

Using RMB bonds as collateral for OTC derivatives

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ABSTRACT

Using Renminbi (RMB) bonds, especially Chinese Government bonds (CGB), as collateral for both onshore and cross-border over-the-counter (OTC) derivatives is a hot topic following China switching to a netting jurisdiction in August 2022. Since then, Chinese financial institutions are required to exchange initial margin and variation margin with offshore counterparties for dealing cross-border derivatives. As the market infrastructure for using RMB bonds as collateral for cross-border OTC derivatives transactions is not well established and RMB bonds are not extensively accepted by foreign counterparties as eligible collateral, Chinese financial institutions are unable to utilise their huge RMB bond holdings. At the same time, many foreign investors are allowed to access China's onshore RMB bond market with RMB bond holding up to RMB 3.4tr, but are unable to use those inventories as collateral for their onshore and cross-border derivatives trading and other financial transactions. Using RMB bonds as collateral is also

an initiative of RMB internationalisation. The purpose of this paper is to give an extensive explanation of the status of using RMB bonds as collateral in the Chinese market, point out challenges faced by market participants and provide suggestions to promote using RMB bonds as collateral for both onshore and cross-border derivatives transactions. This paper provides the full picture of China's onshore RMB bond investment and bond collateral management along with the latest data. It also provides extensive analysis for deficiencies in respect of the RMB bond collateralisation. It concludes with suggestions for the future development of the Chinese market to use RMB bonds as collateral for both onshore and cross-border OTC derivatives.

Keywords: RMB bond, bond collateralisation, OTC derivatives, RMB internationalisation

INTRODUCTION

The biggest breakthrough in China's over-the-counter (OTC) derivatives market in 2022 was the promulgation of the Futures and Derivatives Law (FDL), which makes China a clean netting jurisdiction recognised by the international financial market. The FDL also legally recognises the credit support arrangement for OTC derivatives, which, together with netting recognition, provides the basis for International Swaps and Derivatives Association (ISDA) to issue the industrial collateral legal opinion (the 'ISDA collateral legal opinion') confirming the enforceability of collaterals posted by Chinese counterparties.

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As a milestone, the FDL makes possible the implementation of collateralisation for uncleared OTC derivatives in China, including taking Renminbi (RMB) bonds as collateral. At the same time, China's bond market has become the world's second largest.¹ The international recognition of RMB bond assets has continuously improved. As one of the key strategies of RMB internationalisation, RMB bonds have been included in major international bond indexes² and have become one type of asset class for international investors for their global asset allocation. Foreign investors continue to increase their holdings of RMB bonds (see Figure 1). By the end of 2022, the balance of bond holding by foreign investors in China's onshore bond market was approximately 3.5tr, accounting for 2.4 per cent of the total balance of RMB bonds in that market.³

Although RMB bonds have not been extensively accepted as eligible collateral under bilateral credit support annex for

OTC derivatives transactions, more and more international investors are willing to use RMB as the settlement currency⁵ and accept RMB bonds as collateral for cross-border financial transactions.⁶ This brings a huge opportunity for using RMB bonds, especially Chinese Government bonds (CGBs), as an eligible collateral for international financial transactions including OTC derivatives transactions.

Although there are a number of challenges in using RMB bonds as collateral for OTC derivatives transactions, it is anticipated that they will be widely accepted in the near future by both domestic and international investors as the eligible and qualified collateral for OTC derivatives transactions and other financial transactions. The reason for this is the tightening of risk management of China's financial market and rapid development of financial market infrastructures (FMI) in respect of collateral management, together with the acceleration and expansion of RMB internationalisation.

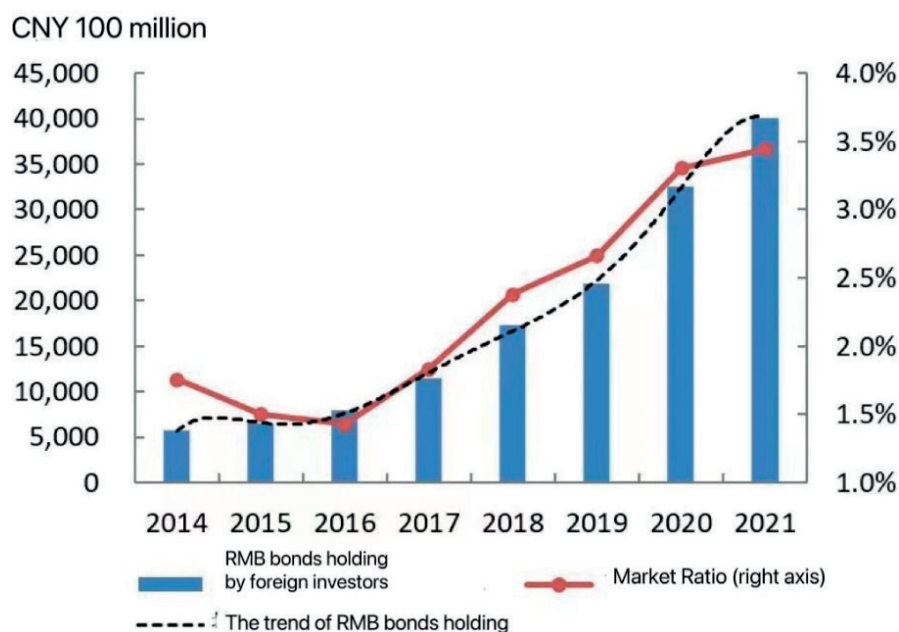


Figure 1 The scale and proportion of RMB bonds held by foreign investors⁴

THE CURRENT STATUS OF USING BOND COLLATERAL IN OTC DERIVATIVES MARKET

The history of using RMB bonds as collateral for bilateral market financial transactions

There are three markets for RMB bonds trading in China. The first market is the China interbank bond market (CIBM) supervised by the People's Bank of China (PBOC), the central bank of China. China Foreign Exchange Trade System (CFETS) is the trading platform of the CIBM. China Central Depository & Clearing Co. Ltd. (CCDC) and Shanghai Clearing House (SHCH) are the central security depositories (CSDs) for this market.⁷ The second market is the exchange markets supervised by the China Securities Regulatory Commission (CSRC),⁸ for which China Securities Depository and Clearing Corporation Limited (CSDC) is the CSD. The third market is the OTC trading platform provided by Chinese commercial banks to their customers. The CIBM is the major market for RMB bonds trading. This paper will focus on the CIBM and CCDC as the balance of RMB bonds traded in the CIBM accounts for 86.53 per cent of the total balance of RMB bonds in China's bond markets, which is equal to CNY125.3tr.⁹

RMB bonds used as collateral for bilateral market transactions in the CIBM began in 1997. In that year, China's onshore interbank market launched pledged bond repo business. In a pledged repo transaction, RMB bonds are used as the collateral to be pledged to the reverse repo party and frozen in the repo party's bond account; the reverse repo party will lend funds but has no right to use the bond collateral. In 2004, the title transfer bond repo (also called outright transfer repo) was launched in the CIBM, under which the title of the RMB bond collateral is transferred from the repo party to the reverse repo party and the reverse repo party has the full title of the RMB bond collateral during

the whole tenor of the transaction and is only obligated to return the bond in the same kind at maturity.¹⁰

In 2006, the first RMB bond lending transaction was executed in the CIBM, under which RMB bonds are pledged as collateral by the bond lender to the bond borrower to borrow the target bond from the lender. Besides the pledged repo, title transfer repo and bond lending, it is also recommended that RMB bonds be adopted as collateral in bond forward transactions,¹¹ OTC derivatives transactions and other bilateral market transactions. Besides using RMB bonds as collateral for bilateral market transactions as mentioned above, the CCDC also provides a collateral management service to support public policy services such as monetary policy and government financial policy.

The CCDC is the core FMI for the RMB bond market. It is the CSD for CGBs, central bank bills, policy financial bonds (PFBs), financial bonds and other various kinds of financial products. In 2011, the CCDC launched the RMB bond collateral management service. By the end of 2022, the total balance of bond collateral was about CNY20.94tr, which makes the CCDC one of the biggest collateral management platforms in the world.

Certain facts about RMB bond collateral under the custody of the CCDC

Due to the limited data that is publicly available in respect of RMB bond collateral for OTC derivatives transactions, this section expands the scope of discussion from OTC derivatives transactions to all bilateral market transactions that are eligible application scenarios under the RMB bond collateral management service. The analysis shows that both the absolute quantity and the relative percentage of using RMB bonds as collateral for OTC derivatives transactions is substantially small in the market.

Compared to the total balance of RMB bonds under the custody of CCDC, the proportion of bonds used as collateral for bilateral market transactions is very low

By the end of 2022, the total balance of RMB bonds in the CIBM was 125.3tr,¹² including 96.47tr under the custody of the CCDC.¹³ The total balance of RMB bond collateral in custody of the CCDC was about CNY20.94tr.¹⁴ Although the CCDC is one of the biggest bond collateral management platforms in the world, up to the end of 2022, the total balance of RMB bond collateral accounted for only 21.7 per cent of the total balance of RMB bonds in custody of the CCDC and only 16.71 per cent of the total balance of RMB bonds in the CIBM, which is relatively low comparing to other international financial markets.

Application scenarios of RMB bond collateral for bilateral market transactions mainly concentrate on bond repo and bond lending. RMB bond collateral used for OTC derivatives only accounts for a very small portion

There are three main categories of application scenarios for using RMB bonds as collateral provided under the RMB bond collateral management service of the CCDC: policy service, bilateral market transaction service and cross-border service (see Table 1). In consideration of monetary policy and financial policy relating to financial stability and public policy, system development and service innovation for policy service is the CCDC's priority. In respect of bilateral market transaction service, bond repo and bond lending business are the core application scenarios. This is not only because RMB bonds pledge is the embedded structure leg of bond repo and bond lending, but also the bond repo transactions account for the lion's share of the whole CIBM bond trading business¹⁵ and the bond collateral posted for pledged

repo is about 35.46 per cent of the total balance of bond collateral.¹⁶

The system development and service provided by the CCDC for OTC derivatives currently focus on exchange traded derivatives rather than OTC derivatives

China's derivatives market includes both exchange traded derivatives market and OTC derivatives. The former includes futures and options contracts traded in futures exchanges.¹⁸ The latter includes three sub-markets: the interbank OTC derivatives market (Interbank OTC market), the OTC derivatives market for securities companies and futures companies (securities company OTC market), and the client trade between commercial banks and their corporate clients (corporate client OTC market). Currently using RMB bond collateral as collateral is mainly for exchange traded derivatives rather than OTC derivatives.

The CCDC launched the business of using RMB CGBs as margin for exchange traded derivatives in 2014. By the end of 2022, 140 futures companies had opened bond margin account and about 516 institutions had posted RMB bond as collateral to secure their futures contracts.¹⁹ The balance of bond collateral in respect of using RMB CGBs as margin for exchange traded derivatives was about CNY1,821bn.²⁰ Using RMB CGBs as margin for futures contract trading in futures exchanges has been regarded as an effective way to reduce the trading costs and improve market efficiency by market participants.

Using RMB bonds as collateral for OTC derivatives is mainly applicable for a particular transaction other than for the total exposure under a master agreement

Under the current service categorisation of the CCDC, using bond collateral for OTC derivatives is not a separate service

Table 1: Main application scenarios of bond collateral in Chinese financial market¹⁷

Service categorisation	Sub-categorisation	Business lines
Public policy service	Supporting monetary policy	Medium term loan facility (MLF) and targeted medium Term loan facility (TMLF) Standing lending facility (SLF) Reverse repo of open market operation (OMO) Re-lending
	Supporting financial policy	Central and local treasury cash management
	Supporting operation of settlement system	China National Advanced Payment System (CNAPS) automatic pledged financing management Bulk electronic payment system pledged financing limit management
Bilateral market transaction service	Bond trading	Interbank market pledged repo Title transfer repo Bond lending Bond forward
	Innovation business	Foreign currency repo Social security fund management Bond pledged for agreement deposit Using bond collateral as margin for futures contract Interbank credit line granting Universal collateral management service
Cross-border service	Cross-border currency swap with offshore central banks Cross-border securities issuance Cross-border financing Cross-border settlement facilitation Cross-border bond lending Using RMB bonds as margin for cross-border derivatives	

category. It is under the category of universal collateral management service for purely onshore transactions and the category of cross-border collateral management for cross-border transactions. So far, there are very few publicly reported cases for using RMB bonds as collateral for OTC derivatives transactions.

One live case is that Guotaijunan Securities Company (GTJA) accepted RMB bonds in custody of CCDC as collateral to execute an interest rate option transaction with its counterparty on 22nd June, 2022. According to the official announcement of GTJA, GTJA is the first securities company

accepting RMB bonds as collateral for OTC derivatives transactions.²¹

The second case is that the Industrial and Commercial Bank of China (ICBC) and the Central Bank of Nigeria used RMB bonds as collateral in the currency swap transactions to help Nigeria to include RMB into its foreign exchange reserves.²²

The third case is that Bank of Communications Hong Kong Branch used RMB bonds as collateral to trade gold (T&D transactions) on the Shanghai Gold Exchange International (SGEI) on 27th June, 2016. The total volume for using RMB bonds as collateral for gold T+D

business on SGEI was about CNY16,2678m in 2016.²³ Therefore, using RMB bonds as collateral for OTC derivatives is still virgin territory for the Chinese derivatives market.

As China has just become a netting jurisdiction and there is no mandatory margin regulation, usually RMB bonds are posted as collateral for a particular transaction rather than the total exposure of all outstanding derivatives transactions, which is different from the international market. In the international market, the margin is posted for the total exposure of all outstanding transactions between counterparties based on the calculation method in accordance with the closeout netting provisions in the ISDA master agreement.

Although China is a latecomer to bond collateralisation for OTC derivatives, it is likely that there will be more cases for using RMB bonds as collateral in China's OTC derivatives market for the following reasons:

(1) Using RMB bond collateral as the mandatory initial margin (IM) for OTC derivatives is an efficient way to solve shortage of eligible collaterals for the IM exchange obligations faced by Chinese financial institutions. As China has become a netting jurisdiction post-FDL, offshore counterparties which are subject to mandatory margin regulations are beginning to ask Chinese counterparties to exchange margin according to their home jurisdictions' uncleared margin rules (UMR). Although China is not a UMR jurisdiction, Chinese financial institutions are passively subject to mandatory margin exchanges to keep dealing with offshore counterparties and therefore need to post qualified securities to offshore counterparties in order to satisfy margin calls for the IM under the UMR. As the total volume of offshore securities held by Chinese financial institutions that are eligible as the IM under the UMR is limited, Chinese financial

institutions have the incentive to post their onshore RMB bonds inventory as the IM to offshore counterparties;

(2) Accepting RMB bonds as collateral is a solution to replenish the shortage of high-quality liquid assets (HQLA) and solves the issue of high concentration of bond collaterals in the international market. For example, during the 10th Sino-British Economic and Financial Dialogue held in London, the topics of 'promotion of including RMB bonds as the eligible collateral generally accepted in UK market' and 'The Bank of England agrees to consider to include China's sovereign bonds and central bank bills into the scope of eligible collateral' were officially included in the meeting agenda.²⁴ Figure 2 illustrates the willingness of accepting RMB bonds as collateral by foreign investors in a survey conducted by the CCDC in 2018 ('2018 CCDC survey').

There is probably a long way to go, however, before RMB bonds are accepted as HQLA²⁵ due to the limitation of liquidity of RMB bonds in the international market, as RMB has not yet taken a core position in the international monetary system and China's sovereign rating is only A+. Using RMB bonds as collateral is also a solution to solve the risk of the high concentration of bond collateral in certain jurisdictions. Due to the low correlation between the trend of RMB bonds and that of Europe and the US and the continuous promotion of RMB internationalisation, RMB bonds can meet the needs of foreign investors for diversification of investment and reduce portfolio risk for asset allocation;

(3) Using RMB bonds as collateral can help foreign institutional investors take full advantage of their onshore RMB bond investment inventory. By the end of 2022, there were 1,071 foreign institutional investors investing in onshore RMB

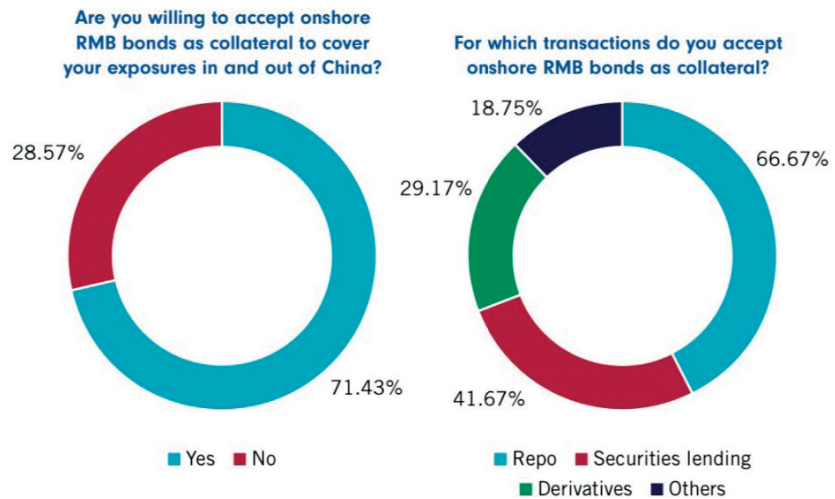


Figure 2 2018 CCDC survey on acceptance of CGBs as collateral²⁶

bonds, including 526 foreign investors via CIBM Direct,²⁷ 784 foreign institutional investors via Bond Connect²⁸ and 239 foreign investors via both channels (see Figure 3). The total balance of RMB bonds held by foreign institutional investors in the CIBM was about 3.4tr, accounting for 2.7 per cent of the total volume of RMB bonds in the CIBM.²⁹ In respect of category of bond holding by foreign institutional investors in the CIBM, the largest portion was CGBs of

about CNY2.3tr accounting for 74.18 per cent of their total holdings in the CIBM, and the second largest portion was PFBs of about CNY0.7tr accounting for 23.83 per cent of their total holdings in the CIBM (see Figure 4).³⁰

Those foreign institutional investors anticipate that they are able to make full use of their RMB bond inventory for liquidity and risk management purposes, including using RMB bonds as collateral for their cross-border transactions

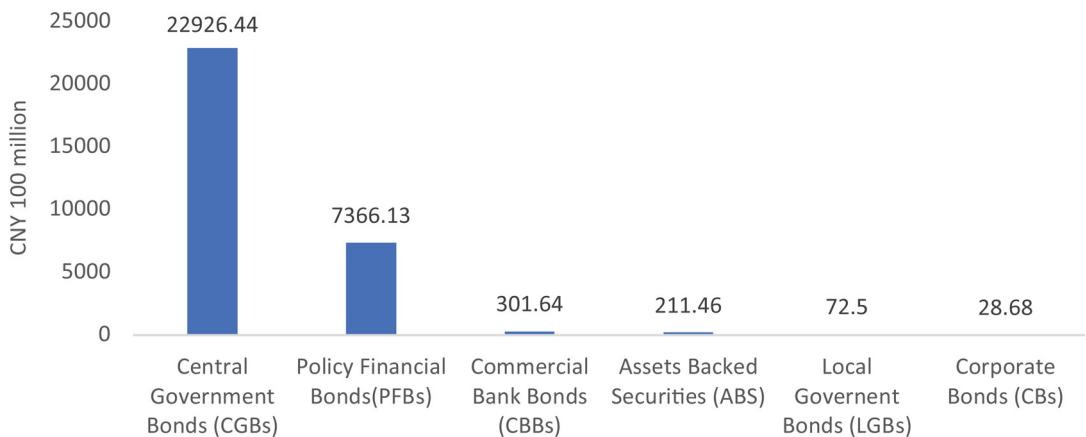


Figure 3 Categorisation of RMB bonds holding by foreign investors (to end of 2022)³¹

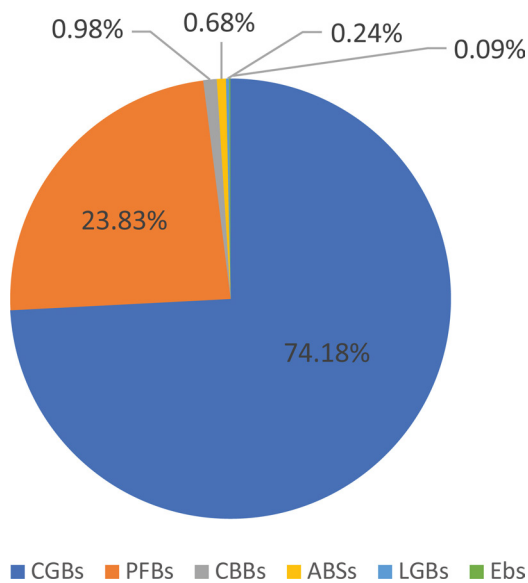


Figure 4 Proportion of bonds held by foreign investors (to end of 2022)

including OTC derivatives. According to the CCDIC's data, up to the September of 2022, there were six foreign investors using RMB bonds as collateral to secure their futures contracts;³²

- (4) RMB bond collateral will be widely used as eligible collateral if China launches the mandatory margin regulation in the future. The international financial crisis broke in 2008, and the bankruptcy of Lehman Brothers triggered global systemic risks. The G20 Summit in 2011 reached consensus on the reform of international financial market regulation. To implement the spirit of the G20 Summit, the US and the European Union (EU) required that bilateral IM and variation margin (VM) exchanges be mandatory for OTC derivatives transactions of non-centralised clearing, in order to effectively manage counterparty credit risk and control financial market system risk. It looks likely that the mandatory margin regime will subsequently become one of the key metrics in respect

of a robust financial market. Although China's derivatives market has not experienced serious systemic risks, the risk of default in the entire financial market has increased over the past ten years. Taking the bankruptcy of commercial banks as an example, the myth of 'too big to fail' for Chinese banks was broken in 2019. As of 2023, four banks have been declared bankrupt for liquidation and three banks have been accepted by courts to commence bankruptcy proceedings in China. The increasing number of credit default events has forced China's financial regulators to pay attention to the mandatory margin regulation for OTC derivative market. For example, in the Draft Guidance on Promoting the Standardized Development of Derivative Business published at the end of 2021, several regulators for financial markets jointly require counterparties to place higher margin for uncleared OTC derivatives. The CSRC published business management rules for securities companies to require them to collect margin for total return swaps from counterparties based on underlying assets class and long and short portfolio.³³ It is expected that Chinese regulators may implement stricter margin requirements for OTC derivative transactions in the near future to address the increasing default risk of financial market. If that happens, the demand for using RMB bonds as collateral for margin exchange by Chinese financial institutions will increase substantially.

THE CHALLENGES FOR USING RMB BONDS AS COLLATERAL FOR OTC DERIVATIVES IN CHINA

There are many challenges in respect of using RMB bonds as collateral for both onshore and cross-border OTC derivatives transactions, for reasons including the traditional dealing

practice of market participants, the deficiency of FMI and the legal system of China.

Dealing practice: Dealing OTC derivatives basing on bilateral credit line and margin exchange can be exempted within credit line

There is a long tradition among Chinese financial institutions to deal OTC derivatives transactions with each other purely relying on the bilateral credit line granted to each other instead of exchanging margin to secure trading exposures. There are three possible reasons for this outdated practice. The first is that there was a solid understanding in the interbank market that Chinese financial institutions generally enjoy higher credit ratings and lower default risk as the government is unlikely to allow financial institutions to go bankrupt. Actually, this myth has been broken already. The second possible reason is that credit risk exposure of interbank OTC derivatives faced by financial institutions accounts for a relatively small percentage comparing to the total credit risk exposure faced by financial institutions under the interbank lending and borrowing business, as OTC derivatives are not a traditional business of Chinese financial institutions. Therefore, Chinese financial institutions have less incentive to use collateral as credit risk mitigant for capital charge saving purposes. The third possible reason is that China once was a non-netting jurisdiction, and it is practically impossible to collect margin on net basis by market participants. In a nutshell, as most uncleared OTC derivatives are still traded based on credit line and there is no mandatory margin requirement in China, the whole market needs to take time to move to margin exchange for OTC derivatives.

Financial market infrastructure: Deficiency of market infrastructure for bond collateral management

Well-developed and robust market infrastructure is particularly important for bond

collateral management. A key consideration for whether to use RMB bonds as eligible collateral relates to the efficiencies of the collateral enforcement regime. This enables non-defaulting parties to enforce their collateral in a timely manner when collateral providers are in default.³⁴ As CCDC is the key market infrastructure for RMB bonds collateral management, especially for the RMB-dominated CGBs being the IM for cross-border OTC derivatives, CCDC will be taken as the example to address certain deficiencies of bond collateral management regime, which has caused concerns for both domestic and foreign investors.

(1) *Uncertainties of CCDC bond collateral enforcement process:*

- (a) The first uncertainty is stay risk under the PRC (People's Republic of China) Bankruptcy Law. There are two types of stay risk associated with the enforcement process. One is the stay risk during reorganisation. According to Article 75 of the PRC Bankruptcy Law, the collateral enforcement shall be suspended once the reorganisation procedure begins. The other is the stay risk during the bankruptcy liquidation. Although the Bankruptcy Law does not include any restriction or moratorium on the secured creditor's enforcement rights during a bankruptcy liquidation process, practical self-enforcement by secured creditors will be suspended once bankruptcy procedure begins according to the current judicial practice. According to the capital rules, when using bond collateral as a credit risk mitigant (CRM) for risk weighted asset (RWA) calculation purpose, the collateral enforcement must be in a timely manner. Those two stay risks bring challenges for 'in-a-timely-manner' requirement in respect of collateral disposal;

- (b) Another uncertainty is that the default enforcement process may be suspended by a court order. The merit of the CCDC default enforcement regime is to give pre-authorization to CCDC as the third-party collateral manager to dispose of the bond collateral following a default. As the CCDC bond enforcement process is a self-remedy regime, however, it is possible that a pledgor maliciously brings a lawsuit in a court for an injunction to stop the CCDC's auction process enforced by a pledgee. According to the standard version of the CCDC's collateral management service agreement, the CCDC reserves the right to suspend the enforcement process in certain circumstances at the CCDC's sole discretion. As the CCDC is trying to avoid being involved in any dispute between a pledgee and a pledgor, most likely the CCDC will suspend the enforcement process once a litigation or a court order is involved.
- (2) *Lack of process for RMB bond collateral exchanged under the format of title transfer:* RMB bonds collateral can be used as both IM and VM for OTC derivatives under the UMR. RMB bond collateral, however, can only be exchanged under the pledge format according to current CCDC collateral management process. As the most popular format for collateral exchange in the international market, title transfer is a new concept for the Chinese market. As China is a traditional civil law country, pledge is the dominant type of collateral arrangement in the financial market. Therefore, it is uncertain whether title transfer can be supported by judicial adjudication in China as there is no live case.³⁵ Obviously, title transfer is the most efficient and safe way to exchange collateral, as there is no stay risk that is associated to pledge format under China Bankruptcy Law and under title transfer format the bond collateral can be reused by the collateral receiver for reselling, repo or bond lending business. The current RMB bond collateral management system of the CCDC is adopting the pledge format only, however, the title transfer format is not available and undoable in the system. As mentioned, ISDA published its industrial collateral legal opinion in 2022. This legal opinion confirmed the enforceability of collateral posted by Chinese counterparties under both title transfer format and pledge format. Market participants expect that RMB bond collateral can be exchanged under the title transfer format for VM purpose, which makes the bond collateral exchange more efficient.³⁶
- (3) *Lack of process for certain foreign institutional investors to hold RMB bond collateral in the CCDC:* In the current CCDC bond account structure and bond collateral management process, both pledgors and pledgees must have bond custody accounts with the CCDC. For foreign institutional investors, they have to be either CIBM Direct clients or qualified foreign institutional investor (QFII)/Renminbi qualified foreign institutional investor (RQFII) clients to satisfy the eligibility for opening bond custody accounts with the CCDC. But when foreign institutional investors are neither CIBM Direct clients nor QFII/RQFII clients, pursuant to the current CCDC's relevant rules, they are unable to hold RMB bonds as collateral with the CCDC. This issue needs to be resolved by the CCDC as it will have an impact on the scope of foreign institutional investors as pledgees. The CCDC's RMB bond collateral management service will be made available to all foreign institutional investors with

the demand of using RMB bonds as IM or VM, rather than limiting the scope of foreign investors to only CIBM Direct or QFII clients.

**Foreign exchange policy:
Uncertainties of fund outbound
remittance**

In respect of using RMB bonds as IM for cross-border OTC derivatives, one of the biggest concerns of foreign counterparties is the outbound remittance of the proceeds of bond collateral enforcement by the CCDC. As both OTC derivatives transactions and collateral cross-border posting and enforcement are capital items under China's foreign exchange control regulations, fund remittance banks need to follow specific foreign exchange rules or guidance for the cross-border fund transfer; however, there are no such specific rules or guidance for bond collateral enforcement in OTC derivative transactions in place so far. Under existing foreign exchange rules for cross-border debt and security arrangements, when a Chinese entity provides a security interest for its own debt for the benefit of an offshore creditor, registration in respect of the security interest is not required.³⁷ When the pledgor uses the collateral to set off the debt or the pledgee applies for outbound remittance after selling the collateral, the pledgor shall handle the relevant payment procedures according to the repayment of the principal and interest of a normal foreign debt.³⁸ There is, however, no guidance from the regulators on how to follow the repayment of the principal and interest of a normal foreign debt under an OTC derivatives transaction. The current practice is to seek the case-by-case approval from the regulators for the cross-border remittance of the proceeds of bond collateral enforcement. Therefore, from foreign counterparties' perspective, the fund remittance of proceeds of bond collateral enforcement has huge uncertainty. They need clear guidance from the regulators in order to assess

the eligibility of RMB bond collateral due to the timely enforcement issue.

**Deficiencies in collateral management
of local financial institutions**

As there is no tradition for collateral exchange in the onshore financial market, Chinese local financial institutions have very limited experience of margin exchange for OTC derivatives. They are also short of systems supporting automated and efficient collateral management.

Chinese local financial institutions need to establish their own collateral management systems, which not only require the basic function of margin exchange such as marking to market and making margin calls, but also require a holistic approach to ensure that back-office processing is seamlessly integrated into the front-office and treasury management functions to enable control and optimisation of the company-wide inventory. Local financial institutions need to build up their own collateral management systems in a secure and fast manner via straight-through processing (STP) with minimal human intervention and errors. At a high level, those requirements include:

- Sourcing eligibility terms for collateral;
- Sourcing reliable market data and pricing;
- Real-time (or quasi real-time) access to the level of inventory;
- Understanding the source of internal business for assets;
- Understanding the estimated utilisation period of assets;
- Understanding the segregation, settlement and reconciliation process;
- Perfecting the process of collateral materialisation in the event of insolvency.³⁹

Chinese local financial institutions also need to import talents with professional collateral management experiences, enhance technical training and improve managerial skills and establish their own collateral management

team to be prepared for collateral exchange in the near future.

SUGGESTIONS FOR USING RMB BONDS AS COLLATERAL FOR ONSHORE AND CROSS-BORDER OTC DERIVATIVES TRANSACTIONS

Regulators to implement the mandatory margin requirement

With lessons learned from the international financial crisis and global margin reform post-crisis, it is difficult for market participants to voluntarily exchange margin for uncleared OTC derivatives on a large scale without mandatory margin regulations. First, margin exchange requires substantial capital investment to build up infrastructures and professional talents by market participants. Second, it is unlikely to establish uniform margin standards and operational guidelines for margin exchange in the Chinese financial market without a clear requirement from financial regulators.

There is a view in the market that the Chinese market does not need the mandatory margin exchange for uncleared OTC derivatives. The main argument is that the majority of China's onshore OTC derivatives transactions are traded in the CFETS platform⁴⁰ and are mainly RMB interest rate swaps (IRS) and RMB foreign exchange derivatives transactions (RMB FX derivatives).⁴¹ The ratio of central clearing in respect of these two types of transactions has reached 98.8 per cent and 60 per cent respectively,⁴² so the proportion of uncleared derivatives transactions in the whole volume of onshore OTC derivatives transactions is relatively small and therefore is less likely to cause systemic risk to the Chinese financial market.

This argument, however, only takes rates, FX and credit derivatives traded on CFETS platform (CFETS trades) into consideration. In respect of asset classes of OTC derivatives, besides rates, FX and credit derivatives, there

are also equity derivatives, bullion derivatives and commodity derivatives in the Chinese OTC derivatives market. In respect of trading platforms, besides CFETS platform, there are also other trading platforms or markets that need to be considered. Those trading platform and markets include: (1) OTC derivatives executed between financial institutions off-CFETS platforms; (2) the client OTC market; (3) the securities companies OTC market; and (4) cross-border transactions between onshore entities and offshore counterparties ('cross-border market'). Unfortunately, there is no data publicly available about their trading volume and total outstanding exposure.⁴³ Accurate data to get the full picture of China's uncleared OTC derivatives is likely to be available for collection in the near future, as China is establishing the trade depositories in order to increase the transparency and enhance the supervision of OTC derivatives market.

Legislation to clarify the impact of the Bankruptcy Law on RMB bonds enforcement

In respect of stay risks caused by the bankruptcy liquidation and reorganisation of collateral enforcement, including RMB bonds collateral, the ISDA Collateral Legal Opinion confirms that those stay risks are very low. The Legal Opinion states that collateral in the form of cash or securities for OTC derivatives would not be necessary assets for reorganisation purposes and therefore the collateral taker can apply to the trustee to enforce the collateral. Market participants expect that this point can be restated or confirmed in the Bankruptcy Law.

According to the legislative plan of the National People's Congress, the amendment to the Bankruptcy Law is currently under review. Among other issues, the draft amendment covers reorganisation procedure and creates a new special chapter on the bankruptcy of financial institutions.⁴⁴ As learned

from the international experience, almost all netting jurisdictions recognise the enforceability of both closeout netting and collateral arrangement at the same time. It is recommended that this amendment can address stay risks in respect of collateral enforcement during the reorganisation procedure as well as bankruptcy in this special chapter for bankruptcy of financial institutions. It is also recommended that this special chapter for bankruptcy of financial institutions can provide additional protection for financial collateral adopted in OTC derivatives transactions, which echoes Article 34 of the FDL and recognises the collateral arrangement as performance assurance for OTC derivatives transactions.

CCDC to improve the robustness regime for bonds collateral enforcement

In respect of implementation of title transfer of RMB bond collateral as performance assurance arrangement for OTC derivatives transactions, the CCDC will enhance its system to allow bond collateral to be placed and exchanged under the title transfer format. Although currently the CCDC's system allows the title of a bond to be transferred between counterparties in the form of free of payment (FOP), the FOP is only limited to bond spot transaction where the payment will be done by both parties separately without involving the CCDC. Therefore, the system setup under the FOP is not suitable for title transfer as a performance assurance arrangement. The CCDC needs to develop new function for title transfer as the way for bond collateral exchange.

In respect of foreign institutional investors that are non-account holders with the CCDC, the CCDC needs to improve its system to allow those non-account holders to access to the bond collateral management service. The CCDC needs to pay attention to the account segregation requirement for IM purposes, as the current security

interest created under the pledge format in the CCDC system is to freeze the bond collateral in the pledgor's own account rather than transfer it to a segregated pledge account. The CCDC needs to further assess whether the current bond pledge method satisfies the segregation requirement under the UMR.

In respect of the uncertainty of bond collateral enforcement caused by court orders, the CCDC will get clarification from PRC courts. In China, PRC courts usually will provide judicial view for certain legal issues through the judicial interpretation;⁴⁵ however, it is hard to get the judicial interpretation if there is no live case to be heard by courts. The dispute arising from bond collateral enforcement is such an example without live cases. The CCDC may take advantage of the existing Shanghai Financial Court Rules on Financial Markets Test Case Scheme⁴⁶ by providing hypothetical disputes that may be involved in RMB bond collateral enforcement to the court and applying for a test trial for those hypothetical cases. The hypothetical disputes may include the following key issues that are concerns to the market participants: (1) the scenario where the CCDC performs the bond auction at the request of the pledgee upon the pledgor's default while the pledgor brings a lawsuit before the court to suspend the CCDC bond auction process; and (2) the scenario where the auction process is undergoing in the CCDC while the court rules that the pledgor enters into bankruptcy procedure or reorganisation. The purpose of the test trial is to help the court establish the common understanding of the nature and process of the bond collateral management business and beware of international market conventions, commercial practice and model legislation and regulations in order to come up with judicial suggestion and interpretation as the reference for the future real cases. The CCDC can act as the communication channel between the financial market and

the financial courts to assist financial courts to provide predictive judicial guidance for market participants.

Regulators to clarification of outbound fund transfer of proceeds of RMB bond collateral enforcement

As China is still a country with foreign exchange controls, in the absence of clear foreign exchange laws, rules, regulations or operational guidelines, the success of remittance of funds will be highly uncertain. Since using RMB bonds as collateral for cross-border OTC derivatives transactions is new for the Chinese market and there is no live case publicly reported, foreign investors are unable to find clear guidance for cross-border fund remittances following the disposal of RMB bonds used as collateral for cross-border transactions.

So far, the fund remittance is subject to case-by-case approval from regulators. As this fund remittance issue is very critical for offshore investors as the collateral receivers, however, it is very important for regulators to provide relevant specific cross-border fund transfer rules or guidance to remove this last barrier for using RMB bonds as collateral for OTC derivatives. Those rules or guidance need to provide clear procedures for case approval to foreign institutional investors to ensure that they ultimately have timely access to the proceeds from the sale of the RMB bonds collateral.

It is recommended that in respect of foreign investors who have already opened a non-resident account (NRA) under CIBM Direct for onshore RMB bonds investment, it is worth to explore whether regulators may extend the scope of usage of the NRA and allow those foreign investors to use their existing NRA for cross-border fund transfer of the proceeds of enforcement of RMB bond collateral. In respect of foreign investors who do not have a NRA, regulators may consider providing specific guidance such as allowing the CCDC to open escrow

accounts in designated PRC banks approved by regulators to hold the proceeds of bond collateral enforcement and allowing the foreign counterparties as pledgee to do foreign exchange conversion and fund remittance or directly remit the fund in Chinese Yuan (CNY) offshore.

CCDC to strengthen international cooperation among market infrastructures

In the 2018 CCDC survey (see Figure 5), in respect of using collateral for cross-border transactions, 60.42 per cent of respondents stated that connectivity between local and global custodians in order to provide a global solution for collateral management involving RMB bonds is their most concerned area.⁴⁷ Currently, most securities eligible as collateral for financial transactions are centrally registered and deposited with a few large global CSDs and custodian banks. Investors can access the global market through those CSDs and custodian banks and achieve the allocation and application of collateral assets worldwide. Therefore, cooperation between the CCDC and those CSDs and custodian banks from different markets is the only solution for cross-border usage of RMB bond collateral.⁴⁸ CCDC can learn from the creation and failure of the DTCC-Euroclear collateral highway and find the right way for cross-border cooperation.

The CCDC has signed memorandums of cooperation with international CSDs such as Euroclear and Clearstream in order to explore cross-border interconnection mechanisms and cooperation models at the professional and technical levels under the existing regulatory framework.⁵⁰ With the cooperation of those global CSDs, the CCDC is able to establish a framework to provide multi-level services for central registration and right recognition to investors⁵¹ and one-stop service for RMB bonds collateral management.

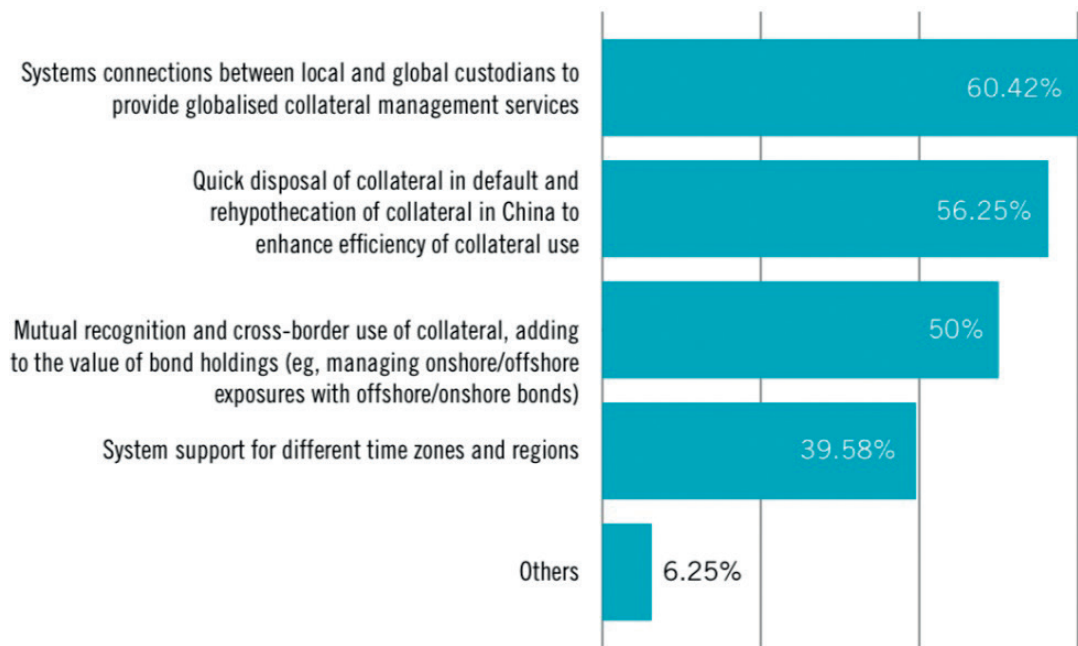


Figure 5 2018 CCDC survey on acceptance of CGBs as collateral⁴⁹

Chinese financial markets participants to develop the collateral management capability

Implementation of using RMB bonds as collateral for OTC derivatives in the Chinese market is a huge systemic engineering task involving financial institutions as both collateral takers and collateral payers, CSDs and custodian banks as the third-party collateral management service providers and financial regulators as the rule makers and supervisors.

In respect of Chinese financial institutions, as there is no tradition for voluntary margin exchange for OTC derivatives, they have very limited experience in margin exchange. They need to improve their capability of collateral management, especially developing the collateral management system with broad functionality and building up a professional collateral management team. System development may require fund investment for various automatic systems and facilities for valuation, margin call, registration, collateral pricing, collateral substitution, daily

balance reconciliation, concentration limit control, collateral inventory management, etc. Chinese financial institutions also need to work together with industrial associations and the CCDC to develop an industry standard account control agreement to be used for a third-party segregation arrangement that meets regulatory requirements.

CONCLUSION

CCDC and ISDA published the whitepaper ‘Use of RMB Chinese Government Bonds as Margin for Derivatives Transactions’ in 2019. Despite the passage of time since then, there is still no substantial progress in respect of using RMB bonds as collateral for cross-border OTC derivatives. This paper has conducted detailed analysis of a variety of legal, regulatory and market structure issues to identify challenges and provides suggestions for using RMB bonds as collateral.

China’s OTC derivatives market is currently in a very good position to adopt

RMB bonds as eligible collateral for OTC derivatives. Both domestic financial institutions and foreign investors have an increasing willingness to include RMB bonds in their collateral asset pools, which provides significant market demand. The rapid development of local CSDs may provide the robust market infrastructure for bond collateral management. Continuous and in-depth promotion of RMB internationalisation will provide the favourable environment that may encourage regulators to formulate clear rules or guidance. At the same time, promoting RMB bonds as eligible collateral to be accepted by collateral pools held by international investors not only requires continuous exploration of application scenarios and consolidation of market foundation, but also needs to be incorporated into top-level design and further comprehensive improvement of financial infrastructure and various policies to form a favourable environment.

DISCLAIMER

The paper reflects the author's personal views and not those of any institution.

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- (2) Chinese Government bonds (CGBs) were included in the Bloomberg Barclays Global Aggregate Index in 2019, JP Morgan Government Bond Index-Emerging Markets in 2020 and FTSE Global Equity Index Series in 2021. In May 2022, the IMF completed the five-year SDR rating review, and increased the RMB weight by 1.36 percentage points from 10.92 per cent to 12.28 per cent.
- (3) People's Bank of China (PBOC) (2022), 'Financial Market Report', available at <http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/4773407/index.html> (accessed 21st April, 2023).
- (4) Kuifang, Z. (June 2022), 'Long-Term Trend Analysis of Overseas Investors' Demand for Bonds, China Money Market.
- (5) According to a survey conducted by the PBOC, more than 70 per cent of the domestic enterprises interviewed reported that their overseas counterparties could accept the contracts priced and settled in RMB. Bank of China (June 2019), 'RMB Internationalization Report 2019', available at <http://www.pbc.gov.cn/huobizhengceersi/214481/3871621/3879422/index.html> (accessed 21st April, 2023).
- (6) CCDC/ISDA (September 2020), 'Use of RMB Chinese Government Bonds as Margin for Derivatives Transactions', available at <http://www.ccdc.com.cn/ccdc/cn/cmc/yjfx/c158987532/20220418/160043449.shtml> (accessed 21st April, 2023). According to a survey conducted by the CCDC aimed at foreign investors about their willingness to invest in the Chinese bond market ('2018 CCDC survey'), 71.43 per cent of respondents were willing to accept CGBs as collateral in their transactions.
- (7) CCDC is the custody of CGBs, PFBs, financial bonds, local government bonds and selected corporate bonds. Shanghai Clearing House (SCH) is the custody of Commercial Paper (CP), Super Commercial Paper (SCP), Middle Term Notes (MTN), Private Placement Note (PPN), Asset Backed Notes (ABN) and other debt financing instruments issued by non-financial enterprises and negotiable certificate of deposit issued by financial institutions.
- (8) CSRC is the regulator for stock exchange and futures exchange as well as securities companies, futures companies, securities

- investment fund management companies and other financial institutions carrying on securities and futures business.
- (9) People's Bank of China (PBOC), 'Financial Market Operation in 2022', available at <http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/4773407/index.html> (accessed 21st April, 2023). By the end of December 2022, the custody balance of the RMB bond market was CNY144.8tr, including CNY125.3tr for the interbank market bond in custody of the CCDC and CNY19.5tr for the exchange market bond in custody of the CSDC, and CNY41.61bn billion for OCT bond in custody by commercial banks.
 - (10) The title transfer repo is similar to the repo in the international market governed by Global Master Repurchase Agreement (GMRA). Please note that margin call is not generally adopted for the title transfer repo in China.
 - (11) Article 11 of 'National Inter-bank Bond Market Bond Forward Transaction Settlement Business Rule'. Under this rule, collateral exchange is not mandatorily required for bond forward transaction.
 - (12) Chinese Central Government (2022), 'Financial Market Operation in 2022', available at http://www.gov.cn/shuju/2023-01/21/content_5738362.htm (accessed 21st April, 2023).
 - (13) China bond (2022), 'CCDC Bond Custody Report (December 2022)', available at <https://www.chinabond.com.cn/jsp/include/EJB/documentNew.jsp?sId=04&sBbly=202212&sMimeType=4&sType=5> (accessed 21st April, 2023).
 - (14) China Bond (2022), 'CCDC, Annual Report of Collateral Management Service of 2022', available at chinabond.com.cn/cb/cn/yjfx/zgfx/nb/20230113/161916602.shtml (accessed 21st April, 2023).
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 - (16) CCDC (2022), 'Data Report of Bond Collateral Management Service Business (2022 Q3)', available at <http://www.ccdc.com.cn/ccdc/cn/cmc/yjfx/c158987341/c158987405/20221130/161668152.shtml> (accessed 21st April, 2023).
 - (17) The table is prepared based on the service categorisation on CCDC's website.
 - (18) There are five futures exchange in China, including Zhengzhou Commodity Exchange, Dalian Commodity Exchange, Shanghai Futures Exchange, China Financial Futures Exchange, Shanghai International Energy Exchange.
 - (19) China Bond (2022), 'Collateral Management Annual Report', available at <https://www.chinabond.com.cn/cb/cn/yjfx/zgfx/nb/20230113/161916602.shtml> (accessed 21st April, 2023).
 - (20) *Ibid.*
 - (21) Guotai Junan (GJTA) (June 2022), 'Guotai Junan successfully landed the industry's first over-the-counter derivatives transaction using bonds under the custody of CCDC as performance guarantee', available at <https://www.gtja.com/content/events/news/otctrade-220624.html> (accessed 21st April, 2023).
 - (22) Sina Finance (April 2022), 'Bond Market Overview (2021) III: Detailed Explanation of Bond Collateral Management', available at <https://finance.sina.com.cn/jjxw/2022-05-27/doc-imizirau5116159.shtml> (accessed 21st April, 2023). Although there is no information available for the transaction details, under this structure usually offshore central banks will pledge its RMB bond invested in CIBM to the Chinese financial institution and onshore financial institution will lend CNY to foreign central banks. Therefore, it is not an actual OTC derivatives although it is called currency swap.
 - (23) China Bond (2016), 'China Central Depository & Co. Ltd. Released the "2016 ChinaBond Collateral Management White Paper"', available at <https://www.chinabond.com.cn/cb/cn/yjfx/zgfx/nb/20170620/147578820.shtml> (accessed 21st April, 2023). There is, however, no further data available in the whitepaper for this type of business after 2016.

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- (25) After the Second World War, US dollar bonds entered into the European market and gradually developed into qualified collateral in the European market. The establishment of the EU also promoted cross-border mutual recognition of collateral among European countries. With the signing of the Plaza Accord in the 1980s, Japan's financial market was rapidly opened to the outside world, which led to international investors' increasing holdings of yen bonds and pushed yen bonds into the international collateral pool. After the 2008 international financial crisis, the UK took the initiative to expand its collateral pool to include bonds from some other countries in order to alleviate the scarcity of high-quality liquid asset collateral.
- (26) CCDC/ISDA, ref. 6 above.
- (27) Under the CIBM Direct, foreign investors can trade RMB bonds and derivatives in CIBM directly as members or via trading agents who are members of the CIBM.
- (28) Bond Connect is a new mutual market access scheme that allows investors from Mainland China and overseas to trade in each other's bond markets through connection between the related Mainland and Hong Kong financial infrastructure institutions.
- (29) People's Bank of China (PBOC), ref. 9 above.
- (30) *Ibid.*; People's Bank of China (PBOC) (2022), 'Briefing on the inter-bank bond market of overseas institutional investment in December 2022', available at <http://shanghai.pbc.gov.cn/fzhshanghai/113595/4774367/index.html> (accessed 21st April, 2023).
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- (34) CCDC/ISDA, ref. 6 above.
- (35) In the speech given by Xiao Kai who is the vice president of Shanghai Financial Courts at the 2021 International Forum of Collateral Management hosted by CCDC, in respect of collateral exchange in the format of title transfer, Kai mentioned that in the cross-border application of bond collateral, especially for the determination of the effectiveness of different methods such as pledge, it is necessary to clarify the application rules that is different from the general assignment security through the trial of specific cases. The fact that title transfer is not adopted in the market is also evidenced by the fact that market participants barely sign the Title Transfer Performance Assurance Document that is similar to ISDA Title Transfer CSA although it has been authorised by PBOC to be published for 13 years. There is no industrial netting legal opinion for title transfer bond repo under NAFMII Repo Master Agreement.
- (36) CCDC/ISDA, ref. 6 above. In the 2018 CCDC survey, 56.25 per cent of respondents anticipate hypothecation of collateral in China to enhance efficiency of collateral use.
- (37) Article 3(6) of Guidelines of Foreign Exchange Management for Cross-border Guarantee.
- (38) Article 3(3)(ii) of Guidelines of Foreign Exchange Management for Cross-border Guarantee.

- (39) CCDC/ISDA, ref. 6 above.
- (40) CFETS is the official trading platform for interbank OTC derivatives, which is supervised by the PBOC that is the central bank of China.
- (41) RMB interest rate swap is centrally cleared in Shanghai Clearing House (SCH) mandatorily and CNYFX derivatives is centrally cleared in the SCH voluntarily.
- (42) National Association of Financial Market Institutions Investors (NAFMII), China Foreign Exchange Trading System (CFETS) and Shanghai Clearing House (SCH), China OTC Financial Derivatives Market Development Report (2021).
- (43) In respect of OTC derivatives executed between financial institutions off-CFETS platforms, there is no data publicly available for its trading volume. In respect of the Client OTC Market, only the trading volume for CNY related FX derivatives is publicly available, which is about CNY10.11tr (PBOC, '2022 Foreign Exchange Trading Summary', available at <https://www.safe.gov.cn/safe/2022/1028/21644.html> [accessed 21st April, 2023]) and there is no data publicly available for OTC rates derivatives, bullion derivatives and commodity derivatives in respect of the Client OTC Market. In respect of Securities Company OTC Market, according to the data published by Securities Association of China (SAC), by the end of 2022, the notional amount of outstanding OTC derivatives is about CNY0.90tr. In respect of the cross-border market, the data is not publicly available.
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