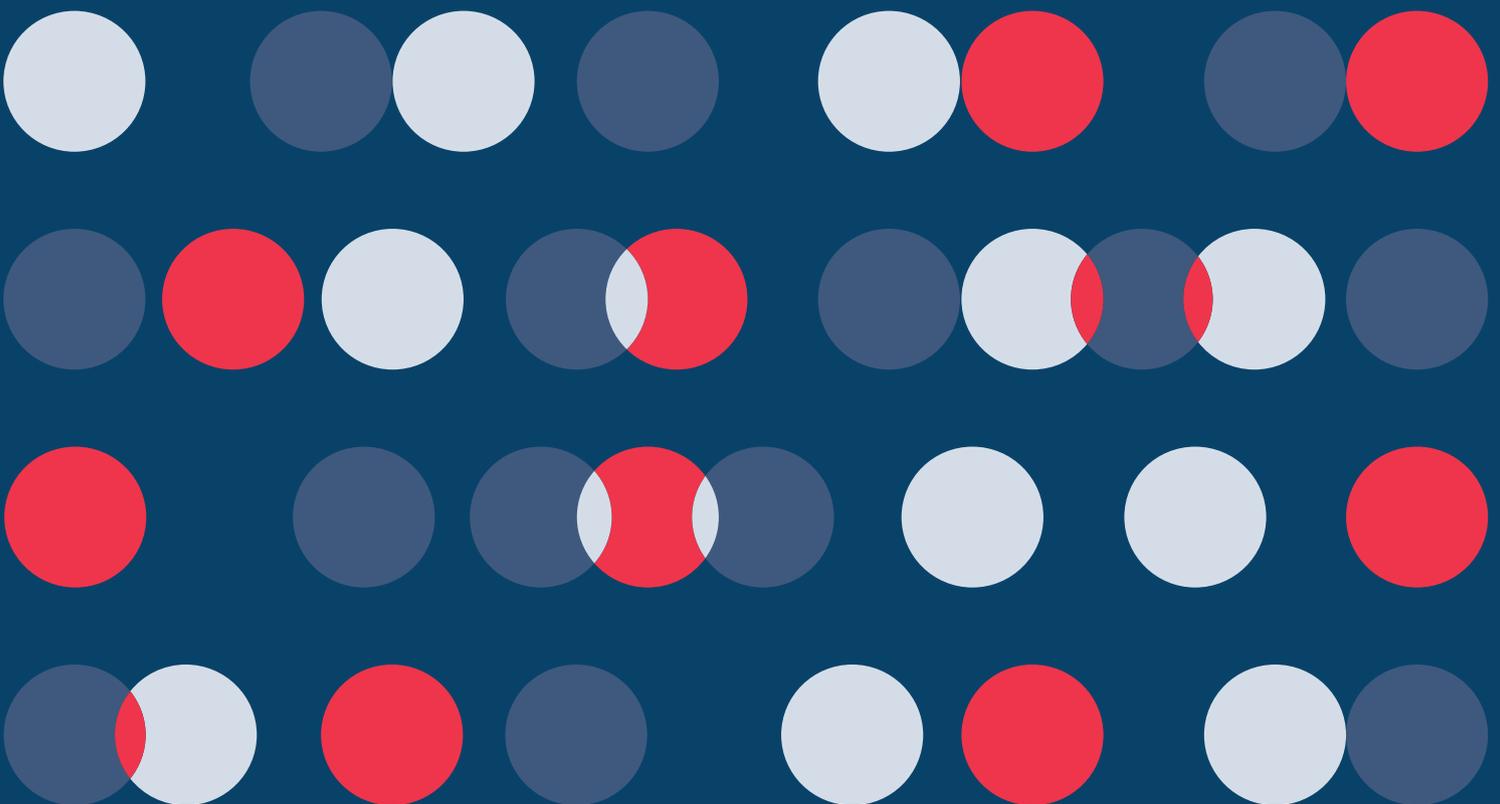


June 2020

RESEARCH REPORT

MARKET DEMAND FOR BUILDING
AN INTERNATIONAL CENTRAL SECURITIES
DEPOSITORY IN THE ASIAN TIME ZONE AND
THE ADVANTAGES OF HONG KONG



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SUMMARY

International central securities depositories (ICSDs) are one of the major financial infrastructures in the global financial market. It provides essential services such as cross-border clearing and settlement, custody, bond financing and issuance services for financial products denominated in different currencies (especially for products related to bonds) introduced by financial institutions around the world (including the Asian market). Over the years, regional financial infrastructural platforms have been undergoing continuous integration in the international market in order to reduce costs in cross-border trading, clearing and settlement. The objective is to broaden the investor base and to increase the overall market liquidity, thereby promoting further regional economic and financial integration. Key measures adopted for this objective include the formation of connection platforms between local securities depository institutions in the region (such as TARGET2-Securities in Europe) and the establishment of a single institution like ICSD as a focal point to provide integrated collateral management, cross-border custody, clearing and settlement, financing and other services for a region.

Increasing cross-region and cross-border securities investment activities will be driven by the internationalisation of the Renminbi (RMB) and the rapid development of the Asian bond market. It prompts the need for a safe and reliable cross-border trading, clearing and settlement and custody system in the Asian time zone. Such a financial infrastructure is of international standards will in return expedite the process of RMB internationalisation. It will also offer an effective technical solution for mitigating the risks associated with credit finance, operation, foreign exchange transactions and liquidity management for Asian participants' cross-region and cross-border securities investments, while conforming to international practices in trading and the regulatory requirements for information transparency.

Given Hong Kong's unique status as a financial centre connecting Asian and international financial markets, coupled with its robust financial system and connectivity framework, setting up an ICSD financial infrastructure in Hong Kong that conforms to international standards is expected to further enhance the post-trade custody, clearing and settlement and collateral management capabilities in the Asian time zone. This could promote the alignment of Mainland China's financial market with the common standards and practices of its international counterparts and provide crucial support for the internationalisation of the RMB.

1. ICSD AS ONE OF THE MAJOR FINANCIAL INFRASTRUCTURE IN THE INTERNATIONAL FINANCIAL MARKET

International central securities depositories (ICSDs) are one of the major financial infrastructures in the global financial market. Originated in the 1970s, ICSDs initially rendered clearing and settlement services for “Eurobond”¹. After years of development, two major ICSDs have emerged in the world — Euroclear and Clearstream which provide clearing and settlement and custody services for almost all types of financial instrument in the international market, including even products related to stocks and investment funds, supporting the trading and operation of financial products worth more than 40 trillion euros in the international market².

ICSDs connect the local central securities depositories (CSDs) in different countries and markets worldwide through various interfaces, and provides essential services such as cross-border clearing and settlement, custody, bond financing and issuance services for financial products denominated in different currencies (especially for products related to bonds) introduced by financial institutions around the world (including the Asian market) (see Table 1). These services cover most of the global cross-border offshore businesses, and also expand to the custody, clearing and settlement businesses of the local financial markets. With the electronic platform “Bridge” between Euroclear and Clearstream, international bonds that are issued jointly via the two ICSDs may be cleared and settled concurrently in the two ICSDs. Each ICSD has also established unilateral connections with other local CSDs, and assumes the role of a local CSD³ in providing clearing and settlement and custody services for local money market instruments, local government and corporate bonds, and other types of securities product. The achievement of these functions by ICSDs is crucial in promoting the integration of the European financial markets⁴.

Table 1. Major services and functions of an ICSD		
Major services	Category	Major functions achieved
Depository, clearing and settlement	<ul style="list-style-type: none"> Multi-currency cross-border securities clearing and settlement Delivery vs payment (DVP) and safekeeping of securities Account report and reconciliation Safekeeping of assets 	<ul style="list-style-type: none"> Realise cross-market, cross-asset class custody services Improve cross-border settlement efficiency
Global securities financing and triparty repurchase (repo) service	<ul style="list-style-type: none"> Provide credit finance through the wholesale securities lending market Financing for securities investment Render multi-currency repo services for collateral providers and lenders 	<ul style="list-style-type: none"> Maximise efficiency of the use of collaterals Improve investment liquidity
Triparty collateral management	<ul style="list-style-type: none"> Monitor credit exposure and scope of collaterals Mark daily positions and monitor margin positions Provide daily transaction and settlement reports 	<ul style="list-style-type: none"> Centralised collateral management Reduce cost of capital

¹ “Eurobond” refers to the type of international bond that is denominated in a currency other than the home currency of the issuer’s country. Initially issued mainly in the European market, it has now become prevalent in global offshore markets.

² Source: Clearstream and Euroclear’s websites (viewed on 15 April 2020).

³ For example, Euroclear is not only a major ICSD, but also a CSD which manages the local markets of seven European countries. Likewise, Clearstream provides local securities settlement services for cash and derivatives transactions in Germany and Luxembourg.

⁴ See World Bank, “Guidelines for the successful regional integration of financial infrastructures”, January 2014.

Table 1. Major services and functions of an ICSD		
Major services	Category	Major functions achieved
Issuance	<ul style="list-style-type: none"> • Provide eligibility assessment as well as issuance and distribution services for securities issued in both international and local markets • Eligible securities for issuance include certificates of deposit, depository receipts, treasuries, commercial papers, short and medium-term notes, bonds, stocks, warrants, equity-linked notes, and investment funds 	<ul style="list-style-type: none"> • Expand local issuers' investor base to include global investors
Asset services	<ul style="list-style-type: none"> • Exercise the rights of securities holders and handle corporate actions, including merger services, proxy voting, and corporate events • Handle the collection of income and redemption proceeds, market claims and subscription rights. 	<ul style="list-style-type: none"> • Provide one-stop services

Source: Summarised from information on Euroclear and Clearstream's websites (viewed on 15 April 2020).

Compared with local CSDs, an ICSD's competitive edge is that it holds a banking licence which allows it to furnish international participants with cross-regional liquidity in different major currencies. The basis for an ICSD to provide such liquidity lies in its functional services of global securities financing, triparty repo service and collateral management service. Through collateral management, an ICSD helps participants to minimise their capital usage and enables international participants to obtain liquidity support in major global currencies by making use of the centralised and integrated collateral pool. In the current major ICSD systems (such as that with Euroclear), the collateral custody system has been connected to the accounts of monetary authorities of the United States, the European Union, Japan and the United Kingdom so that liquidity support can be obtained from these authorities, thereby significantly enhancing the ICSD's capacity to respond to intraday liquidity strain⁵ (see Figure 1). This function became particularly important after the Global Financial Crisis in 2008. When such a crisis befalls and the market is hard hit by an unexpected liquidity crunch, the ICSD's provision of cross-border and multi-currency liquidity to the international market will be crucial in maintaining the stability of the international financial system.

⁵ Source: Euroclear, "Financial stability – Role of the ICSD", November 2018.

platforms have been undergoing continuous integration in the international market in order to reduce costs in cross-border trading, clearing and settlement. The objective is to broaden the investor base and to increase the overall market liquidity, thereby promoting further regional economic and financial integration⁸.

To integrate regional cross-border securities depository systems in the international market, two main directions may be followed:

(1) Establishing a platform to connect local CSDs in the region

This method mainly involves the development of a bilateral connection between local CSDs and the RTGS system to enable local financial institutions that have opened accounts with the local CSDs to (1) conduct directly with each other cross-border transactions and settlement of bonds in the other party's local market; (2) use local bonds as collateral to obtain local liquidity (such as repo transactions between different currencies); (3) issue international bonds such as Eurobonds and offshore Renminbi (RMB) bonds (dim sum bonds).

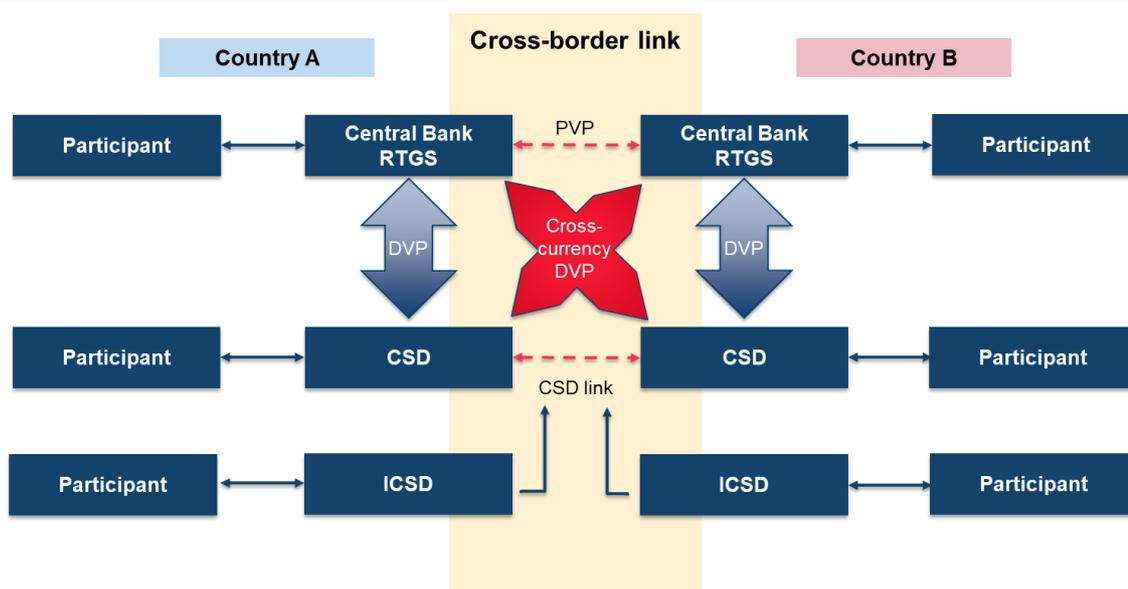
The interface between these systems can either be based on a relatively simple agreement between the CSDs or a more complex operational arrangement. For example, since 2006, the European region has begun to roll out TARGET2-Securities (T2S), a pan-European securities settlement engine coordinated by the European Central Bank (ECB) and maintained by the central banks of the various member countries in the Eurozone. This engine connects the securities settlement financial infrastructure in different countries to lower the cost of cross-border securities settlement between member countries in the Eurozone while eliminating the obstacles in cross-border settlement. It is therefore a pivotal measure for promoting an integrated financial market in the Eurozone.

Since the markets and local CSDs participating in a regional platform may be at different stages of development, they may differ significantly in terms of market openness, currency convertibility, legal and compliance requirements, and local operating practices. In light of this, a more compatible cross-border connection scheme would usually be adopted to connect the local CSDs and the RTGS system. For example, the integration of local CSDs in the Asian region has proceeded gradually since 2010⁹. During the process of implementing the linkage model of the cross-border securities depository systems in the region, a more flexible connection framework based on the level of the local infrastructure and the development of the local financial markets was adopted. For instance, a pilot platform was launched by the Hong Kong Monetary Authority and Malaysia in 2012 as a preliminary attempt to integrate the cross-border securities depository systems in Asia adhering to the above concept¹⁰.

⁸ See International Monetary Fund, "How to organize central securities depositories in developing markets: Key considerations", 4 February 2019.

⁹ A task force formed by the monetary authorities of Hong Kong, Malaysia, Indonesia and Thailand discussed with Euroclear the proposal for cross-border clearing and settlement infrastructure for debt securities in Asia and issued a White Paper entitled *Common Platform Model for Asian Post-trade Processing Infrastructure* on 4 June 2010.

¹⁰ See Hong Kong Monetary Authority's website (<https://www.hkma.gov.hk/chi/news-and-media/press-releases/2012/03/20120313-4/>).

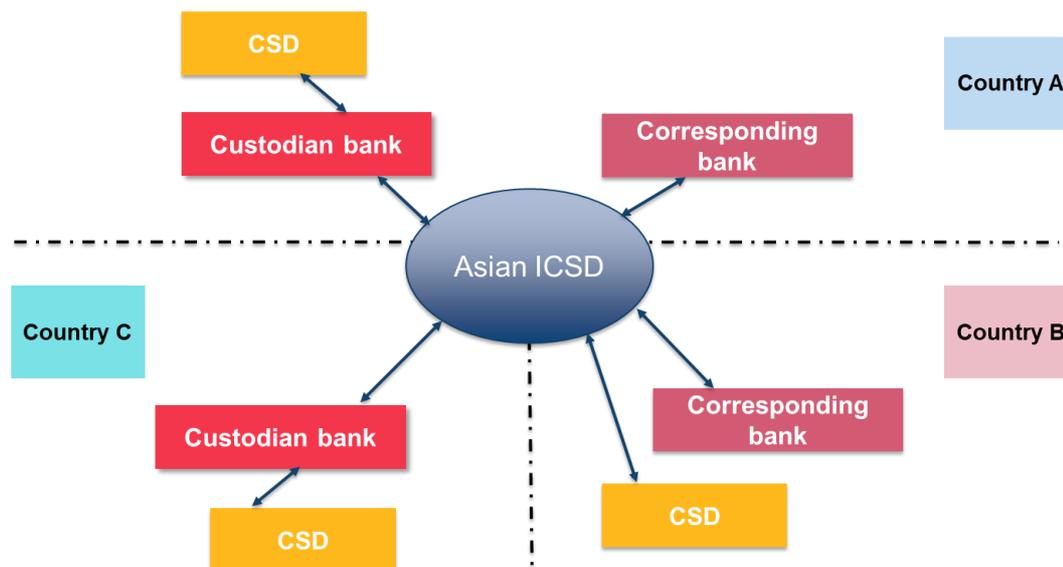
Figure 2. Conceptual model of the cross-border link between an ICSD and local CSDs

Source: Compiled with reference to Asian Development Bank, "Basic principles on establishing a regional settlement intermediary and next steps forward", 2014.

(2) Establishing a single institution to provide centralised and integrated collateral management, cross-border custody, clearing and settlement, financing and other services for the markets in the region

Establishing an ICSD as a single institution to provide post-trade functions is the most symbolic move in cross-border securities transactions. Taking Euroclear as an example, Euroclear has the function of an ICSD and also manages the CSDs of seven European countries. These local CSDs operate as independent entities in their home markets and handle clearing and settlement of local securities, while being connected to Euroclear's centralised and integrated collateral management and cross-border clearing and settlement platform, so that these countries can handle cross-border settlement of local securities at a lower cost and higher efficiency (by way of DVP, etc.) and more effectively address the issues of liquidity risk and exchange rate risks incurred in the cross-border settlement process. In 2014, the Asian Development Bank proposed the "Asian ICSD" concept, which can be regarded as a continuation of this model. The broad idea is to build an ICSD in the Asian region modelled after the existing ICSD system. Securities denominated in Asian and major international currencies can achieve DVP cross-border settlement through the Asian ICSD. At the same time, a centralised securities collateral database can be formed, allowing cross-border borrowing in global currencies or Asian currencies by pledging Asian collaterals. There will be no need to rely on local CSDs and the RTGS system as the ICSD will entrust local corresponding banks to handle funds settlement.

Figure 3. Conceptual model of an Asian ICSD serving the countries through multiple modes of linkage



Source: Compiled with reference to Asian Development Bank, "Basic principles on establishing a regional settlement intermediary and next steps forward", 2014.

From a short-to-medium-term perspective, the first linkage model of connecting local CSDs can connect existing infrastructure in a more flexible manner, facilitating participation from more local CSDs, and enabling the obtainment of liquidity provided by the monetary authority through connecting with the monetary authority's RTGS. The advantage of this approach is that it minimises the required changes in existing operating practices and regulations of the participating countries, so as to achieve the goal of integrating financial infrastructure with relatively limited investment in the short to medium term. However, this model has the disadvantage that it lacks a centralised platform to manage collaterals and entails reliance on the existing ICSD services and systems in Europe. It cannot offer an all-round solution to the technical problems in respect of liquidity management, custody and clearing and settlement that may be encountered during cross-border investments in the Asian bond market. It also does not form an independent custody, clearing and settlement system tailored to serve the Asian markets.

The Asian ICSD model proposed by the Asian Development Bank is modelled after the international mainstream ICSD framework and involves the setting up of a centralised and integrated collateral database in Asia and the furnishing of multi-currency cross-border collateral management and repo services, for the purpose of resolving the liquidity risk and cross-time zone settlement risk arising from cross-border settlement. However, this model also faces the issues of liquidity adequacy and currency convertibility. As many economies in Asia are still subject to capital controls which restrict cross-border settlement and remittance of funds to a certain extent, the effectiveness of liquidity provision offered by Asian ICSD to financial institutions in the region will be largely subject to these capital flow restrictions, the scale of such liquidity provision will also depend on the liquidity arrangements or agreements between the Asian ICSD and the major monetary authorities.

The establishment of new international depository institutions is not incompatible with the integration of existing financial infrastructure platforms. Instead, it can increase efficiency through competition, creating an effective market environment. When the ECB integrated the depository business into the T2S platform, it also allows CSDs of various countries to operate in parallel with Euroclear and Clearstream to facilitate a level-playing field, providing better depository services for different types of customer while allowing participants to conduct transactions in accordance with local regulations and practices that they are familiar with.

3. MARKET DEMAND FOR AN ICSD IN THE ASIAN TIME ZONE

After the 2008 Global Financial Crisis, regulators have continued to tighten their requirements on financial institutions in terms of capital ratio and liquidity requirements. Alongside, there has been continuous market demand for enhanced collateral management efficiency and access to liquidity in different currencies. However, the dispersed securities custody and post-trade facilities in the Asian region are not conducive to forming a coordinated and centralised infrastructure to reduce the operating costs and risks of the financial system in the region. Nor are conditions favorable for achieving economies of scale in enhancing the efficiency of the entire securities market.

In addition, the Asian bond market has gained ground in the past decade and is playing an increasing important role in the global market. Despite that, the promotion of regional financial integration is still hindered by institutional factors such as currency conversion, capital control and financial infrastructure efficiency in the region. The safety and efficiency of securities settlement also have much room for improvement. In view of these, the further integration of regional financial infrastructure platforms and the establishment of a centralised market operation mechanism, or a centralised international custody and settlement financial infrastructure like Euroclear and Clearstream, are crucial in enhancing the safety and efficiency of cross-border securities transactions.

Currently, the demand for the construction of an ICSD in the Asian time zone is mainly driven by three market factors:

First, increasing cross-region and cross-border securities investment activities will be driven by the internationalisation of the RMB and the rapid development of the Asian bond market. It prompts the need for a safe and reliable cross-border trading, clearing and settlement and custody system in the Asian time zone that is of international standards to accelerate the progress of RMB internationalisation.

As of the end of 2019, the size of the Asian local currency bond market reached US\$16 trillion, a 4.5-fold increase over 2008¹¹. International capital continued to flow into the Asian bond market. In the fourth quarter of 2019, foreign capital inflows into the bond markets of Mainland China, Indonesia and South Korea amounted to US\$11 billion, US\$2.4 billion, and US\$3.7 billion respectively, accounting for 5.82%, 38.57% and 12.3% of their respective market total¹². This trend of continued international capital inflows was partly driven by the low interest rate environment resulting from the large-scale quantitative easing policies implemented by major developed countries, and also partly attributed to the improvement of Asian economic fundamentals and infrastructures. In recent years, the infrastructure projects involved in the “Belt and Road” initiative have given rise to a large demand for debt financing, necessitating substantial debt issuance in the Asian market to cover the financing shortfall. These factors have contributed to active trading in the Asian bond market and significantly boosted demand for financial infrastructures with international connections and capabilities of performing various functions such as issuance and custody for the Asian bond market.

In 2016, the RMB was officially included into the special drawing rights (SDR) basket of the International Monetary Fund (IMF), giving a huge impetus for demands for RMB assets, especially for RMB bonds, in global investors’ asset allocation. At the end of 2019, foreign institutions’ holdings of RMB bonds reached RMB 2.2 trillion¹³. It is therefore necessary to provide more convenient post-trade services such as repo and custody for RMB bonds held by these overseas institutions to increase the liquidity of the bond market. According to the IMF’s

¹¹ Source: AsianBondsOnline database of Asian Development Bank.

¹² Source: AsianBondsOnline database of Asian Development Bank.

¹³ Source: Websites of China Government Securities Depository Trust & Clearing Co. Ltd. and Shanghai Clearing House.

criteria for assessing SDR currencies, the size of RMB-denominated international borrowings and overseas bonds is one of the main criteria for assessing the degree of freedom of RMB usage¹⁴. Therefore, in order to expedite RMB internationalisation, it would be crucial to promote the issuance of RMB-denominated international bonds and to provide such bonds with financing, settlement, custody and other services that are of international standards.

Against the backdrop of the increasingly vibrant cross-border bond investment activities in Asia and the continuous growth in the international RMB-denominated bond issuance, if these products continue to adopt the existing model of relying on the European international custody and settlement system, the settlement risks and transaction costs will escalate (see the second point below on the technical aspect). In addition, as the trade war intensifies from time to time and uncertainties around geopolitical conflicts increases, there would also be increasing possibility that Europe and the United States would impose sanctions through their financial systems in response to their disputes with China and the Asian countries. In light of this, it is of strategic importance to provide a truly independent custody and settlement system for the Asian time zone that serves the local markets.

Second, Asian participants need to find an effective technical solution to mitigate risks associated with credit finance, operation, foreign exchange transactions, liquidity management, etc. arising in cross-region and cross-border securities investments, and that requires the further enhancement of the stability of the regional financial system.

At present, Asian investors still need to rely on financial infrastructures such as Euroclear or Clearstream to handle cross-border settlement when trading securities in Europe and the United States. This may expose Asian investors to higher cross-border settlement and liquidity risks due to time zone differences¹⁵. The current common practice in the Asian region is to conduct net settlement between participants after aggregating the transactions, or to use the credit line provided by ICSDs to make up for the said difference, which in turn gives rise to greater risks of credit and foreign exchange settlement and higher cross-border transaction costs.

With the setting up of an Asian ICSD, cross-border settlement can be carried out through the centralised platform without the need to make multiple instructions between CSDs. Cross-border and cross-currency DVP can also be achieved to mitigate the credit risk and operational risk arising upon the delivery of capital. More importantly, an Asian ICSD will further integrate the collateral database in the region to render credit services and securities repo services at a lower cost.

Third, Chinese capital has been deployed internationally in global allocation of assets. It is therefore necessary to build in the Asian time zone the financial infrastructure that conforms to international market trading practices and also meets the regulatory requirements for information transparency.

If the Asian ICSD can establish connection with the two major international ICSDs, i.e. Euroclear and Clearstream, it will become an important gateway for Chinese capital to enter the international bond market, making it possible for investors to directly invest in and trade international bonds in major global markets by utilising the inter-ICSD system connection, or to pledge the bonds they hold in exchange for liquidity in major international currencies, thereby achieving a higher capital efficiency.

In addition, the ICSD will exercise centralised management of customers' overseas investments to attain a higher level of transparency of information such as those relating to

¹⁴ See IMF, "Review of the method of the valuation of the SDR", August 2015.

¹⁵ Asian investors must make payments one day earlier than their European and American counterparts to match the European and American settlement cycles.

offshore asset transactions, the use of collateral, and the scale of repo credit. Hence, it will have the technical capability to fulfill more effective cross-border regulatory requirements that are in line with international practices. Stakeholders may also consider integrating the “see-through” regulatory model with the multi-tier custody system in the Asian ICSD in innovative ways. Under the multi-tier custody system, connection is established between various types of intermediary such as global custodian banks, nominee service providers, asset management companies and brokers, which are also linked up with the global financial system and other international ICSDs to render efficient and differentiated financial services for investors. In recent years, the “see-through” market regulatory model has gradually come to focus of market regulators, with especially the “primary custody” see-through model in the Mainland playing a key role in improving the efficiency of the Mainland capital market. Regulators in most of the fast-growing developing countries are also drawn to this model. The Asian ICSD could maintain a multi-tier custody structure in line with international practices, and at the same time could introduce “see-through” regulation, with the operation mode appropriately tuned to cater for the different structure and practices of markets in the region. This could strike a balance between expanding the network coverage through a multi-tier custody system and enhancing the transparency in cross-border regulation.

4. HONG KONG’S UNIQUE ADVANTAGES IN BUILDING AN ASIAN ICSD

Given Hong Kong’s well-developed institutional framework that is in line with the international financial system, Hong Kong has always been a unique financial centre connecting Asia and the international financial market. In 2017, the launch of Bond Connect with initially Northbound trading as an extended initiative under the Mutual Market Access programme (or the *Connect* model) created a new channel for international capital to flow into the RMB bond market. As of the end of March 2020, a total of 520 foreign institutional investors have set foot in the Mainland bond market through Bond Connect, In that month, spot bond transactions completed through Bond Connect amounting to RMB 507.7 billion, or 55% of the total foreign institutional trading in the Mainland bond market¹⁶.

It is foreseeable that when conditions becomes ripe in the future, Mainland China will launch Southbound trading of Bond Connect, leading to further capital outflows from the Mainland along with more active issuance and trading of overseas RMB-denominated bonds. Against this backdrop, the establishment of an ICSD financial infrastructure based on the unique *Connect* model in Hong Kong which is of international standards will help improve the post-trade custody, clearing and settlement and collateral management service capabilities in the Asian time zone, thereby promoting the internationalisation of the RMB in a controlled manner.

Through the construction of an Asian ICSD in Hong Kong that is in connection with the Mainland market by way of the *Connect* model, Mainland investors will be able to access the broader international bond market. Bonds in the Asian time zone would include regional bonds that are held, cleared and settled via the central clearing and settlement system in Hong Kong, various sovereign and high-grade multinational corporate bonds listed in Hong Kong, and other bonds in the custody of local CSDs in Asia (e.g. in Malaysia, Indonesia, etc.) connected to the Asian ICSD. The Asian ICSD can also establish account connections with Euroclear and Clearstream, the two major ICSDs in Europe, thereby further maximise its coverage of the international bond market. It would be able to provide financial institutions, enterprises and individuals in Asia with a broader platform for cross-border investment and financing activities as well as global asset allocation in a transparent, secure and controlled manner.

Moreover, with the continuous addition of functional capabilities, the services of this Asian ICSD can be further extended to clearing and settlement and collateral management for

¹⁶ Source: China Foreign Exchange Trading System’s website.

various fixed-income derivatives related to RMB exchange rate and interest rates, as well as centralised clearing for these products' over-the-counter (OTC) trading. The 2008 Global Financial Crisis has drawn international regulators' attention to the risks borne in bilateral OTC derivatives trading and OTC clearing. At present, the services of some international securities depository and clearing institutions have been further extended to cover the OTC financial derivatives market. With the launch of Bond Connect, large international institutions investing in the Mainland bond market will strongly demand RMB-denominated derivatives such as interest rate swaps for related risk management. In response to such market demand, the function of the Asian ICSD can be further extended to the clearing and settlement of OTC derivatives, providing such services for cross-border RMB derivatives transactions.

5. CONCLUSION

Golden opportunities have been afforded to the development of an Asian ICSD as a result of the advancement of the "Belt and Road" initiative and the successful launch of Bond Connect under the *Connect* model. With the continuous enhancement of Bond Connect, capital outflows from Mainland China to the entire Asian region are expected to further increase, and the issuance and trading of overseas RMB-denominated bonds would become more active. The Asian market needs a financial infrastructure platform that is more in line with international practices to provide issuance, clearing and settlement services for international and regional bonds denominated in RMB. Against the backdrop of the current increased regional trade conflicts, the attempts to enhance financial infrastructure capabilities would help provide greater protection for the safety of funds.

Given Hong Kong's unique status as a financial centre connecting Asian (especially Mainland China) and international financial markets, coupled with its robust financial system and connectivity framework, setting up an ICSD financial infrastructure in Hong Kong that conforms to international standards is expected to further enhance the post-trade custody, clearing and settlement and collateral management capabilities in the Asian time zone. This could promote the alignment of Mainland China's financial market with the common standards and practices of its international counterparts and provide crucial support for the internationalisation of the RMB.

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