatives to both become an effective tool for managing risks and act as a price-discovery function.

In the absence of a vibrant market, institutional investors are faced with the additional risk of being unable to enter and exit positions in a timely manner, which can lead to impacts on pricing which ultimately affects the end user. While adequate regulation and controls should be in place to safeguard derivatives activities, the framework under which the market operates should evolve as the overall marketplace and its users also evolve. This chapter explores opportunities and recommendations to further develop and strengthen the market under 4 themes:

1. **Risk Governance:** Strengthen firms’ risk governance framework for financial instruments; promote the use of derivatives as a risk management tool by building industry capabilities and expertise.
2. **Market Structure:** Broaden market access for both domestic and foreign participants; increase product breadth and promote derivatives use; and improve market liquidity and price transparency.
3. **Credit and Market Risk Management:** Establish an efficient risk management framework for managing both counterparty and market risk; empower risk mitigation by confirming the enforceability of close-out netting and related financial collateral arrangements, and promoting collateral management efficiencies and capabilities; enhance the risk management capabilities of CCPs as key financial market infrastructures, ensure all CCPs’ compliance with PFMI standards and seek recognition/registration/exemption for all Chinese CCPs as QCCP for major global markets.

4. **Regulatory Framework:** Improve regulatory transparency and engagement between regulators and market participants.

4.1 Risk Governance

4.1.1 Strengthen the risk governance framework around using financial instruments

To help meet the increasing need for financing as the Chinese economy continues to grow, derivatives can both aid and adversely impact the various levels of risk held by corporates. While SASAC has already developed and published a set of risk management principles for SOEs to adopt for their derivatives operations, non-SOEs must show greater awareness and adopt similar practices.¹³³ Many financial and nonfinancial institutions in China have recognized the importance of a robust risk management practice and have organized risk governance models based on the Three Lines of Defense approach. The first line in the model refers to the business units that engage in activities that might create risk – these business units are responsible for risk management at the operational level in accordance with agreed policies, risk appetite, and internal controls. The second line of defense usually comprises risk and other functional units, which are responsible for the development of specific risk guidelines, policies, processes and controls that are in line with regulatory requirements and agreed risk appetite. The third line is the internal audit department, which is responsible for providing an independent assurance of the design and effectiveness of internal risk management. While each institution may have varied implementation models in place for risk governance, they must continuously strengthen their risk frameworks. Doing so safeguards market participants’ stability and resilience.

Recommendations:

Advocacy is needed for financial institutions and corporates to strengthen risk governance frameworks. The following are ways the Three Lines of Protection approach could be strengthened:

- First-line of protection:
 - a. Conduct timely and adequate training for frontline staff to effectively identify and manage inherent risk; improve inline due diligence comprehensiveness, transaction validity, and embedded operational compliance; and strengthen risk awareness and ownership.

¹³³ 《关于切实加强金融衍生品业务管理有关事项的通知》，“Notice on matters related to effectively strengthening the management of financial derivatives business,” SASAC, http://www.gov.cn/zhengce/zhengceku/2020-01/20/content_5471019.htm.

- b. Reinforce checks and balances by both setting up business-unit-level risk management functions to conduct specific market and client-facing risk control and establishing matrix reporting mechanisms.
- c. Undertaking a disciplined approach to risk management by regularly conducting risk and control self-assessments.
- Second-line of protection:
 - a. Establish effective risk management policies, charters, guidelines, and oversight and diligently undertake firm-wide risk identification, assessment, monitoring, and control.
 - b. Ensure risk management independence by having firm-wide matrix reporting in place and centralizing risk and other relevant functional units as needed.
 - c. Exert full compliance oversight, monitoring, and control of risk management policy implementation and ensure effectiveness of control measures.
 - d. Review and challenge the first line on the effectiveness of its risk and control practices.
- Third-line of protection:
 - a. Strengthen risk-oriented internal compliance, prioritize key risk areas, disclose material malpractices and risks, conduct re-assessment of firm-wide risk, and produce independent report to board members and senior management.
 - b. Re-evaluate, challenge, and provide oversight of first- and second-line control measures and effectiveness.

Overall, the Three Lines of Protection approach must be managed through an effective governance structure with clear lines of accountability, with mechanisms in place for reporting of risk events. Additionally, culture is important when instituting a sound risk management practice. Leaders should act as role models for promoting a healthy risk culture by placing emphasis on accountability and adherence to risk management policies, guidelines and processes.

4.1.2 Promote the use of derivatives as a risk management tool

The derivatives market is still in its early expansion stage in China, so awareness of the benefits of managing risk using derivatives remains lower than in other major capital markets. As a result, market participants tend to be more prudent and cautious about utilizing derivatives. For example, a number of interviewees from SOEs averred that they value avoiding any potential losses from derivatives over the potential benefits of risk management by using derivatives.

There is an opportunity to reinforce education of market participants and demystify the use of derivatives in China. In particular, there should be greater understanding regarding:

- The role derivatives can play in China's continuing economic growth;
- The role of derivatives as a tool to mitigate risks and stabilize future cashflows;
- Various ways to manage risks using derivatives, including hedging and diversifying portfolios; and
- The importance of having robust supporting functions, such as a risk management platform, legal, compliance, accounting, etc., and to invest in talent and infrastructure.

Recommendations:

Policymakers and industry bodies should both promote greater education on using derivatives and improve awareness on topics such as the benefits of using derivatives, risk management methods, and the need to develop such capabilities as risk management systems, compliance frameworks, legal teams, etc. These can be achieved by:

- Holding regular seminars and forming working groups at leading finance and corporate industry meetings (e.g., airlines, shipping, agriculture, manufacturing). In particular, SASAC should provide guidance to promote the training and use of derivatives by SOEs to help mitigate risks;
- Providing education that imparts a holistic understanding of derivatives by recognizing that derivatives serve as tools to achieve greater risk control and financial stability to public sector officials, and encouraging them to promote the use of derivatives for risk management;
- Providing programs to develop the professional competencies of the financial industry. For example, the Monetary Authority of Singapore (MAS) and Association of Banks in Singapore (ABS) set up the Institute of Banking and Finance in 1974 to develop financial sector talent, and the Singapore government offers financial sponsorships such as the Financial Training Scheme,

the Financial Specialist Scholarship, and the Standards Training Scheme to encourage continued development of talent; and

- In order to develop thought leadership and to encourage regional and international collaboration, regulators, policymakers and industry bodies can consider setting up a center of knowledge and learning along the lines of *Sasana Kijang*, established by Bank Negara Malaysia in 2011.¹³⁴

4.1.3 Increase the number of professionals with risk management expertise

Statistics show that Shanghai has about 370,000 financial professionals, which account for only 3 percent of the city's employees. This is significantly lower than the more typical 10 percent seen in other leading world financial centers.¹³⁵ According to the 13th Five-Year Plan talent shortage catalog released by Shanghai Financial Services Office,¹³⁶ there is a significant shortage of talent with expertise in derivatives-market research and financial-product development (including in market analysis of the capital markets, FICC markets, and OTC markets; and product design of innovative wealth management products, options, futures, and commodities, etc.).

With a cohort of highly experienced and savvy market participants, derivatives will both become an advanced tool for reducing financial risks for individual institutions and lead reduced overall risk levels in the economy. In addition, regulators and policymakers will have greater confidence in the safety and stability of the market. And as more investors participate, there will be greater use of a broader range of complex products, while advanced trading strategies and technics such as short selling will be greater utilized.

Recommendations:

Both government and market participants (e.g., academics, practitioners, and market and trading infrastructure specialists) should consider introducing measures to attract international talent to help build domestic capabilities. This can be achieved by:

- Identifying financial talent shortages in support of the 14th Five-Year Plan and highlighting the talent required for developing the derivatives market in the talent shortage catalog while promoting the catalog nationwide.

¹³⁴ Sasana Kijang, <https://www.bnm.gov.my/sasana-and-lanai-kijang>

¹³⁵ Speech made by Qing Wu, vice mayor of Shanghai, <http://finance.sina.com.cn/roll/2019-04-20/doc-ihvhiqax4051054.shtml>

¹³⁶ About talent shortage catalog – “上海金融领域“十三五”紧缺人才开发目录,” <http://www.sh-italent.cn/Article/201703/201703060022.shtml>

- Promoting the establishment of advanced financial engineering courses at domestic educational institutions. Educators can teach and benchmark against leading finance courses in large financial centers such as France, the UK, and the US in the long term;
- Establishing cross-discipline courses to provide talent with financial training in specialized fields (e.g., law, computer science, statistics) in order to build supporting capabilities; and
- Relaxing restrictions on international financial talent working in China, such as recognizing foreign professional licenses, treating their overseas work experience the same as their domestic work experience, and allowing foreign professionals to take qualification exams in English, where appropriate.

4.2 Market Structure

As illustrated in the summary of Chapter 1.1, China's derivatives market is still relatively small for an economy of its size. Comparing China's derivatives market against other major developed markets shows several differences in structural characteristics:

- Unlike major markets such as in the US and UK, where the OTC markets are significantly larger than the exchange-traded markets, the notional amount of OTC derivatives traded is less than half of the exchange-traded notional amount in China. Within its OTC market, the largest asset class segment in China is FX (85 percent notional amount traded in 2019, see Figure 14), whereas interest rate is the largest asset class globally (accounting for 73 percent of all OTC derivative notional in 2019), which suggests there is major potential to develop China's interest rate market further. The market structure in China is a result of several underlying causes, chiefly the relatively involatile non-market liberalized interest rates resulting in a lack of demand and need for interest rate derivatives from financial institutions to hedge against price fluctuation risks. Other factors, such as strict regulatory requirements that limit the scale and willingness of institutional investors to carry out OTC businesses, and the absence of an established credit derivatives market to support bond market growth and hedge against increasing credit risks in the bond market, also impact market development.
- Within the exchange-traded market in China, trading volume and product development are heavily skewed toward commodities and equities, whereas in other markets, such as in the EU, interest rate is the largest asset class in terms of traded notional amount.¹³⁷ This is mainly due to the interest

¹³⁷ 2019 ESMA Annual Statistical Report EU Derivatives Markets, https://www.esma.europa.eu/sites/default/files/library/esma50_157_2025_asr_derivatives.pdf

rate market developing later than commodities and equities, and the prudent approval process to introduce new exchange-traded derivatives making the development of less established segments such as long-dated interest rate derivatives, FX derivatives, and commodities options contracts more difficult.

- There is a lack of diversity in market participants and trading strategies in China, which both impacts the balance of supply and demand of products and hinders growth in trading liquidity. This can be largely attributed to rules and strict requirements preventing certain market participants (e.g., insurance funds and asset management companies) from participating in certain markets, and controls on trading mechanisms such as short selling.

Below are four recommendations for addressing these market structure issues:

- Increase the size and variety of the market-participant base to broaden and deepen the derivatives market, and bring different derivatives uses and trading strategies to the market while improving its liquidity.
- Improve supporting measures to promote use of credit derivatives.
- Provide institutional investors with a greater variety of tools to effectively and efficiently manage risks by expanding the number of derivatives products permitted to be traded.
- Relax barriers and controls on trading activities such as short selling to facilitate greater liquidity in the markets.

4.2.1 Increase the size and breadth of the market participant base

One attribute of a well-functioning and highly liquid derivatives market is a broad range of market participants that want to actively trade derivatives products to enhance and strengthen the management of their business and financial risks. In order to have a sizable participant base, market participants must be able to trade derivatives products, in terms of both their own capabilities and what the laws and regulations allow them to do.

Firstly, the most significant difference between China's derivatives market and other major international capital markets is the relatively small interest rate derivatives market, which can be mainly attributed to lower participation by financial institutions. There is a lack of demand for market participants to hedge interest rate risk in China. In particular, before the introduction of the LPR, the main interest rates used for loans and deposits in China were policy rates which had very little volatility; and under non-market-driven pricing, the need to protect against fluctuation in interest rates is very low. The liberalization of

interest rates in China has still not been fully achieved and is still undergoing reforms. In the absence of a demand for derivatives from the physical economy, it is inherently difficult to grow the market.

On the other hand, although regulators have made meaningful strides toward easing access to the derivatives market, — such as opening bond futures to a broader range of institutions, —the diversity of market participants is still low. One reason is the high barriers intended to safeguard the stability of the market constrain liquidity and keep institutions from entering the market. For example:

- Commercial banks were not permitted to trade government bond futures until early 2020, despite holding the majority of government bonds and therefore the greatest risk exposures.¹³⁸ As of December 2020, only five commercial banks were approved by CSRC, the Ministry of Finance, PBOC, and CBIRC to participate in the government bond futures market.
- Commercial banks are the dominant market participants in the OTC derivatives market.
- Consequently, the majority of participants have similar trading objectives and strategies, which results in a lack of participants acting as offsetting counterparties, thereby reducing market liquidity. In addition, stringent rules limit the use of derivatives for such players as insurance firms and asset management companies.
 - For example, insurance funds and asset managers can only use derivatives for hedging, and not for synthetic replication transactions. This may prevent them from carrying out necessary transactions for efficient portfolio management, such as conducting macro hedging against risks across an entire portfolio, steering duration to a benchmark number using swaps, using synthetic positions to hedge more perfectly against varying cashflow, or increasing efficiency of gaining certain exposures by first employing derivatives and subsequently replacing the derivative exposure with the underlying security. The inability to use derivatives to steer duration presents particular difficulties for insurance funds, as insurance policies are of unstandardized contract durations. In addition, insurance funds can only trade credit derivatives in order to hedge risk on bonds in their portfolios, and cannot act as credit risk bearers. Insurance funds are typically active participants in other international credit derivatives markets. On the other hand, in more established markets such as in the US and Japan, insurance funds are able to use derivatives to conduct replication transactions, macro hedging, and income-generation transactions.

¹³⁸ Commercial banks accounted for 77% of the government bond outstanding balance, data as of Feb 2020, source: WIND.

- Asset management companies utilize derivatives products for efficient portfolio management, such as to hedge against risks associated with investing in underlying cash instruments. In major financial centers, investment funds are key participants in the derivatives market, contributing to enhanced breadth and depth of the market. In comparison, the China’s derivatives market lacks a high level of participation of investment funds. This is due in part to the high threshold that asset management institutions have to meet in order to carry out fund management activities. In China, asset managers must satisfy certain conditions, including both having at least three years of securities investment management experience and meeting specific asset management scale according to type of institution;¹³⁹ such barriers may be prohibitive, in particular for non-PRC asset management companies that have likely only entered the market in recent years.
- Within the OTC equity market, the equity options market currently has limited investor base under the tiering system, with only seven Tier 1 securities companies acting as market makers.
- The non-PRC institutional investor base is limited. For non-PRC market participants without subsidiaries onshore, the introduction of QFI, CIBM Direct, and Bond Connect has enabled them to participate in the onshore derivatives market. However, these programs require a great level of understanding of the different nuances and unique requirements of each. For example, non-PRC investors have access to interbank derivatives via a CIBM Direct scheme, FX derivatives hedging via Bond Connect, and select regulator-approved interbank derivatives and exchange-traded derivatives via QFI. Furthermore, Bond Connect investors can currently only trade FX derivatives with their custodians’ FX settlement agents, which reduces liquidity and the competitiveness of pricing offered to Bond Connect institutional investors.

Recommendations:

Market access should be broadened in order to both increase the size of the institutional investor base and improve investor diversity to meet offsetting derivatives needs by:

- Further promoting and implementing interest rates reforms and encouraging market participants to use interest rate derivatives to hedge interest rate fluctuations;

¹³⁹ 《资产管理机构开展公募证券投资基金管理业务暂行规定》，“Interim Provisions for Asset Management Institutions to Carry out Public Securities Investment Fund Management Business”, http://www.csrc.gov.cn/pub/newsite/flb/flfg/bmgf/jj/gszl/201310/t20131021_236629.html.

- Accelerate the implementation of permitting more commercial banks, insurance companies, and foreign institutional investors to trade government bond futures to ensure a level playing field for market participants. As of the end of 2020, only five commercial banks were included in the first batch of the pilot—which should be expanded to mid-sized banks such as joint-stock banks, etc.;
- Taking a phased-in approach to allowing insurance funds and asset managers to utilise derivatives for macro hedging against risks across an entire portfolio for synthetic replication of desired portfolio exposures, and allowing insurance funds to act as risk bearers of credit derivatives contracts—similar to other established markets such as in the US and Japan;
- Moderating qualification requirements for access to the OTC equity options market to allow more companies to trade in the market, such as by relaxing the assessment criteria for trade volume history, the value of assets under management, and number of years of trading experience in the market;
- Enhance international access to the onshore futures market by ensuring that all overseas market participants have ready access to approved Overseas Intermediaries (OIs) which can provide them with trading services on China’s futures exchanges.¹⁴⁰ This would involve widening the list of approved OIs so that all overseas market participants have greater access to brokers in their home jurisdictions who are approved OIs and who can facilitate their participation in the onshore futures market.
- Moderating the 3-year securities trading experience requirement for non-PRC asset management companies that otherwise have proven experience offering products overseas, thereby attracting large non-PRC asset managers to enter the derivatives market as funds; and
- Broadening access to derivatives products via offshore channels, including by introducing interest rate derivatives, allowing FX hedging with more trading entities on Bond Connect, and opening access to the OTC equity derivatives market under QFI.

4.2.2 Improve supporting measures to promote credit derivatives use

Despite credit derivatives being introduced several years ago in 2010, their trading volume remains relatively low. Credit derivatives accounted for less than 2 percent of the overall OTC market in 2019 in

¹⁴⁰ Under new exchange rules that came into effect in 2020, international investors are now permitted to participate directly and trade the four contracts either through a domestic Chinese futures broker that is a member of the exchange, or through an "Overseas Intermediary", a category of broker that does not trade directly at the exchange but has authorization to set up accounts with domestic futures firms on behalf of international clients. (<https://www.fia.org/marketvoice/articles/china-continues-expand-international-derivatives-access>)

terms of notional value traded, and the market is largely illiquid. As China's bond defaults continue to increase (Chapter 1, Figure 10), credit derivatives provide local and foreign institutional investors with credit-risk protection while also supporting the development of a safe and efficient bond market.

As discussed in Chapter 1.1.2, the difficulty of pricing credit derivatives due to the lack of available historical data (e.g., default rates, recovery rates) and developed and creditworthy bond ratings hinders market participants issuing or trading credit derivatives. Imperfect hedges resulting from the structural design of the most-traded credit derivative product (CRM) not being aligned with offshore CDS contracts is another key concern for investors.

In addition, compared with other more established markets, there is a lower demand for credit derivatives in China due to a lack of additional capital benefits enjoyed by commercial banks that utilize credit derivatives. Currently, only the six large banks¹⁴¹ that adopted an internal model benefited from relief under the capital rules.¹⁴² Unlike international markets wherein credit derivatives can be used by most commercial banks to reduce regulatory capital requirements¹⁴³ and therefore enhance capital efficiency, there are few similar incentive measures in place in China to motivate the use of credit derivatives.

Recommendations:

In addition to the recommendation outlined in Chapter 4.1 on market access to the credit derivatives market, supporting infrastructure should be developed to promote a well-functioning credit derivatives market. This can be achieved by:

- For risk bearers of credit derivatives contracts, strengthening internal valuation models and enhancing risk management by ensuring a high level of professional expertise. Specifically, setting up credit researchers at the front line of business to conduct credit analysis of reference entities and build quantitative models, and at the back office to equip risk-monitoring personnel responsible for reviewing related processes, drafting risk limits, and verifying valuation models. At the same time, professional legal compliance, auditing, and clearing personnel should also be established to coordinate operations and reduce risks;

¹⁴¹ Including Bank of China, Agricultural Bank of China, Industrial and Commercial Bank of China, China Construction Bank, Bank of Communications, and China Merchant Bank.

¹⁴² 《商业银行资本管理办法（试行）》，“Measures for the Administration of Capital Adequacy Ratios of Commercial Banks,” CBRC (now CBIRC), <https://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=13076&itemId=915&generaltype=0>.

¹⁴³ Capital requirement is the amount of capital a commercial bank or other financial institution is required to have, expressed as a ratio of weighted risks of different assets it holds, as required by a financial regulator.

- Providing greater confidence for investors in credit derivative pricing by introducing rules to require clear disclosure of analytical rating methods and parameters used by rating agencies to enhance transparency and build rating-agency credibility. Similar steps have been taken in the US (under Dodd-Frank) and EU (under the CRA regulation) to require credit rating agencies to publish annual reports for transparency purposes; and
- Government supervision of credit rating agencies should be strengthened to hold companies accountable for ratings issuances. Chinese policymakers and regulators have taken an important step in this direction with the joint issuance (by the MOF, PBOC, NDRC, CBIRC, and CSRC) of a public consultation document on proposed rules for strengthening supervision of credit rating agencies.¹⁴⁴
- Expanding capital relief benefits by providing more guidance on recognizing CRM (in addition to CDS and TRS) as a qualified capital relief tool, and exploring potential methodology of allowing banks using the weight approach to qualify for capital relief using credit derivatives. This would also provide additional incentives for commercial banks to utilize credit derivatives to both protect against credit risks and maximize capital allocation efficiency.

4.2.3 Adopt a registration-based system for new product listings on exchanges

Compared with international markets, the product range within China’s exchange-traded markets is relatively narrow, with asset classes such as commodities considerably more developed than equities and interest rates. The characteristics of exchange-traded derivatives products, such as standardized contracts and centralized trading venues, are attractive to a broad range of institutional and corporate investors. Thus, exchange-traded products enhance liquidity in the market and serve as efficient tools for price discovery, which are essential to a nascent market such as China.

¹⁴⁴ 关于《关于促进债券市场信用评级行业高质量健康发展的通知（征求意见稿）》公开征求意见的通知, Announcement of “Proposed Rules for Strengthening Supervision of Credit Rating Agencies”, <http://www.pbc.gov.cn/tiaofasi/144941/144979/3941920/4215457/index.html>

Only recently, however, has the pace of developing exchange-traded derivatives products begun to increase. For example, index options, index futures, and ETF options are relatively new.¹⁴⁵ The prudent approval process in place to ensure stringent regulation oversight of products, in addition to longer approval times, is just one of the impediments to expanding the product range.

There clearly exists a need for further development of a comprehensive portfolio of exchange-traded derivatives products in order to achieve efficient management of investments and risks. The following are opportunities for growth:

- In terms of underlying asset class, the market currently lacks exchange-traded FX derivatives, thereby making it harder for small and medium-sized firms to manage their increased FX exposure, as the non-standardized, direct bilateral nature of trades in the OTC FX derivatives market usually imposes greater scrutiny around counterparties.
- In terms of underlying securities, there are relatively few long duration products to help investors (e.g., insurance companies and pension funds) effectively manage asset liability mismatch situations due to interest rate fluctuation; in the case of government bond futures, the tradeable universe only covers 2-, 5-, and 10-year products. In addition, the STAR Market 50 Component Index was introduced in July 2020¹⁴⁶, which is a reflection of strong investor interest in the listed securities on STAR. While more investors are participating in the trading of technology sector indices and indices ETFs, currently there are still gaps in technology sector indices derivatives available for investors to use for hedging.
- In terms of instrument types, futures and options are traded disproportionately compared with other large financial markets. In 2019, there were 64 futures contracts traded on various exchanges, but only 14 options contracts,¹⁴⁷ resulting in insufficient flexibility for investors in designing trading strategies.

¹⁴⁵ Detailed timeline of product launch please refer to section 1.1.1 covering exchange-traded derivatives.

¹⁴⁶ China Securities index co., <http://www.csindex.com.cn/zh-CN/indices/notices-and-announcements-detail/1088>

¹⁴⁷ For details on the exchange-traded product distribution, please refer to section 1.1.1 subsection " Current state – market size of Exchange-traded Derivatives."

- In terms of investor base, there are currently only five onshore commodity options contracts accessible for international investors,¹⁴⁸ despite China being the home for some of the largest commodity exchanges in terms of trading volume (please see Chapter 1.1.1). Introduction of the new INE copper futures index in 2020 may be evidence of regulators' determination to open up more commodity derivatives for international traders.

Recommendations:

Driven by the trend toward registration-based capital market reform,¹⁴⁹ regulators should consider adopting a registration-based system for new product listings to gradually transition into a more market-oriented market,¹⁵⁰ with key considerations including:

- Simplifying the registration and product-launch review process in order to improve efficiency; in the case of the registration-based system adopted by the STAR market, the average time between application and registration has been shortened to about five months.¹⁵¹ A similar market-oriented “notification regime” for listing and de-listing exchange-traded derivatives was introduced in Singapore in 2019, where introduction of products by approved operators are not subject to regulatory review but only self-certification against a set of pre-defined guidelines from authorities, and only a notification to regulators is required prior to product launch; and
- Improving product marketization, such as by allowing identical/similar futures products listings on multiple domestic and international exchanges in order to increase competitiveness, allowing trial and error of innovative product launches, etc.

A more comprehensive product portfolio should be established through such initiatives as:

- Launching exchange-traded CNY/USD futures and options to provide a standardized instrument that allows corporates to directly manage the risks associated with increasing the size of their USD holdings;
- Accelerating the launch of long-dated government bond futures (i.e., 30-year) to help participants offset risks from a wider range of long-dated portfolio allocations;

¹⁴⁸ SHFE Milestones, 2020, <http://www.shfe.com.cn/about/introduce/events/>

¹⁴⁹ "Adoption of a full-scale registration-based reform," 2020, PRC Government, http://www.gov.cn/xinwen/2020-11/03/content_5556831.htm

¹⁵⁰ "Guidance on improving establishing regulations on futures," 2017, SZSE, <https://www.szse.cn/aboutus/research/securities/documents/P020180328494046224303.pdf>

¹⁵¹ "China deepens capital market reform with expansion of registration-based IPO," 2020, State Council of PRC, http://english.www.gov.cn/statecouncil/ministries/202010/25/content_WS5f9523b8c6d0f7257693e6bb.html

- Launching futures and options for technology sector indices, such as for the STAR Market 50 Component Index;
- Accelerating the launch of options contracts to corresponding future products that already exist, such as crude oil options, silver options, and rebar options to enable cheaper and more flexible ways to manage risks—and potentially help market participants and regulators obtain insights into investor sentiments, similar to the practices of internationally traded Chicago Board Options Exchange's Volatility Index (as reference, in the US market, most of the futures products have corresponding options contracts); and
- Accelerating the internationalization of certain commodity futures and options, such as palm oil, soybean meal, soybean oil, etc., to strengthen China's pricing power in the global commodities market.

4.2.4 Improve the securities lending business to enhance market liquidity

Short selling is an important mechanism to enhance price discovery and liquidity in the overall capital market, which also reduces trading costs and mispricing of assets. For example, a market maker may need to short sell an underlying asset in order to fill a bid from a buyer on a derivative, resulting in a riskless position for the market maker with a short underlying asset and long derivative position. This reduces the risk for the market maker to provide such a product, which can lead to a reduction in the premium the market maker requires for offering the transaction. Short selling is especially important in markets that have less diverse trading directions due to a narrow investor base—as in the case of the current China derivatives market—as it enables market makers to provide certain derivatives products and act as counterparties.

China's capital market has carefully prescribed regulations and rules, such as specific guidance on the types of institutions that can conduct securities lending for short selling, the conditions to meet in order to trade derivatives, and quotas on trading positions and volume. The ratio of margin trading to securities lending remains unbalanced at 97:3, mainly due to limited eligible stocks and lenders.¹⁵² Currently, only approved securities companies can participate in the securities lending business, and lending can only be done through the China Securities Finance Corporation. This restricts the number of securities that are available for lending and increases the cost of the service.

¹⁵² China Securities Sector – A, Securities lending: a blue ocean opportunity? 2020, UBS.

An efficient securities lending ecosystem helps provide liquidity to the market and enables short selling, which is an essential part of the market because it helps provide a balanced view of asset values and allows investors to moderate pricing whenever a particular asset is considered inflated.

Recommendations:

The securities lending business should be improved by expanding the universe of eligible stocks and relaxing restrictions on the types of institutions that can carry out securities lending. Currently eligible names make up only 42 percent of A-share stocks,¹⁵³ and overseas markets such as that of the U.S. allow all listed stocks to be used in margin trading and securities lending transactions. The rules and controls in place for trading derivatives should continually evolve at the same pace as the market develops.

The securities lending rules from the STAR market to the main board should be expanded. The new STAR market of SSE,¹⁵⁴ launched in 2019 with expanded securities lending scope to include asset management and insurance companies that can lend securities, has a higher number of securities lending activities and can serve as an example framework that can be adopted across the main markets. Providing more securities lending could facilitate short selling and improve necessary market liquidity. Regulators should encourage market participants to lend and borrow securities via the China Securities Finance Corporation, thereby shortening and simplifying the process.

¹⁵³ China Securities Sector – A, Securities lending: a blue ocean opportunity?, 2020, UBS

¹⁵⁴ Shanghai Stock Exchange Science and Technology Innovation Board is a Chinese science and technology-focused equities market established on July 22, 2019.

4.3 Credit, Market, and Operational Risk Management

4.3.1 Ensure finalized Futures and Derivatives Law confirms the enforceability of close-out netting and related financial collateral arrangements

The need for a legally certain close-out netting regime has been cited by market participants as the most important issue for the derivatives market in China. Close-out netting is the single most important mechanism for the reduction of credit risks associated with derivatives contracts, enabling entities to manage credit risk on a net rather than gross basis; this in turn reduces their credit risk and transaction cost, and helps to reduce the systematic risks in financial market.¹⁵⁵ As China continues to liberalize its financial markets, confirming the enforceability of close-out netting would remove a major barrier to international participation, supporting the development of liquid and efficient capital markets. Furthermore, the uncertainties regarding close-out netting enforceability in China has put Chinese financial institutions at a disadvantage as Chinese entities often face higher transaction costs and have to provide margin on a gross basis when they enter into financial transactions with foreign counterparties. If and when the enforceability of close-out netting is confirmed, Chinese entities which enter into derivatives contracts will benefit from lower transaction costs and better pricing, making it more cost-effective for them to utilize derivative instruments to hedge against risks or for portfolio management purposes. As such, both foreign and domestic market participants greatly welcome and highly commend the provisions pertaining to netting enforceability in the Draft Futures and Derivatives Law.

Closely related to the enforceability of close-out netting is the enforceability of financial collateral arrangements. Financial collateral deals with the credit exposure after netting has been applied (i.e. gross credit exposure) – the posting of collateral can further reduce credit exposure. It is therefore important that the Draft Futures and Derivatives Law confirms the enforceability of both close-out netting and financial collateral arrangements, particularly in bankruptcy proceedings.¹⁵⁶

The Draft Futures and Derivatives Law is a seminal milestone with tremendous significance for China's derivatives market. Nonetheless, there is still work to be done before the legislation passes and the enforceability of netting is confirmed. ISDA is working with Chinese authorities, market participants and other industry associations to clarify some of the provisions in the draft legislation – addressing these

¹⁵⁵ For details on the importance and benefits of close-out netting, please refer to the 2018 Model Netting Act published by ISDA, https://www.isda.org/a/X2dEE/FINAL_2018-ISDA-Model-Netting-Act-and-Guide_Oct15.pdf

¹⁵⁶ The principal focus of netting legislation has always been on ensuring enforceability of a netting agreement against a party that is subject to bankruptcy proceedings. This is because mandatory insolvency rules come into operation that could potentially disrupt close-out netting and/or a related collateral arrangement regardless of the governing law of the netting agreement.

issues (as set out below) would be critical to confirming the enforceability of close-out netting and related financial collateral arrangements in China.¹⁵⁷ To enhance legal certainty of close-out netting and enforceability of financial collateral, the finalized Futures and Derivatives Law should:

- Confirm the enforceability of close-out netting and related financial collateral arrangements for both onshore and cross-border OTC derivatives transactions;
- Remove the filing requirement as a condition to the enforceability of close-out netting.¹⁵⁸ If the filing requirement were to be retained, the law should set out a simple and unified filing procedure, and clarify that both domestic and international trade associations, as well as any party to OTC derivatives transactions, can make the filing. In addition to standard master agreement templates, parties to OTC derivatives transactions should also be able to file their bespoke in-house master agreement templates. Further, the law should provide for an exemption of filing requirement to a standardised template of a master agreement which has already been approved by a department authorised by the State Council to regulate derivative transactions (i.e. such master agreement should be treated as having fulfilled the filing requirement for all OTC derivatives transactions (including cross-border transactions) documented under the master agreement, not limited to just those OTC derivatives transactions linked to a specific asset class regulated by that regulator only);
- Provide express recognition of title transfer arrangements as a form of financial collateral arrangement, and make a clear distinction between such arrangements and security interests to minimise recharacterization risk, and express protection for the enforcement of close-out netting as well as related performance assurance arrangements (including title transfers¹⁵⁹ and security agreements) against any stay, invalidation or revocation power exercised during the bankruptcy proceedings of any party to the transaction ; and
- Enhance protection for centrally cleared OTC trades. Netting protection of centrally cleared OTC trades should expressly cover bankruptcy scenarios of clearing institutions, clearing participants as well as the clients of clearing participants. Additionally, there should be legal protection for margin arrangements, default management rules and settlement finality for centrally cleared OTC trades.

¹⁵⁷ The ISDA-ASIFMA joint submissions to the NPC on 28 May 2021 and on 21 November 2021 discussed these issues and the industry position.

¹⁵⁸ Articles 32 and 33 of the Draft Futures and Derivatives Law.

¹⁵⁹ Title transfer arrangements are commonly used to provide variation margin in cross-border transactions with Chinese financial institutions.

Recommendation:

Lawmakers and regulators to work with market participants and industry associations to clarify the key outstanding issues pertaining to Draft Futures and Derivatives Law (particularly those issues that underpins the legal certainty and enforceability of close-out netting and related financial collateral arrangements in China).

4.3.2 Improve credit mitigation abilities through enhancing collateral management capabilities and processes

In response to the 2007-2008 global financial crisis, the Group of Twenty (G20) initiated a reform program at the 2009 Pittsburg Summit to both improve the resiliency of market participants to financial and economic shocks and reduce the systemic risk from OTC derivatives.¹⁶⁰ One element of the reform agenda was to introduce margin requirements for non-centrally cleared derivatives to ensure collateral is available to offset losses caused by the default of a derivatives counterparty, thus reducing potential contagion and spillover effects within the financial market. The G20 called upon the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO) to create standards and an implementation plan¹⁶¹, including margining rules, for member jurisdictions to adopt in multiple phases, from 2015 to 2022.¹⁶²

Presently, in the China OTC derivatives market, collateral is used for interest rate and some FX derivatives transactions centrally cleared through CCPs—but a large proportion of non-centrally cleared OTC derivatives transactions remain uncollateralized. Historically, domestic institutions traded with each other predominantly on lines of credit under an ecosystem in which credit events rarely occurred. As a result, the level of expertise, efficiency of processes, and capacity of infrastructure to manage collateral in China is not as developed when compared to other large capital markets. However, with the increase in participation by foreign market participants accustomed to using collateral as a tool to mitigate credit risk and the need to manage systemic risk, there is an imminent need to strengthen the capabilities of domestic market participants and third-party service providers to manage collateral. Non-PRC market participants have noted in interviews that higher collateral use would satisfy their company risk management

¹⁶⁰ G20 is an international forum for the governments and central bank governors from 19 countries (including China) and the European Union (EU).

¹⁶¹ The April 2020 version of the “Margin Requirements for Non-Centrally Cleared Derivatives” (the “WGMR Framework”) by the Basel Committee on Banking Supervision (BCBS) and the Board of the International Organization of Securities Commissions (IOSCO) is available at <https://www.bis.org/bcbs/publ/d499.pdf>

¹⁶² In light of significant challenges posed by COVID-19, BCBS and IOSCO agreed to extend the deadline for completing the final two implementations phases by one year, with the final phase to take place on September 1, 2022.

framework for non-centrally cleared OTC derivatives transactions, and provide them greater confidence to participate in the market. Enhancing the abilities of domestic firms to use collateral would help them engage in international marketplaces outside of China, and enable better credit risk management.

Recommendations:

To improve credit mitigation abilities and manage systemic risks through greater efficiency of collateral management processes, the following recommendations are proposed:

- Build capabilities by investing in the development of talent, systems and processes to enable efficient and accurate collateral management processes. Best practices observed by international bodies and market participants, such as ISDA¹⁶³ and its members, can serve as guidance for a target model to be adopted. Industry groups and market participants should evaluate and implement the following initiatives in order of priority:
 - a. Develop common standards and robust controls to maintain data integrity within risk systems. The use of international standards such as such as the ISDA Clause Library, the ISDA Taxonomy, and the Common Domain Model could be approved;
 - b. Build or utilize systems to automate the pricing and risk calculation of derivatives trades;
 - c. Centralize and automate margin calculations, as well as margin call, eligibility, asset selection, settlement, and collateral reporting to streamline key collateral management processes and reduce manual errors;
 - d. Develop industrywide standardized and digitized (or machine-readable) legal documentation to streamline Know Your Client (KYC) and client onboarding process. Digital tools (e.g., ISDA Create) can be leveraged to electronically produce, deliver, negotiate and execute legal documentation with counterparties and improve efficiency;
 - e. Introduce regular portfolio and collateral reconciliations into standard business operations to ensure trades and collateral balances are aligned to avoid potential disputes. There should be risk-based reporting and thresholds set for mismatch or repeated disputes to allow companies to prioritize investigations into issues; and
 - f. Automate margin interest and substitution processes.

¹⁶³ A Blueprint for the Optimal Future State of Collateral Processing, ISDA, <https://www.isda.org/2017/10/18/a-blueprint-for-the-optimal-future-state-of-collateral-processing/>

- Policy makers and regulators should support the development of third-party collateral management services offered by established market players (e.g., banks, securities companies, CCPs) to provide alternative collateral solutions for smaller-sized market participants which do not have the scale to develop in-house collateral management capabilities.

Use of Chinese government bonds as collateral for derivatives transactions

There are ongoing efforts to explore the use of Chinese government bonds as collateral in OTC derivatives trade. In March 2021, ISDA and CCDC jointly published the whitepaper “Use of RMB-denominated Chinese Government bonds (CGB) as margin for derivatives transactions” with recommendations to overcome current obstacles. Achieving greater use of onshore debt instruments as eligible collateral would further enable participants to exchange margin in derivatives transactions.

Reference: Use of RMB Chinese Government Bonds as Margin for Derivatives Transactions, <https://www.isda.org/a/4XATE/Use-of-RMB-Chinese-Government-Bonds-as-Margin-for-Derivatives-Transactions.pdf>

4.3.3 Allow trading counterparties to freely choose master agreements based on mutual consent rather than regulatory mandate

Market participants onshore in China generally use either NAFMII or SAC master agreements to conduct their trades under local regulatory mandate, while, broadly, foreign participants use non-Chinese master agreements internationally. Non-PRC market participants have often cited not being allowed to use international master agreements as an obstacle to manage their credit risks effectively—which thus prevents them from entering China’s derivatives market. Using different master agreements, be it onshore or offshore, creates risks in back-to-back cross-border trades.

Recommendations:

Currently, according to the “Opinions on Further Accelerating the Construction of Shanghai’s International Financial Center and Financial Support for the Integrated Development of the Yangtze River Delta,” foreign players may freely choose among the ISDA, NAFMII, or SAC Master Agreement.¹⁶⁴

Regulators should consider a phased approach to allow all market participants in PRC to freely choose any of the three different master agreements, based on mutual consent, as long as both parties’ choice complies with Chinese law and market rules.

¹⁶⁴ 《关于进一步加快推进上海国际金融中心建设和金融支持长三角一体化发展的意见》, “Opinions on Further Accelerating the Building of Shanghai into an International Financial Center and Financial Support for the Integrated Development of the Yangtze River Delta,” PBOC, CBIRC, CSRC, SAFE, <http://m.safe.gov.cn/safe/2020/0214/15403.html>.

4.3.4 Central Counterparties (CCPs) should prioritize gaining permanent exemption from DCO registration from CFTC, and recognition as a third-country CCP by ESMA and Bank of England

While major CCPs in China have recently taken steps to be recognized by domestic regulators as qualified CCPs (QCCP) compliant with PFMI standards,¹⁶⁵ currently CCPs in China have not received similar recognition by key regulators such as CFTC, ESMA and Bank of England that supervise major foreign financial institutions. In the absence of international recognition, CFTC-regulated foreign investors would be subject to a prohibition on using Chinese CCPs, and ESMA and Bank of England-regulated institutions would face risk weights of more than 1,250 percent on their exposure to CCPs that have not been recognized under EMIR, compared with 2 percent if the CCPs are recognized. This high capital charge would be a significant disincentive for European and British banks to participate with non-recognized CCPs. Failure of Chinese CCPs to obtain recognition hinders foreign-regulated entities from participating in China's onshore derivatives market and, in the context of QFI, CIBM Direct, and Bond Connect, slow current initiatives already underway to bolster access and continued development.

It is critical for all major CCPs in China to ensure non-PRC participants' continued access to clearing services in China. While SHCH currently has no-action relief from CFTC to allow US institutions to continue clearing derivatives products on it until July 2022, this is only a temporary status that is subject to review after each period. Similarly, SHCH has applied for recognition under EU's EMIR rules, but has yet to be granted approval. SHCH has also taken steps to meet the criteria to qualify for recognition, but a few topics remain, including the establishment of Memorandum of Understanding (MOU) between ESMA and Chinese regulators, the confirmation of enforceability of close-out netting rules, and settlement finality.

Recommendation:

Chinese CCPs should prioritize compliance with international standards by providing Public Quantitative Disclosures according to the CPMI-IOSCO standards¹⁶⁶ and providing self-assessment of compliance with the PFMI. This would be an important step in enabling the recognition of all key domestic CCPs by major regulators such as CFTC, ESMA, and Bank of England and ensure non-PRC market participants

¹⁶⁵ Principles for Financial Market Infrastructures (PFMI) are the international standards for financial market infrastructures issued by the Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO).

¹⁶⁶ "Public quantitative disclosure standards for central counterparties," BIS, <https://www.bis.org/cpmi/publ/d125.pdf>.

can continue to trade centrally cleared products via Chinese CCPs. In the short to medium term, there should also be a transparent process for market participants to be informed on changes in status.

4.3.5 Strengthen the risk management framework at CCPs to maintain systematic stability

The G20¹⁶⁷ set out financial reforms in order to promote the use of central clearing as a means to reduce credit risks in financial markets. Currently, the majority of OTC interest rate and FX derivatives, as well as all exchange-traded derivatives, are centrally cleared in China. As explained in Chapter 2, the trading volume of derivatives transactions is expected to grow in the future, and along with the increasing demand from multiple market participants, the risk management capabilities of CCPs are increasingly important. From interviews, the following best practices of international CCPs were highlighted:

- **CCPs need to improve resilience in various market-stress scenarios and maintain stable operations for clearing members:** In light of the market stress caused by the COVID-19 pandemic, there have been dramatic increases and changes in margin requirements at CCPs globally. Large fluctuations in margin requirements have caused additional operational and financial pressures on market participants, and demonstrated the procyclical nature of clearinghouse margin models, thereby adding liquidity risk to the system. While they have generally demonstrated strong resilience during the pandemic, CCPs in China must demonstrate their ability to maintain stable operations under the extreme stress scenarios observed in other parts of the world.

¹⁶⁷ G20 is an international forum for the governments and central bank governors of 19 countries (including China) and the European Union (EU).

- **CCPs need dynamic funding and liquidity risk frameworks in order to reflect different stress scenarios and changes to risk levels in the system:** Clearing members' current minimum contribution requirement to default funds is insufficiently dynamic. Some CCPs utilize a model in which the contribution required only changes when the risk exposure of the clearing member exceeds a certain threshold. Therefore, before the threshold is breached, CCPs must cover additional funding with their own funds, thereby leaving them vulnerable to liquidity strains in the event of default by their clearing members. Furthermore, CCPs with FX exposure must establish access to external liquidity (central bank access or committed liquidity lines from commercial banks) to ensure a sufficient supply of foreign currency to cover temporary shortfalls in liquidity. For example, a CCP that provides a high volume of bilateral FX derivatives clearing on a daily basis, which are settled on a payment-versus-payment basis, would cover temporary shortfalls in foreign liquidity when settling FX derivatives trade, which involves either using margin, tapping into their own funds, or sourcing liquidity from commercial banks or central banks after a missed payment has occurred. However, this creates uncertainty and concerns for market participants, as there is additional risk with CCPs having insufficient margin, or not having secured a foreign-currency credit line with a commercial bank pre-trade to cover such liquidity shortfalls.

In line with the above CCP best practices, the following recommendations for Chinese CCPs would contribute to a stronger risk management framework and increase overall systemic stability.

Recommendations:

As the volume of derivative trades cleared through CCPs increases, there is a need for CCPs in China to continuously review and strengthen their risk management framework. In addition to the implementation of close-out netting provisions, the following four recommendations should be considered. (More details on clearing risk management best practices can be found in the ISDA CCP Best Practices paper published in January 2019.¹⁶⁸)

- Strengthen stress-test frameworks at CCPs, ensuring stress scenarios are used in margin calibration and cover a highly diverse set of potential market conditions in order to reduce procyclicality and current risk.
 - Extend the lookback period at CCPs to at least 10 years, in line with PFMI requirements. For products with no available historical data, CCPs should include hypothetical scenarios.
 - Incorporate risk scenarios of a downgrade in China's sovereign credit rating into the margin-calculation model.
- Improve availability of liquidity and funding to cover shortfalls during market stresses.
 - Introduce a dynamic default fund calculation model to keep contribution amounts required from clearing members consistent with their risk-exposure-level changes. CCPs can benchmark against the models used by leading CCPs in Europe.
 - Establish a formal funding and liquidity risk framework at applicable CCPs, such as SHCH, to secure access to foreign currency liquidity from commercial banks to cover temporary shortfalls and delays in settlements of FX trades by clearing members.
- Improve communication and transparency between CCPs and market participants, incorporating feedback on ways to enhance the risk management framework and provide clearing members with greater confidence in their risk management capabilities. CCPs should also improve transparency by publishing quantitative analysis results of their PFMI self-assessment reports, and clarify the limits to the size of additional funds that can be called from clearing members in the event of a default, under CCPs' assessment powers.

¹⁶⁸ CCP Best Practices, <https://www.isda.org/a/cigME/CCP-Best-Practice.pdf>.

- Chinese CCPs should aim to provide Public Quantitative Disclosures according to the CPMI-IOSCO standards¹⁶⁹ and provide self-assessments of compliance with the PFMI. This would increase market participants’ confidence in the CCPs’ risk management framework, and is also an important step towards achieving DCO exemption and third-country CCP recognition by other regulators (as highlighted in Section 4.3.4).

4.3.6 Clarify the scope of Cyber Security Law and explore possible mechanisms to allow for cross-border data transfer

The Cyber Security Law explicitly requires financial institutions to store, in China, the personal information and important business data collected and generated during their operations within PRC. While having cyber security standards to protect the integrity of data is an important and necessary measure, there should also be provisions to ensure data protection requirements do not affect market participants’ abilities to perform risk management functions and comply with international anti-money laundering, Know Your Customer (KYC) rules and other global mandatory requirements.¹⁷⁰ In interviews, non-PRC market participants expressed concerns over the impact of cross-border data control on their ability to continue conducting effective and efficient risk management of their global infrastructure.

Lawmakers and regulators should further clarify the scope and rules of the Cyber Security Law in relation to the financial system, and introduce provisions to minimize the impact to market participants’ derivatives trading activities. Shanghai Municipal Government issued the “Implementation Plan for the Pilot Program of Comprehensively Deepening the Innovation and Development of Trade in Services in Shanghai” in November 2020, which requires pilot programs for eligible foreign financial institutions to have a categorized supervision model for the cross-border flow of data necessary for internal management and risk control.¹⁷¹ While the details and rules on implementing the pilot program remain unclear, it is a welcome step toward enabling financial institutions to continue to leverage their global risk management systems, and therefore should be built upon further.

¹⁶⁹ Public quantitative disclosure standards for central counterparties, BIS, <https://www.bis.org/cpmi/publ/d125.pdf>.

¹⁷⁰ KYC check is the mandatory process of identifying and verifying the identity of the client when opening an account and periodically over time, required by law in many jurisdictions including the US and across Europe.

¹⁷¹ 《上海市全面深化服务贸易创新发展试点实施方案》，“Implementation Plan for the Pilot Program of Comprehensively Deepening the Innovation and Development of Trade in Services in Shanghai, Shanghai Municipal Government”, Shanghai Municipal People's Government, <http://www.shanghai.gov.cn/nw12344/20201113/7093dba035ac4aff9503f649d47c3306.html>

Recommendations:

In order for market participants to leverage their global risk management systems for effective risk management, it is important that domestic and foreign firms which operate on a cross-border basis can have access to risk management data for market, credit, and liquidity risk. The following recommendations are proposed:

- Clarify the scope of the Cyber Security Law by further defining:
 - The categorization of Critical Information Infrastructure (CII) operators;
 - What constitutes important business data with respect to capital markets; and
 - Mechanisms for market participants to obtain approval for cross-border data transfer for legitimate business reasons.
- Build on the pilot program proposed by the Shanghai Municipal Government, including:
 - Ensuring all market participant types for the derivatives market are eligible;
 - Consulting industry groups on the essential data for their operations based on international best practices, such as those established by the Basel Committee;
 - Setting out an approval process that does not cause unnecessary delays in trading; and
 - Rolling out the program across China.

4.4 Regulatory framework

4.4.1 Enhance communication of regulatory rules and framework to market participants

There are multiple government and self-regulatory bodies that supervise the derivatives market in China, each taking on a necessary function to safeguard the market. The multiple-regulator structure has resulted in a comprehensive regulatory framework, but at the same time there are challenges for market participants in trying to obtain a complete view of the regulatory requirements and then comprehending the rules and ensuring compliance with them. Consequently, market participants have welcomed steps taken by policymakers to harmonize regulatory-supervision efforts through the establishment of the FSDC ¹⁷². This section makes recommendations on further actions that could be taken to enhance the situation.

The challenges market participants face can be categorized into two types. First, the multiple regulator structure has made it challenging for market participants to fully understand the roles and responsibilities and jurisdictional boundaries of each regulator. For example, for a securities company to trade FX derivatives, CBIRC and SAFE would all have a role in supervising its activities. Second, market participants have commented that the information and channel needed to find qualifications requirements and obtain necessary licenses to enter a market are fragmented, thereby adding complexity to the process of seeking regulatory approval. They have also expressed a desire for a streamlined and centralized channel to engage with regulators and apply for necessary licenses and qualifications to access markets.

Recommendations:

To enhance communication of regulatory rules and framework for derivatives trading, and to facilitate and promote derivatives use by institutions, the following recommendations are proposed:

- Regulatory bodies could enhance communication of regulatory rules and framework to market participants, detailing the role and goal of each authority, the primary body or activity each regulates, and affiliations or relationships with other bodies. The details of the communication would include:
 - Providing a clear definition of the particular role a regulator has in domains that fall under multiple jurisdictions;

¹⁷² Members include PBOC, CBIRC, CSRC, SAFE, State Council, Central Financial and Economic Affairs Commission, National Development and Reform Commission, and Ministry of Finance.

- Implementing periodic cross-regulator and cross-department communications channels to ensure continuous engagement on regulatory changes and rule implementations. For example, wherever there are segments that fall under multiple regulatory oversight, a joint task force can be formed to supervise market participants, and a single communication channel can be formed to communicate with market participants, lay out requirements, and accept and review market entry applications; and
- Establishing a cooperation framework (e.g., MOU) on cross-regulator collaboration, communication, and resource and knowledge sharing to ensure a cohesive strategy to regulate the market. Regulatory authorities in the UK provide a framework that could serve as an example, with the Regulatory Initiatives Grid¹⁷³, published by the Financial Services Regulatory Initiatives Forum in May 2020, serving as an example of strengthened regulatory coordination in the UK.
- Domestic regulatory authorities should continue to participate in international supervisory oversight organizations and forums and engage the regulatory authorities of other jurisdictions. Regulators should maintain requirements that are aligned with global requirements. Best-practice principles in supervisory colleges¹⁷⁴ should be adopted when engaging with other national regulatory authorities. With respect to the derivatives market, domestic regulatory bodies should align with the global regulatory trend of standardization and centralized clearing of OTC derivatives – this would enhance coordination of global regulations pertaining to OTC and exchange derivatives markets, and strengthen the regulation of the domestic market so as to better prevent market risks.

¹⁷³ “Regulatory Initiatives Grid, Financial Services Regulatory Initiatives Forum,” <https://www.fca.org.uk/publication/corporate/regulatory-initiatives-grid.pdf>

¹⁷⁴ “Revised good practice principles for supervisory colleges, Basel Committee on Banking Supervision,” <https://www.bis.org/publ/bcbs276.pdf>

4.4.2 Enhance regulatory transparency in future regulatory plans

The policy uncertainty in China is an impediment for companies to invest due to the risk of being non-compliant, which leads to disruption of their trading activities. Market participants see challenges in both operating generally and committing to long-term investments without having a long-term view of the regulatory landscape. Some participants, such as smaller domestic companies, non-PRC institutions and industry associations, have expressed difficulties in preparing for major regulatory changes that significantly impact their operations, as they were not provided the opportunity to be involved at an earlier stage in the consultation process to discuss requirements and communicate difficulties they encounter, which hinders their ability to participate in the market in a manner similar to larger domestic players. In addition, market participants have noted that in some instances regulations have taken effect only a few days after the close of the open public consultation, leaving inadequate time for companies to make necessary operational changes to comply with new rules.

Enhancing regulatory transparency in the market is critical in helping market participants to gain certainty and confidence in the market, so they can further expand their investments.

Recommendations:

- Enhance the transparency of regulatory plans.
 - Enhance transparency of future regulatory plans, and give adequate notification for new rules, sufficient lead time for implementation, and avenues for industry consultation (including time for public comment). The Regulatory Initiatives Grid, published by the UK Financial Services Regulatory Initiatives Forum, can serve as one example of market authorities collaborating to provide up to 24 months guidance of future regulatory initiatives to allow market participants to have sufficient time to plan for changes that may have significant operational impact on them;
 - When regulatory consultations, circulars, notices, and market and technical documentation are published, a mechanism could be established to allow non-PRC participants to use, under certain conditions and in addition to the Mandarin version, an English version.

- Foster an open-market consultation process in order to improve communication between regulators and market participants.
 - Consultation process for new regulations and changes should be consistent for all market participants to ensure all market participants can provide feedback for consideration by regulatory authorities. Regulators should consider starting the public consultation process earlier to allow sufficient time to consider feedback from market participants, and for institutions to have sufficient time to adapt to new rules before the changes are implemented;
 - Regulators could consider issuing responses to consultation feedback to allow market participants to understand the decisions taken by regulators and the rationale for the decisions. This would allow market participants to better understand regulatory changes;
 - There should be sufficient time between issue notification/consultation for proposed changes to regulations and final implementation. For example, MAS typically provides a 6-month window between the closing date of consultation process and the implementation of rules and requirements in Singapore.

5 Summary table of recommendations

5.1 Risk Governance

1. **Strengthen the risk governance framework around using financial instruments:** adopt Three Lines of Defense approach, strengthen risk governance structure and promote a risk management culture – companies must have a reliable mechanism in place to report risk events.
2. **Promote the use of derivatives as a risk management tool:** improve policymakers and industry bodies' awareness on topics such as the benefits of derivatives use, risk management methods, and the need to develop company capabilities such as risk management systems, compliance framework, educational initiatives, thought leadership, etc.
3. **Increase the number of professionals with risk management expertise:** government and participants should introduce incentives to attract international talent and build domestic capabilities by establishing advanced financial engineering courses, cross-discipline courses, and relax restrictions for international financial talent to work in China.

5.2 Market Structure

4. **Increase the size and breadth of the market participants base:** broaden market access to increase size of institutional investor base and improve investor diversity to bring offsetting derivatives needs.
5. **Improve supporting measures to promote credit derivatives use:** risk bearers of credit derivatives contracts should strengthen internal valuation models and enhance risk management by ensuring a high level of professional expertise; government should strengthen the supervision of credit rating agencies to hold companies accountable for ratings issuances.
6. **Implement capital relief qualifications for commercial banks that use credit derivatives:** expanding capital relief benefits by providing more guidance on recognizing CRM (in addition to CDS and TRS) as a qualified capital relief tool, and exploring the potential methodology of allowing banks using the weight approach to qualify for capital relief using credit derivatives.
7. **Adopt a registration-based system for new product listings on exchanges:** riding on the tide of "registration-based" capital market reform, the regulators could consider to adopt a registration-based system for new product listings, simplify registration and review process of product launch, allowing similar or same futures products listing on multiple domestic and international exchanges to increase competitiveness.

8. **Establish a more comprehensive product portfolio for exchange-traded derivatives:** such as launching exchange-traded CNY/USD futures and options, long-dated government bond futures, technology sector indices futures and options (such as for the STAR Market 50 Component Index), and more corresponding options contracts to accompany the existing futures products. In addition, there should be further opening up of the derivatives market to global investors, allowing them access to a comprehensive portfolio of products, in order to allow all market participants to better manage and hedge their risk. A key component of further liberalization of the derivatives market is accelerated internationalization of commodity futures and options.
9. **Improve the securities lending business to enhance market liquidity:** broaden the types of participants in the securities lending business and expand the universe of eligible stocks for margin trading and securities lending.

5.3 Counterparty/Market Risk Management

10. **Ensure finalized Futures and Derivatives Law confirms the enforceability of close-out netting and related financial collateral arrangements.**
11. **Improve credit mitigation abilities through enhancing collateral management capabilities and processes:** Facilitating the use of collateral based on the complexity and size of trades; and building capabilities by investing in the development of talent, systems and processes to enable efficient and accurate collateral management processes.
12. **Allow trading counterparties freely choose master agreements based on mutual consent rather than regulatory mandate:** Regulators could consider a phased approach to allow all market participants in PRC to freely choose among the 3 different master agreements based on mutual consent, as long as both parties' choice complies with local laws and market rules in China.
13. **Central Counterparties (CCPs) should prioritize gaining permanent exemption from DCO registration from CFTC, and recognition as a third-country CCP by ESMA and Bank of England** to ensure non-PRC participants can continue to trade centrally cleared products via Chinese CCPs.
14. **Strengthen the risk management framework at CCPs to maintain systematic stability:**
 - a. Strengthen stress test framework at CCPs, and ensure that the scenarios used in margin calibration include stress scenarios, cover a highly diverse set of potential market conditions to reduce procyclicality and cover current risk.

- b. Improve the availability of liquidity and funding to cover shortfalls during periods of market stress.
 - c. Increase transparency and communication between CCPs and market participants to enhance the risk management framework, and incorporate feedback on improving the risk management framework, in order to provide clearing members with greater confidence in the risk management capabilities of CCPs.
 - d. Provide Public Quantitative Disclosures according to the CPMI-IOSCO standards and provide self-assessment of compliance with the PFMI¹⁷⁵.
15. **Clarify scope of Cyber Security Law and explore possible mechanisms to allow for cross-border data transfer:** enable financial institutions to utilize their global risk management model to effectively and efficiently manage risk, and comply with local regulatory requirements.

5.4 Regulatory framework

16. **Enhance communication of regulatory rules and framework to market participants:** including the role and goal of each authority, the primary body or activity it regulates, and its affiliation or relationship with other bodies.
17. **Enhance transparency in future regulatory plans:** provide adequate notification for new rules and lead time for implementation; set a mechanism to allow the use on English-language translation of publication of regulatory consultations, circulars, notices, market and technical documentation for non-PRC participants.
18. **Foster an open market consultation process in order to improve communication between regulators and market participants:** Regulators should provide adequate notification for new rules with an open consultation process and publication of consultation conclusions, and also allow sufficient lead time before the implementation of new regulations upon completion of the consultation process.

¹⁷⁵ Principles for Financial Market Infrastructures (PFMI) are the international standards for financial market infrastructures issued by the Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO)

6 Research methodology

This report was commissioned to Boston Consulting Group (BCG) by the International Swaps and Derivatives Association (ISDA) with active contribution by ISDA member firms representing derivatives markets activities in China. Written jointly by ISDA and BCG and advised by contributing member firms, the report is based on over 50 interviews conducted with more than 40 domestic and foreign market participants in China, during the fourth quarter of 2020. Interviewed companies and individuals include: commercial banks, securities companies, futures companies, asset management companies, insurance companies, corporates, law firm, market infrastructure operators, and experts on China’s regulatory and government policies.

In addition, ISDA and BCG have jointly launched an online "ISDA China Derivatives Questionnaire" to further develop insights into the use of onshore derivatives. The survey was sent to more than 100 contacts working in domestic and foreign market participants. Among the 15 effective responses collected were 8 commercial banks, 3 corporates (non-FI), 2 asset management firms, and 2 securities companies, of which 73 percent were local firms. Due to statistical insignificance, the survey results were used for verification only.

Some of the key findings from the survey include:

Participation of onshore derivative market	<ul style="list-style-type: none"> 73% of firms are currently trading derivatives, with the highest participation rate in commercial banks Lack of suitable product & regulatory restrictions are the 2 main reasons for not trading derivatives; however, all 4 firms that are not trading derivatives are prone to start in 3 years
Current use of onshore derivatives products	<ul style="list-style-type: none"> FX and IR are the most traded asset classes of derivatives products while swaps are the most traded product type Hedging is the top use case while market making & proprietary trading are also important
Challenges to enter derivatives market	<ul style="list-style-type: none"> Uncertainty around the enforceability of close-out netting and collateral was the biggest challenge identified Limited products range, unsatisfying clearing and settlement infrastructure, and documentation challenges (e.g., use of non-standard documentation) are also well-recognized challenges
Future outlook	<ul style="list-style-type: none"> About 90% of the firms are expected to increase derivative product trading across asset classes 100% of firms expect overall derivatives trading activity to increase over the next 3–5 years

The authors of this report would like to extend their gratitude to all the individuals and firms that contributed their time toward the interviews, data gathering, and online survey that form the basis of this report.

About ISDA

Since 1985, ISDA has worked to make the global derivatives markets safer and more efficient. Today, ISDA has over 960 member institutions from 78 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers. Information about ISDA and its activities is available on the Association's website: www.isda.org. Follow us on [Twitter](#), [LinkedIn](#), [Facebook](#) and [YouTube](#)

About BCG

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7 Glossary of terms used in the report

AMAC	Asset Management Association of China
BCBS	Basel Committee on Banking Supervision
BCG	Boston Consulting Group
BIS	Bank of International Settlement
CAGR	Compounded Annual Growth Rate
CBIRC	China Banking and Insurance Regulatory Commission
CBRC	China Banking Regulatory Commission
CCDC	China Central Depository & Clearing
CCP	Central Counterparty
CDS	Credit Default Swap
CFA	China Futures Association
CFETS	China Foreign Exchange Trading System
CFFEX	China Financial Futures Exchange
CGB	Chinese Government Bond
CIBM	China Interbank Bond Market
CII	Critical Information Infrastructure
CLN	Credit-linked Notes
CNY	Chinese Yuan (Onshore)
CRM	Credit Risk Mitigants
CRMA	Credit Risk Mitigation Agreement
CRMW	Credit Risk Mitigation Warrant
CSIS	China Securities Internet System Co., Ltd.
CSRC	China Securities Regulatory Commission
DCE	Dalian Commodity Exchange
FIA	Futures Industry Association
FICC	Fixed Income, Currency and Commodities
FRA	Forward Rate Agreement
FSDC	Financial Stability and Development Committee
FX	Foreign Exchange
GDP	Gross Domestic Product
HKEX	Hong Kong Exchange
INE	Shanghai International Energy Exchange

IOSCO	International Organization of Securities Commissions
IRO	Interest Rate Option
IRS	Interest Rate Swap
ISDA	International Swaps and Derivatives Association
KYC	Know Your Customer
LPR	Loan Prime Rate
MOF	Ministry of Finance
MOU	Memorandum of Understanding and Cooperation Agreement
NAFMII	National Association of Financial Market Institutional Investors
NPC	National People's Congress of the People's Republic of China
OTC	Over-the-Counter
PBOC	People's Bank of China
PFMI	Principles for Financial Market Infrastructures
PRC	People's Republic of China
QFI	Qualified Foreign Investor
QFII	Qualified Foreign Institutional Investor
RMB	Renminbi
RQFII	Renminbi Qualified Foreign Institutional Investor
SAC	Securities Association of China
SAFE	State Administration of Foreign Exchange
SASAC	State-Owned Assets Supervision and Administration Commission
SHCH	Shanghai Clearinghouse
SHFE	Shanghai Futures Exchange
SOE	State-owned Enterprise
SRO	Self-Regulatory Organization
SSE	Shanghai Stock Exchange
STAR	Sci-Tech Innovation Board
SZSE	Shenzhen Stock Exchange
TRS	Total Return Swap
ZCE	Zhengzhou Commodity Exchange

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