ASIA-PACIFIC CSD GROUP

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12th Edition

Asia-Pacific CSD Group E-NEWSLETTER

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MESSAGE FROM ACG CHAIRMAN

Dr. Wenhua DAI

ACG Chairman
China Securities Depository and Clearing Corporation

Dear ACG Family,

Upon the arrival of this exciting 2023, I would like to express my heartfelt greetings to all ACG members. This year is sure to be more prosperous and livelier for all of us, with a new adventure begins together with the post-pandemic era on its way. In the meantime, I would also like to take this chance and send my Chinese New Year greetings to all of you. Now, let me present you the 12th edition of ACG Newsletter.

From a global perspective, 2022 is a year of challenges. We've seen in most regions that the cost-of-living crisis is in a gradually tightening financial condition, together with the lingering COVID-19 pandemic all weigh heavily on the economic. We've also seen a weak growth momentum since 2001 except for the global financial crisis and the acute phase of the COVID-19 pandemic. In such background, FMIs are shouldering more responsibilities than ever to maintain the healthy and stability of the securities post-trade services. Despite the tough environment we face, ACG members are being resilient as always to conquer all challenges and find opportunities in innovation.

2022 is also a year of reunion for ACG. It feels so good to catch up with ACG family in Busan, a beautiful costal city filled with hospitalities and enthusiasms. I would like to thank Mr. Myongho RHEE, Chairman & CEO of KSD, and his team for hosting the ACG24 with the theme of "Financial Industry, Navigating the Sea of Uncertainty" in last November. The four-day event is the first physical ACG event since 2020, so everyone has taken this meaningful chance to share their latest insight of new market practices. Moreover, it is exciting to announce that CTS23 are going to be hosted by KSEI&KPEI in Indonesia, and ACG25 by VSD in Vietnam in 2023. I wish both events are of complete success.

In 12th edition of ACG Newsletter, the ACG Secretariat invited China International Capital Corporation Limited (CICC) and J.P. Morgan Securities Services to contribute to the Guest Column, with topics of fixed income ESG investment in China and outlook on inbound investment in China respectively. Also, Ms. Chia Caihan, the Chief Representative of SGX Beijing Representative Office, has also brought us the business updates of SGX. Thanks to all contributors inside and outside of ACG communities, our vision has been broadened step by step.

Once again, let us be positive to 2023, a year of chance, change and hope. I wish all of you a bright and happy new year. See you in Indonesia and Vietnam soon.

戴文华

MEMBER PROFILE

National Securities Depository Limited (NSDL)

NSDL
Technology, Trust & Reach

I. Company Profile

National Securities Depository Limited (NSDL) is one of the largest depositories in the World, established in August 1996, completed 26 years of service to the Indian securities markets. NSDL has put in place a state-of-the-art infrastructure that handles most of the securities held and settled in dematerialised form in the Indian capital market.

The Company plays a major role in dematerialisation of securities and electronic settlement of trades in the Indian Stock Market. The Company was able to capitalise on the market conditions through its operational excellence, higher efficiency and well executed strategies. The value of assets held under custody stood at USD 4041 billion as on November 30, 2022. The market share of NSDL stood at 88.91 % in total custody value as on November 30, 2022. During FY 2022-23, 3.70 million new accounts were opened at NSDL taking total number of active demat accounts as on November 30, 2022 to 29.92 million.

NSDL is the Executive Member of ACG, and the convener of Technology Task Force.

USD **4041** billion

3.70 million new accounts

29.92 million

Please find below value added-services of NSDL:

01 **SPEED-e** – SPEED-e is a common internet infrastructure that enables the Depository Participants to provide depository services to their clients. The SPEED-e facility is used extensively by our Depository Participants (DPs) to offer an electronic instruction submission facility to their clients. This brings convenience to investors which reduces the risk for DPs as well as to investors. It also provides customer delight thus enhancing the overall customer experience.
Over the years, various features viz., Statement of Holding (SoH), Account freezing, ISIN/ Quantity level freezing, multiple authorizations by certain users, instructions upload facility, Mutual Fund Redemption, SPICE and SPEED-e / SPICE Direct, Pledge and margin pledge Instruction Submission, Confirmation and Unilateral closure by counter party were added to SPEED-e service.

02 **IDeAS** - Internet-based Demat Account Statement (IDeAS) is a secure internet service setup by NSDL to empower its demat account holders to view online their latest balances along with the values and transactions in their demat account.
This facility is available to all the clients including Clearing Members who have opened a demat account with any of the Participants of NSDL. IDeAS clients can also download month wise transaction statements for the previous 12 months from the date of activation of IDeAS facility.
Over the period, NSDL has enhanced its IDeAS service and enabled various facilities viz., Single Sign-on facility to clients for accessing e-Voting system of NSDL to cast their votes electronically in respect of resolutions of companies to be passed by Postal Ballot or a General Meeting and Interface with Income Tax Department Website to View/Download Tax Credit Statements (Form 26AS) and to provide Electronic Verification Code (EVC)
during e-filing of Income Tax Return, facility to opt of eCAS, view eCAS, download, eCAS of last 12 months and updation of email ID in demat account to receive eCAS.

03 **STeADY**- Securities Trading-information Easy Access and Delivery (STeADY) is a facility that enables Straight through Processing (STP) of trade information. It is an Internet based facility that helps to transmit digitally signed trade information with encryption to the market participants. The electronic contract notes are made available to institutional investors and their custodians for matching and to complete the settlement.

04 **E-Voting** - NSDL e-Voting solution has facilitated many companies to offer e-Voting services to their shareholders. This has enabled even small investors to take active part in the company's decision-making process by voting on the important resolutions. Apart from facilitating the voting process, NSDL also help companies live-streaming of meeting proceedings and instantaneous results. In addition to this, it also offers tab-based e-Voting services at the AGM venue itself and e-notices service to the companies availing e-Voting platform.

05 **CAS** - CAS has been a very popular initiative of NSDL. NSDL CAS is a single statement of all investments in the securities market and includes investments in equity shares, preference shares, mutual funds, bonds, debentures, securitized instruments, money market instruments and government securities held in demat mode. All investments held in single or joint names are mentioned in NSDL CAS. NSDL CAS offers unparalleled convenience to investors in keeping track of their investment portfolio. CAS enables investors to monitor their portfolio effectively and also help them to develop strategies and accordingly take informed decisions. CAS is sent to investors electronically using email primarily (e-CAS). Investors also have an online option to opt for e-CAS and update email ID for receiving e-CAS.
NSDL continues to enhance investor experience, by introducing new features in CAS. NSDL has incorporated facility for viewing details of insurance policies held in investors' e-Insurance Account (eIA) with National Insurance Repository (NIR) of NDML. Additionally, a feature of "Annualized Return" has been incorporated to provide information on return on investors' investments in mutual funds schemes.

06 **SPICE (Submission of Power of attorney based Instructions for Clients Electronically)** – Submission of Power of attorney-based Instructions for Clients Electronically (SPICE) facility is in respect of demat accounts operated on the basis of Power of Attorney (POA). Many investors execute POA in favour of their stock brokers. Based on the POA, Clearing Members (CMs) submit instructions to the Participants (where clients maintain demat accounts) to debit the demat accounts of the Clients. SPICE enables such CMs to submit digitally signed instructions to Participant through the SPEED-e facility thereby eliminating the need to give paper-based delivery instructions to Participants. SPICE enables Clearing Members to debit Client account and credit CM Pool account. Further, SPICE facility is enhanced to debit the Client account and credit the Margin/BO account of the CM. SPICE also includes the feature of SPICE Direct wherein auto pay-in instructions (submitted by CMs using the feature of SPICE) can be directly transmitted to NSDL

07 **SIMPLE** (Submission of Instruction through Mobile Phone Login Easily) – SIMPLE is a facility that enables the password based users of SPEED-e facility to submit Client to Clearing Member Pool Account transfer instructions on SPEED-e platform as mentioned above through their mobile phones (enabled with GPRS).

08 **Mobile App** – Mobile Application is a technology initiative of NSDL for investors to enable them to access to their demat account online, from the comfort of their home or office, on anytime, anywhere basis. NSDL Mobile App empowers demat account holder with an ability to monitor their holdings along with the price and values of the securities. NSDL Mobile App is a secured way of tracking the portfolio. • Additional feature viz., client can exercise voting rights electronically, e-DIS launched wherein demat accountholder can accept or reject electronic Delivery Instructions Slips (e-DIS) submitted by Clearing Members. Also, clients can Submit and View Delivery Instructions.

Demat Account Services

09 NSDL has developed different APIs to facilitate demat account opening, account validation and account maintenance.

A
Insta Demat Account from Net Banking

NSDL Insta DEMAT facility allows a Net Banking client to Open Demat Account in the Depository System. If the Account Holder opts for this facility, the client's demographic details are seamlessly transferred from Net Banking to the NSDL Insta DEMAT application and subsequently to the Depository System for creation of DEMAT account. The Depository System assigns a Demat Account Number (i.e. Client ID) to the Net Banking client.

B
DAN

NSDL has developed an API based service to verify the demat account present in the Depository system. This API can be used to verify unique Permanent Account Number and demat account status of investors.

C
eMail ID update campaign

NSDL has developed a facility to enable demat account holders to update email ID in their respective demat accounts. Under this campaign, a link to update email ID is sent to the demat account holders whose email ID is not registered on their registered mobile numbers. Account holders are able to update their email id through this link after verifying their PAN and authentication through OTP.

Private Cloud

11 NSDL has setup a private cloud which can host the local databases on the Depository Participants. This will help the Depository Participants to reduce the initial set up cost and cost of operations.

Electronic Book Provider (EBP) platform

12 NSDL is authorized by SEBI to act as an Electronic Book Provider. NSDL will be providing its EBP services through its Issuer portal which will facilitate Issuer to privately place Debt securities including Non-convertible Redeemable Preference Shares, Commercial Paper and Certificate of Deposits through NSDL EBP platform. The EBP service enables coupon/price discovery in transparent manner and facilitate process of issuance of securities in seamless and efficient manner.

Commercial Paper System

13 Commercial Paper Platform is an online service available on NSDL's Issuer portal facilitating Issuer, Investors, Issuing and Paying Agents (IPAs) and Registrar and Transfer Agents (RTAs) to undertake the Commercial Paper (CP) issuance process in a secured, efficient and seamless manner.

Issuers can make online application to NSDL for getting CP ISIN through this issuer portal and subsequently initiate the Commercial Paper Issuance process. Issuers, Investors, IPAs and RTAs can carry out all the activities involved in CP issuance online through this platform.

The CP platform provides secured access to users, eliminates the need for manual activities like movement of physical documents between entities, reduces the Commercial Paper issuance process time from 1 day to a few hours and provides real time updates and notifications to the users on the status of the Issuance

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Issuer Portal

NSDL Issuer Portal is a platform provided to the Issuers with an objective to provide one stop solution for all Issuer related Services. NSDL Issuer Services portal provides various functions to Issuers for the depository-eligible securities and facilitate issuers to comply regulatory reporting requirements and digitisation of many manual processes.

15

Online AGMs

NSDL has been providing webcasting services to companies wherein, the shareholders of companies subscribing to this facility are provided online access to the Annual General Meetings (AGMs) using their login credentials of NSDL's e-Voting web site.
Due to the advent of COVID-19 pandemic, MCA has permitted companies to conduct Virtual AGMs/EGMs through Audio Visual means wherein the shareholders should also be provided a facility to participate in the meeting through video conferencing. In light of the same, NSDL has started to offer integrated platform for e-voting & video conferencing services along with webcasting services to enable companies to comply with MCA guidelines while carrying out virtual AGMs/EGMs.

16

Un-Listed Issuer Portal

NSDL has launched an online platform for Un-listed Issuers to complete the registration and on-boarding process related to joining the Depository. The platform also facilitates registration of entities like Registrar and Transfer Agents (RTAs), Professional Firms
(like CA and CS Firms) for completing on-boarding process related to joining the Depository on behalf of their clients i.e. Issuers.
The registered users can submit digitally signed documents, create pre-filled Application form and generate Tri-partite agreement and franking document using the Un-Listed Issuer portal. The Portal facilitates users in validating the input data for the application form, provides notifications and real-time tracking feature on the workflow status for the users. On completion of registration and on-boarding process, issuers can obtain Issuer code and ISIN of the security from the Depository.

NEW DIGITAL INITIATIVES

1. NSDL Demat Gateway e-DIS (Electronic Delivery Instruction Slip)

e-Delivery Instruction Slip facility is an integration between the brokers and NSDL Demat Gateway which facilitates Clients to provide mandate/consent to debit and transfer securities from their demat accounts towards the obligation at exchange(s) arising out of trades. Using this facility, demat account holders can fulfil their pay-in obligations without having the need to submit Power of Attorney to their stock broker.
Under this facility, based on the mandate submitted by the Client, Clearing Members submits the instruction to the Depository Participant of the Client to debit the securities from the demat account of the Clients to the extent of obligation at exchange(s) arising out of trades.

NSDL validates the details of debit instruction with obligation details uploaded by CCs. Upon debit of securities from the Client account, as a risk mitigation mechanism, NSDL sends SMS to concerned clients at the mobile number registered in their demat account.

2. Online Nomination

NSDL introduced an online facility for Clients to opt-in and opt-out of nomination including e-Sign of the nomination declaration form in an online mode.

3. API for Business Partner

A. Participants

- Account Opening API for Participants
- e-Voting and IDeAS Integrations

B. Bank-based Participants

- NSDL Insta Demat Account for Banks

C. Brokers

- e-Delivery Instruction Slip (eDIS)
- Margin Pledge Instruction (MPI) API

D. Banks and NBFCs

- NSDL Digital LAS for demat account holders of NSDL
- NSDL Digital LAS for IPO Financing

II. Corporate Head

Ms. Padmaja Chunduru is MD & CEO of NSDL since Sept. 2021, after a 37 year stint in banking industry, in SBI and Indian Bank.

At Indian Bank, Ms. Padmaja has successfully steered the merger of Allahabad Bank into Indian Bank amid the Covid challenges. The Bank completed the merger seamlessly with least disruption to customers, in a record time of 10 months. Significant improvement in all key metrics and the empathetic handling of the cultural integration of two diverse banks was the subject of a case study **"Merger of Equals" by Harvard Business School Publishing.**

In the recent Forbes Global ranking of 'Best Employers 2021', Indian Bank has ranked 314th globally. In India, the Bank is among the Top 10 – Best Employers.

Ms. Padmaja was adjudged **"Banker of the Year" by FE for 2019-20 and Top 100 Women in Finance -2020 by AIWMI** (Assn of Intl. Wealth Management of India)

Prior to joining Indian Bank, Ms. Padmaja was DMD (Digital Banking) with SBI. From 2014 to 2017, she was Country Head, SBI US Operations at New York. Overseeing strategic planning, business growth, risk management and compliance. She was involved in critical discussions with US Regulators on the Bank's operations in the US and was successful in placing the US Operations on a steady growth path.

A Post Graduate in Commerce from Andhra University, Ms. Padmaja joined SBI in 1984 as a Probationary Officer. In a career spanning more than 3 decades, with postings in India and USA, she gained rich experience in Corporate Lending and Credit Management, Retail Operations and Digital Banking, Treasury & International Operations.

Ms. Padmaja Chunduru has been awarded 'CEO of the Year' Award at ET Prime Women Leadership Awards 2021

She has extensive Board experience:

- Member, Board of Governors of the Madras School of Economics
- Having been on the Board of LIC for three years,
- Member, Dr. Rangarajan Committee (High Level Committee constituted by Tamilnadu Govt) to combat covid crisis.
- As the Chairman of IBA Standing Committee on Corporate Credit, Ms.Padmaja spearheaded the recommendation to RBI on the Primary Loan Syndication and developing Secondary Market for Loans.

MARKET UPDATES

China to Implement DVP Reform from December 26, 2022

China Securities Depository and Clearing Corporation (CSDC)

On December 16th. 2022, the China Securities Regulatory Commission (CSRC) announced that China's Delivery Versus Payment (DVP) reform will be implemented starting from December 26. In January this year, the CSRC publicly solicited market opinions on the proposed revision of the Administrative Measures for Securities Registration and Settlement that embodies the principle of DVP, in an effort to build a "standardized, transparent, open, dynamic and resilient" capital market.

DVP is an internationally adopted principle that aims to prevent the principal risk in securities and funds settlement. In closer alignment with global practices, the reform has followed the fundamental principles of DVP while taking into full account of the unique characteristics of the Chinese capital market.

The reform will keep existing practices unchanged, but use "tagging" to make securities delivery and funds payment mutually conditional and clarify default disposal arrangements. It will not have any impact on investment and trading behaviors, but will make China's settlement system more secure, and further attract foreign capital into China's market.

Prior to this announcement, China Securities Depository and Clearing Corporation (CSDC) has conducted a series of training sessions and system tests with market participants. Under the guidance of CSRC, CSDC will continue to work with market participants to ensure the smooth and successful implementation of the DVP reform.

China Central Depository & Clearing Corporation (CCDC)

中央国债登记结算有限责任公司
CHINA CENTRAL DEPOSITORY & CLEARING CO., LTD.

CCDC Business Operation of Overseas Investors

By the end of November 2022, overseas investors' total depository amount in CIBM decreased by RMB 49.15 billion to RMB 3.33 trillion, of which the depository amount at CCDC (both via CIBM Direct and Bond Connect) decreased by RMB 40.34 billion to RMB 3.10 trillion, and cash bond transactions increased by RMB 389.76 billion to RMB 1.13 trillion.

By the end of November 2022, overseas investors have opened 1402 accounts under CIBM Direct at CCDC, and their depository amount decreased by RMB 26.12 billion to RMB 2.51 trillion, accounting for 80.89% of all the overseas investors' depository at CCDC.

Business of Shanghai FTZ Offshore Bonds

In the backdrop of the FTZ opening-up policy, CCDC launched an innovative product, Shanghai FTZ offshore bonds, based on its expertise in onshore bond registration, depository and clearing services, serving the development of the real economy by raising FTZ and overseas capitals. It is a concrete measure to implement the strategic plan of building an offshore financial system in Pudong, which further expands the breadth and depth of China's bond market opening, promotes the pricing integration of onshore and offshore markets, meets diversified investment needs of FTZ and overseas investors and broadens financing channels and enhancing financing flexibility for domestic and overseas issuers.

In 2022, CCDC has supported 54 issues of FTZ offshore bonds, with a total scale of over 34.5 billion RMB (equivalent), realized the first free trade zone ABS, introduced overseas investors for the first time, and issued the first green dual-currency FTZ offshore bonds, the first financial, green and sustainable FTZ offshore bonds and other innovations.

CCDC Creates the First Standardized Green Collateral Pool of Chinese

On June 28th, CCDC supported a number of institutions to use green bonds from the green collateral pool for performance guarantees and provided third-party collateral management services. This is the first in-depth application of the green collateral management concept in China's financial market.

At present, through CCDC's green collateral pool, institutions can directly use the green bonds deposited at CCDC as collateral. On the one hand, it will help to broaden the use channels of green bonds, improving the liquidity of the green bond market, and reducing the cost of green bond issuance and investment. On the other hand, it has also built China's first standardized green collateral management product, providing a more efficient and safe green financial participation channel for the market, and consolidated the practical foundation of China's green finance top-level design.

CCDC supported the ICBC (Macau) in Issuing a Panda Bond

On August 25th, CCDC supported the Industrial and Commercial Bank of China (Macau) Limited. to successfully issue its first interbank market panda bond in 2022, with an issue size of 2 billion yuan, a maturity of 2 years, an interest rate of 2.58%, and a subscription multiple of 2.55 times. The bond was widely recognized and actively subscribed by domestic and foreign investment institutions from the mainland, Macao, Hong Kong and Singapore. The funds raised will be used mainly to support the issuer's business development needs in Mainland China and Macao, and part of the funds will be used to support the RMB liquidity needs of CIPS indirectly participating banks in Macao. CCDC provides life-cycle services such as issuance, registration, depository, transaction settlement, interest payment, and information disclosure for this of panda bond.

Supported the First Straight-Through Processing of Bond Subscription and Distribution in the Primary Market

From November 7th to 25th, CCDC launched the Straight-Through Processing (STP) service for bond subscription and distribution business in the primary market. Industrial and Commercial Bank of China, Bank of Ningbo, Bank of Jiangsu, Jiutai Rural Commercial Bank, Qidong Rural Commercial Bank, Fubon Bank, Industrial Bank Wealth Management, Furong Fund and other market institutions successfully participated the subscription and distribution of policy financial bonds through the "through train" service. CCDC supported QTrade, a professional service platform for the bond market, to launch the convenient service for primary market operations, realizing online processing, online transmission, and full-process tracking of bond subscription and distribution. So far, some 30 underwriters and investors have acquired STP service permission, covering various types of financial institutions such as commercial banks, securities companies, asset management companies, and fund management companies.

ChinaBond Pricing Center Won Several Awards Selected by The Asset and Environmental Finance

Recently, ChinaBond Pricing Center Co., Ltd. (CBPC), a wholly-owned subsidiary of CCDC, won the "Best Index Provider, Fixed Income" in China for three consecutive years in the "2022 Triple A Private Capital Awards (AAA series awards)" of The Asset, a famous financial magazine, for its professionalism in RMB bond index compilation. Meanwhile, based on a number of innovative achievements in the field of ESG, CBPC won The Asset "AAA series awards" of "Best Index Provider, ESG" in China for the first time and won the award of "ESG data provider of the year: Asia" in the 2022 Sustainable Investment Awards Competition by Environmental Finance, a well-known British financial magazine, for its leading advantages in ChinaBond ESG series products.

CBI and CCDC Co-released China Green Bond Market Report 2021

The China Green Bond Market Report 2021 is co-produced by the Climate Bonds Initiative (CBI) and CCDC, with support from HSBC. It describes the shape and size of China's green bond market up to the end of 2021. The surge of green bond issuance in 2021 confirmed the feasibility of China's 2030 carbon peaking goal, while the '30·60' decarbonization goal requires further more green and sustainable financing in China.

URL: https://www.climatebonds.net/resources/reports/china-green-bond-market-report-2021

NSDL Market Update

NSDL's Market Ka Eklavya: Express Program reaches over 5,700 students across 75+ cities covering all States of India:

National Securities Depository Limited (NSDL) successfully conducted a series of educative programs titled 'Market Ka Eklavya –Express' as part of celebration of 75 years of India's independence. This is a shorter version of regular Market Ka Eklavya programs. 110 programs were conducted in 8 different languages under this series, which were attended by more than 5,700 students across 75+cities across India.

Statement of Account (SOA) in respect of Mutual Fund Folios on demand:

NSDL has implemented the API mechanism between NSDL & MF-RTAs for fetching the details of holdinag and transaction in respect of Mutual Fund Folios held in SOA (Physical) form from MF-RTAs in respect of investors holding demat accounts with NSDL based on consent from investors.
NSDL Demat account holder can login to NSDL IDeAS portal (https://eservices.nsdl.com/) and click on "Request Statement of Account" link and generate the SoA. The said SoA will contain the details for Holdings, Transactions and Demographic details of NSDL Demat account and Mutual Fund Folios.

NSDL Database Management Limited receives In-Principle Authorisation from the RBI for Payment Aggregator

NSDL Database Management Limited (NDML), a wholly owned subsidiary of National Securities Depository Limited (NSDL), is pleased to inform that it has received "In-Principle Authorisation" from the Reserve Bank of India (RBI) to operate as a Payment Aggregator under the Payment and Settlement Systems Act, 2007. This authorisation has been granted by the RBI in terms of the application made by NDML under the Guidelines on Regulation of Payment Aggregators and Payment Gateways, dated March 17, 2020, issued by the RBI.

Singapore Exchange (SGX)

Chia Caihan[1] , Singapore Exchange

About SGX Group

SGX Group is Asia's leading and trusted securities and derivatives market infrastructure, operating equity, fixed income, currency and commodity markets to the highest regulatory standards. We also operate a multi-asset sustainability platform, SGX FIRST or Future in Reshaping Sustainability Together.

We are committed to facilitating economic growth in a sustainable manner leveraging our roles as a key player in the ecosystem, a business, regulator and listed company. With climate action as a key priority, we aim to be a leading sustainable and transition financing and trading hub offering trusted, quality, end-to-end products and solutions.

As Asia's most international, multi-asset exchange, we provide listing, trading, clearing, settlement, depository and data services, with about 40% of listed companies and over 80% of listed bonds originating outside of Singapore. We are the world's most liquid international market for the benchmark equity indices of China, India, Japan and ASEAN. In foreign exchange, we are Asia's leading marketplace and most comprehensive service provider for global FX over-the-counter and futures participants. Headquartered in AAA-rated Singapore, we are globally recognised for our risk management and clearing capabilities.

SGX Group's multi asset strategy

Exchanges provide platforms that congregate the growth and yield opportunities which market participants hope to build on and benefit from. In 2022, SGX Group's capital market and multi asset trading platform continue to service market participants in navigating market uncertainties.

2022 has been a challenging year for the capital markets but overall, the markets which SGX Group operates in have remained resilient. As portfolio management needs evolve, we sharpen our equities product suite to stay at the forefront of global investing trends. With our expanded global network and connectivity, we are well-positioned to capitalise on capital market opportunities when conditions are more conducive.

[1]Ms. Chia Caihan is currently the Chief Representative of Singapore Exchange (SGX) Beijing Representative Office. She is responsible for developing SGX's equity and debt capital markets business in China.

Prior to her role at the Beijing Representative Office, Ms. Chia was the Staff Assistant to the Chief Executive Officer of SGX for 4 years. She was responsible for the smooth running of the office. Ms. Chia joined the regulatory department of SGX in 2004 and has 10 years of listing regulation experience. During her time in regulation, she reviewed more than 200 listing and secondary fund-raising cases. She was also responsible for the post-listing compliance review of more than 60 listed companies and participated in various investigations relating to listed companies.

Strong long-term outlook for Singapore capital markets

SGX Group's listing platform benefits from the strong long-term outlook of the Singapore capital markets. Singapore is a key financial centre of Asia and Asia as the world's growth engine for the decades forward, is expected to contribute 52% to global GDP by 2040. Capital inflows for the region is also unprecedented, with Asia taking up more than 50% of global FDI. Located at the heart of Southeast Asia, Singapore is a beneficiary of the rapid ascent of Southeast Asia's unicorns. Southeast Asia's digital economy is expected to double in 2025 from the US$170b in 2020 and the number of unicorns across Southeast Asia continue to increase rapidly.

The post-pandemic world has seen increasing geopolitical tensions and uncertainties. Singapore's neutral profile gains increased relevance as international market participants consider opportunities in volatile markets or navigate the multi-dimensional challenges. Investors and businesses that see the long-term strategic value of this neutrality are naturally attracted to the Singapore capital markets.

Our listing platform today offers international profile and pan-Asian visibility, broad and incremental investor access, rapidly increasing regional retail access, ample liquidity, competitive price discovery and a time and cost-efficient process. Issuers of all sizes are able to stand out with the support of an SGX listing. SGX Group's ability to connect regional and global perspectives are now seen to benefit in particular Singapore home grown success stories, ASEAN businesses with regional profile and global ambitions, Chinese issuers with Southeast Asian presence, and western issuers seeking Asian growth and access.

Singapore has S$5.4t assets under management in Singapore and more than 1000 global funds invested in SGX listed companies. With major global investors in the country and a highly attractive incremental investor base, SGX listed companies are able to experience sustained investor support after listing.

Highlights of ongoing developments in Singapore capital markets

- **Successful emergence of new economy cluster** – SGX is home to a number of companies that are proxy to new economy growth sectors of technology and consumer. These companies have enjoyed strong post listing market performance as well as obtained Asia anchor and recognition.

- **Promising start for Special Purpose Acquisition Companies (SPACs)** – Singapore's SPACs market saw international and Singapore sponsors participating in the first launches, demonstrating the adaptability of the framework. Interest from sponsors, investors, issuers and professionals have remained robust.

- **Singapore investors committed to SGX IPOs and Listcos** –The establishment of a S$1.5 billion Anchor Fund by Temasek-backed 65 Equity Partners and a S$500m Growth IPO Fund by EDBI are targeted at helping promising high-growth enterprises grow and achieve an eventual fund raise through a public listing in Singapore.

- **Constructive approach allows wide variety of issuers** –SGX listings are open to adopting dual class share structures, VIE structures and valuation methodologies for pre-profit companies. These approaches are relevant to the high-growth new economy sector companies which SGX is supportive of.

- **Well established dual listings** –Dual listing is an effective means for companies to enter a second capital market at minimal additional cost, provides wider shareholder base and larger liquidity pool, and offers a path to greater risk diversification and price discovery. SGX has in the last one year welcomed secondary listings from companies listed in Hong Kong, Philippines and the US.

- **Close alignment with partner exchanges** –SGX has offered broader accessibility to our listed companies and products through our listing and trading collaborations with Shenzhen Stock Exchange (SZSE), NASDAQ, New York Stock Exchange (NYSE), The Stock Exchange of Thailand (SET) and Tel-Aviv Stock Exchange.

Growing through partnerships across borders and ecosystem

Alliances and partnerships have been a hallmark of the SGX Group way. Collaboration between exchanges and the ecosystem can drive market innovation and expand global distribution.

SGX Group has established strong partnerships with NASDAQ and NYSE, offering selected global businesses the unique opportunity to simultaneously tap on the strengths of leading exchanges in the West and East.

Through our partnership with NASDAQ and NYSE, we were able to connect global businesses to global investors and achieve an integrated listing process for the listing. An issuer concurrently listed in Singapore and US effectively sees its global ambitions promoted and affirmed. Round the clock trading of a company's securities on SGX and these US exchanges improves the price discovery process and enhances liquidity as Western and Asian investors have fair share of exposure to the trading activity. The partnerships with these exchanges are also inclusive of a mutual agreement to exchange information and SGX's recognition of US' regulatory framework.

In December 2021, SGX Group and SZSE signed a Memorandum of Understanding (MOU) to establish an exchange-traded fund (ETF) link, offering investors on both exchanges with a wider range of investment options. Under the agreement, SGX and SZSE will jointly develop and promote the ETF markets in Singapore and China through the listing of feeder ETFs, which link locally listed ETFs to ones listed on the other exchange. This allows domestic ETF issuers to tap on cross-border capital flows, and investors to access overseas-listed ETFs via domestic exchanges.

This MOU has paved way for the successful listing of the UOBAM Ping'An ChiNext ETF and the CSOP CSI Star and ChiNext 50 Index ETF on SGX, and China Southern CSOP CGS-CIMB FTSE Asia Pacific Low Carbon Index ETF in 2022. This ETF Product Link also builds on China and Singapore's strong cooperation in RMB internationalisation and deepens the financial collaboration between China and Singapore.

On the commodities front, the suite of dairy derivatives developed by New Zealand's Exchange (NZX) began trading exclusively on SGX in 2021, under a partnership between the two exchanges to super-charge the dairy industry benchmarks with deeper platform connectivity and broader client reach. The listing of SGX-NZX Global dairy derivatives contract was meant to unlock the growth potential of the dairy derivatives market that NZX has been developing over the past decade, via SGX's international distribution network and platform.

Our subsidiary, the Baltic Exchange, through its market data subsidiary, has entered into an MOU with Zhengzhou Commodity Exchange to explore cooperation in the research and development of shipping derivatives. Both parties will work together on researching and developing a futures contract settling against the Baltic Panamax Index (BPI) in China, which will provide Chinese shipping companies a new tool for freight risk management.

In collaboration with a subsidiary of Shanghai Stock Exchange, we also enhanced our data-distribution network in China to distribute SGX securities data, strengthening the connectivity between our capital markets.

SGX Group and our sustainability efforts

Countries representing 80% of global GDP have committed to net zero targets. The financial industry has an important role to play in this global journey towards net zero. SGX Group, being at the centre of Asia's market ecosystem, is in a unique position to facilitate capital flows towards sustainable finance, as well as educate and influence the ecosystem's move towards decarbonisation.

As a multi-asset exchange, SGX Group is able to build a portfolio of sustainable and transition finance solutions across asset classes.

With the surge in electric car demand and decarbonisation of energy generation, energy metals such as cobalt and lithium are expecting multi-fold demand growth in the next two decades. SGX's energy metals derivative contracts will provide unique capital efficiencies through our "Virtual Electric Car Complex", where we allow physical market participants to undertake price risk management of key raw materials used in the car production process while being part of clean energy initiatives.

In the fixed income space, we have experienced tremendous growth in green and sustainable bonds. Today, more than 50% of Asia-Pacific G3 currency GSSS bonds are listed on SGX, making us the leading venue for such bond listings. Since our first green bond listing in 2013, we have to-date, welcomed more than 360 GSSS bonds by issuers including corporates, governments and financial institutions from 19 countries, raising over S$200b in total, and nearly 20% of these ESG bond issuers come from Greater China.

SGX Group's Marketnode also partnered China Chengxin Green Finance to launch Greennode RMB, a portal that captures bilingual information on the Chinese onshore GSSS bond market, serving the needs of offshore bond investors. To-date, the Greennode and Greennode RMB platforms covers a total of 850 bonds from over 400 issuers globally.

In the last one year, we also welcomed the listings of several sustainability-linked ETFs, including a green REIT ETF. Global assets under management (AUM) for sustainability-linked ETFs listed on SGX have jumped 90% during this period – a clear sign that investors are increasingly shifting their investments towards sustainable portfolios.

SGX strategic partnership model for a company's growth journey

To corporates, SGX Group offers bespoke solutions beyond listing venue. Companies committed to delivering on an SGX listing are offered privileged access to our strategic investor network as early as during the private fundraising rounds and will continue to benefit from engagement with the global investment community as the listing transpires. Our market makers and active traders' schemes have a proven role in helping listed companies build liquidity and visibility from the start, bringing about successful price formation and active markets.

With an SGX listing, companies will be made available to a broad range of capital raising options to fund their next stage of growth and have strengthened connectivity to international buy and sell side participants. SGX has a uniquely strong secondary market, with more than 4 times funds raised through secondary fundraising compared to IPO and close to US$1.4t of bonds issued.

As SGX Group works towards a leadership role amongst exchanges in sustainable finance, we will bring along our listed companies to benefit from Asian thought leaders on sustainability. Companies listed on SGX can expect a sustained positive influence in this field and find themselves globally recognised on the forefront for their sustainability strategies and practices.

RECENT EVENTS

The 22nd ACG Cross Training Seminar (CTS 22)

22nd CROSS TRAINING SEMINAR

The 22nd ACG Cross Training Seminar (CTS 22) was held online by TDCC from September 26th to September 28th, 2022. As the very first virtual ACG Cross Training Seminar, the CTS 22 was an amazing three-day-afternoon event with the theme “Reshape CSD in a New Normal”. With the participation of near 400 participants representing 27 ACG members and international financial organizations in three days, the event successfully facilitated ACG members’ information sharing and experience exchange.

For this years’ CTS, given the profound impact of the global pandemic on the industry, TDCC put in place a special session titled “View from the Top,” in which Chairmen, CEOs or Executives from CDCPL, CSDI, JASDEC, KSD, KSEI, NSDL and TDCC shared key trends in this new era and their insightful perspective to the future. The six ACG task forces also made extensive discussions about important issues facing the CSD industry, so that all participants can stay updated to the latest industry development and learn from each other’s practical experience.

Here we have summarized some key takeaways from each task force session (by alphabetical order of task force names):

01

Exchange of Information Task Force (Convener: JASDEC)

The convener of the Exchange of Information (EoI) Task Force, JASDEC set its topic “The framework of BCP” this year. During the session, three organizations shared their insights on BCP measures. SET simulated various threatening scenarios to ensure the stability of the organization during devastating attacks. SIX talked about their Business Continuity Management Lifecycle with different levels of key measures in response to the pandemic. JASDEC established a backup center which is 500 kilometers from Tokyo head office to support operational stability.

02

Investor Services Task Force (Convener: TDCC)

With significant changes resulted by the pandemic, the topic of the Investor Services Task Force (ISTF) session was “Investor Services in the New Normal”. In this session, the task force convener TDCC first reported its key findings in investor e-access services survey which was conducted during the period of 2020~2022. Based on the four major investor service types in its survey result, outstanding business experience including SGX’s investor portal, NSDL’s AGM service, CSDI’s platform for KYC stakeholders and KSD’s crowdfunding platform were further shared with ACG members.

03

Legal Task Force (Convener: CSDC)

As the convener of the Legal Task Force, CSDC set this year’s topic as “Data governance measures and data security systems”. During the session, three organizations shared their current measures. VSD presented their regulation on data security and introduced 4W+1H techniques to ensure data security. Swift talked about enhancements of their data platform to support instant and frictionless transactions. CSDC introduced data security management legislation of China, main institutions of personal information protection and cyber security protection measures that CSDC adopts.

04

New Business Initiatives Task Force (Convener: KSD)

This year’s topic of the New Business Initiatives (NBI) Task Force was “New Services and Initiatives”. Its convener KSD brought together 7 remarkable ACG speakers to share their new and inspiring CSD services launched during the pandemic. These include CDCPL’s new fintech initiative of Mutual Fund Digital Platform “EMLAAK Financials”; CDS Sri Lanka’s eNomination solution for both shareholders and issuers; CSDI’s dividend distribution system; KSD’s VentureNet platform, LEI code issuance service “LEI-K” and Korea’s risk-free reference Rate (KOFR) service; and TDCC’s developments regarding data sharing among financial institutions.

05

Risk and Recovery Management Task Force (Convener: CDCPL)

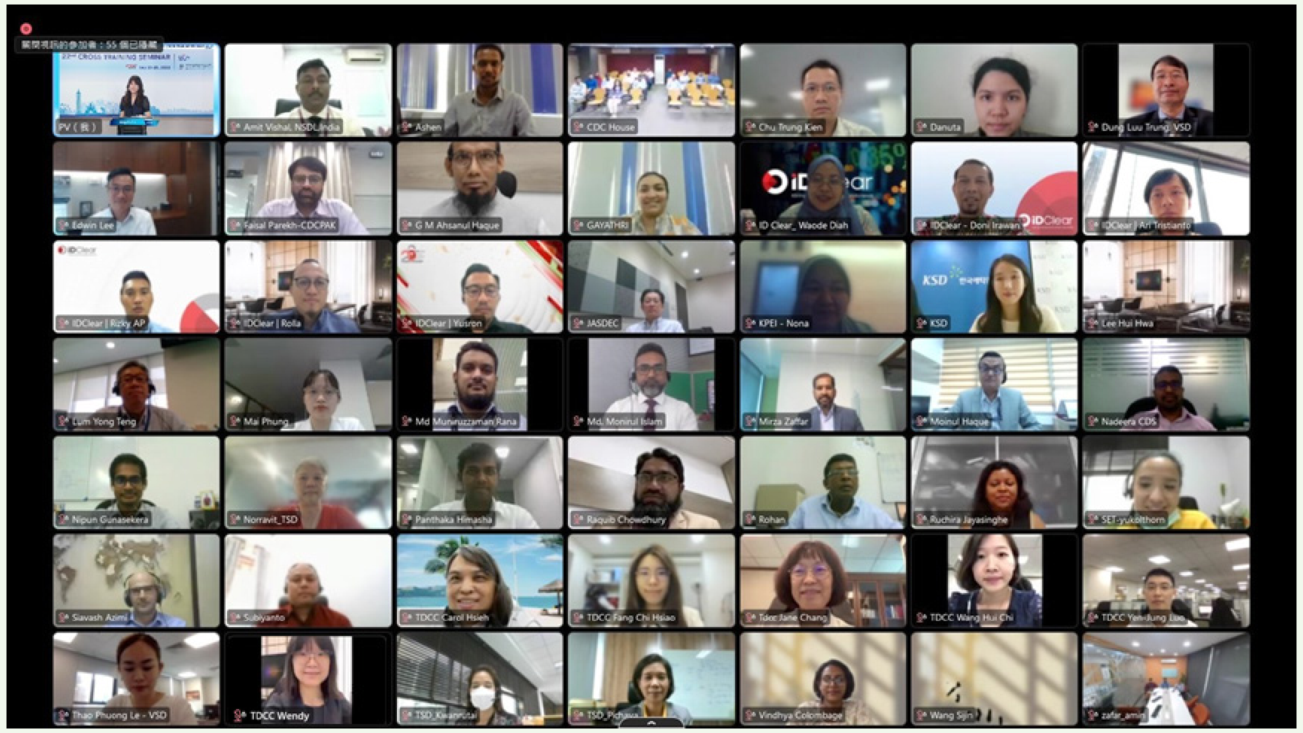
CDCPL convened the Risk and Recovery Management (RRM) Task Force with the topic “Cyber supply chain risk management” this year. Representatives from CDCPL, NSDL, TDCC and Thomas Murray shared their insights during this session and discussed about risks aroused due to the pandemic, such as the increase of work from home. They also talked about their thoughts on the notorious cyber-attack “SolarWinds”, which alerted everyone to take the protection of cyber supply chain seriously and carefully.

06

Technical Task Force (Convener: NSDL)

The topic of the Technical Task Force is “Distributed Ledger Technology (DLT)”. NSDL convened 3 organizations to share their latest updates on DLT applications. CDCPL introduced their measures on real estate tokenization in Pakistan. TDCC shared how they solved the pain points of manual processing in OTC-traded bonds and bills market by standardization, digitalization and DLT technology. NSDL launched a blockchain-based platform for the Debenture Security & Covenant Monitoring. VSD presented their models on DLT for depository data storing at a CSD.

The CTS 22 was postponed from 2020 to 2022 due to the global pandemic. In order to ensure continuous exchanges among ACG members, TDCC held an online CTS warm-up activity “ACG Networking Week” in 2021. Both of the warm-up event in 2021 and the official event in 2022 ended with a high note. Thanks to the convenience and efficiency of technology, the virtual CTS allowed inclusive participation for all ACG members. Looking forward, the spirit of CTS will be passed down, and the ACG community will continue to grow and prosper together.



*For more CTS 22 meeting materials, please visit the ACG Website (https://www.acgcsd.org/acg_04_s2.aspx?id=1063).

The 24th ACG General Meeting hosted by KSD

Powering through the Pandemic and Bringing People Together with ACG24

After three years of waiting, the members of the Asia-Pacific CSD Group (ACG) gathered in person to attend the 24th Annual General Meeting of ACG (ACG24), which was hosted by KSD in the beautiful city of Busan, the Republic of Korea, between November 7 and 10, 2022.

The four-day journey turned out to be a rousing success with ample opportunities for 149 delegates (28 institutions from 22 economies) to reconnect with each other, share knowledge, and explore the vibrant culture of Busan.

ACG members were warmly greeted in the welcome reception on November 7th and at the opening ceremony on the 8th by Mr. Myongho Rhee (Chairman & CEO of KSD) and Dr. Wenhua Dai (Chairman of ACG), who expressed their sincere gratitude to the participants for gracing the event with their presence.
ACG24 was themed around the audacity and hope in the face of impending risks and challenges: “Financial Industry, Navigating the Sea of Uncertainty”. The very theme of the event was elaborated by Mr. Mark Gem, Chairman of the World Forum of CSDs, who set the tone for the rest of the event with his keynote speech. Mr. Mark Gem emphasized the importance of promoting the cooperation among industry partners in order to build resilience against geopolitical tensions, new strains on global supply chains, energy crisis, climate change, or many other risks.

The ACG24 program was professionally curated

with a stellar line-up of speakers, panelists, and renowned sponsors. The first conference day on the 8th was highlighted with the two rounds of panel discussions that inspired the audience to ponder upon “the creative responses to unprecedented challenges” and “the future-proof innovation” that can reshape our future. The second conference day on the 9th was comprised of ACG-specific activities including Task Force

Group Meeting & Reporting, Senior Management Meeting, and Annual General Meeting. One of the key AGM decisions was to approve SIX SIS Singapore as a new associate member.

On the sidelines, the Asia-Korea Financial Cooperation Forum was hosted under the auspices of KSD to expand the scope of information exchange and collaboration by reaching a broader audience including the diplomats stationed in Korea, the members of the Council on International Financial Cooperation (CIFC), and many other important figures for regional financial partnership.

The entire program culminated in a farewell dinner on the Thursday night where delegates raised and clinked their glasses with a hearty cheer and closed the event with high expectations for ACG25 in Da Nang, Vietnam.

Conference photos and videos are available at the official website (www.acg24.org).

TASK FORCE CONTRIBUTIONS

Investors Services Task Force

As the postponed 22nd ACG Cross Training Seminar (CTS 22) and 24th ACG General Meeting (ACG 24) were held in September and November 2022 respectively, the much-anticipated Investor Services Task Force sessions ended on a high note with task force members' engaging participation.

22nd ACG Cross Training Seminar (CTS 22)

In the CTS 22, the ISTF convener TDCC invited members to explore investor services in the new normal. TDCC first presented key results of its investor e-access services survey, which classified 18 organizations' 44 investor services into four types- investor portal, AGM service, hub for stakeholders and other. With each service type, TDCC also invited representative ISTF members with outstanding services to share their practical experience in more details. These included SGX's investor portal service, NSDL's e-AGM service, CSDI's platform for KYC stakeholders and KSD's crowdfunding platform. Their informative presentations are available on ACG website.

24th ACG General Meeting (ACG 24)

Task Force Group Meeting

01

As the first in-person event since the global pandemic, the task force group meeting at ACG 24 was an exciting opportunity for ISTF members to have face-to-face networking. In this session, 14 ACG members participated and exchanged their latest investor service development, which included CDBL, CDS Sri Lanka, CDSC Nepal, CSDI, HKMA, JASDEC, KPEI, KSEI, MCSD, PDS, SGX, TDCC, TSD and VSD. In addition, ISTF members also had full discussion about the future topics for the following years, which will focus on more possible CSD services for investors.

Task Force Group Reporting

02

Physical ACG events had been kept on hold since the global COVID-19 outbreak in 2020, and so had the ISTF events. However, to continue members' information exchange and experience sharing, ISTF activities had been kept running by a virtual way. In the Task Force Group Reporting session at ACG 24, the ISTF convener TDCC reported its diversified activities during the pandemic, such as ISTF Online Bulletin, e-Account APP Service Workshop, Investor e-Access Service Survey, and ISTF sessions at ACG Networking Week, CTS22 and ACG 24.

Moving forward, the ISTF will continue its endeavors to make it a hub of investor services within the ACG community. As the convener, TDCC will go on facilitating information sharing amongst members, assisting with members' inquiries, conducting surveys based on topics of member's interest and holding ISTF activities to enhance members' collaboration and communication, building closer relationships within our ACG community.

GUEST COLUMN

Discussion on Fixed Income ESG Investment from a Chinese Perspective

China International Capital Corporation Limited

In the global fixed income ESG investment field, a comprehensive system including information disclosure rules, rating systems, responsible investor organizations, and investment products has been formed, with which ESG investment has gradually become an active investment strategy highly recognized by the global market. CICC and ChinaBond Pricing Center have strived to build a fixed income ESG Metrics with Chinese characteristics. By incorporating the fixed income ESG evaluation system into the business process, CICC as a securities firm can take full advantage of its international practices in the fields of underwriting, trading, and index products, so as to contribute to China's green and low-carbon transition, and to promote the high-quality and sustainable development of green finance.

Global Fixed Income ESG Investment Trends

Environmental, social and corporate governance (ESG) evaluation is a non-financial performance evaluation standard focusing on enterprises' sustainable development. The core principle of ESG investment is to adhere to a long-term perspective, i.e., to establish investment objectives, paths and evaluation methods under a long-term perspective, and to achieve the investment goal of sharing the long-term growth benefits of enterprises by constructing a long-term observable indicator system, judging the macroeconomic situation, analyzing the development trend of the industry, and assessing the feasibility of the business model of enterprises and the sustainability of their profits.

After decades of development, a comprehensive system including information disclosure rules, rating systems, responsible investor organizations and investment products has been formed in the fixed income ESG investment field. ESG investment has gradually become an active investment strategy highly recognized by the global market.

Information disclosure rules

01

According to United Nations Sustainable Stock Exchanges Initiative (SSEI), the mainstream standards and their percentages cited in the ESG disclosure guidelines of global stock exchanges of 2021 are as follows: the Global Reporting Initiative (GRI) at 95%, the Sustainability Accounting Standards Board (SASB) at 78%, the International Integrated Reporting Council (IIRC) at 75%, the Carbon Disclosure Project (CDP) at 68%, the Task Force on Climate-Related Financial Disclosures (TCFD) at 57%, and the Climate Disclosure Standards Board (CDSB) at 32%. In recent years, the disclosure requirements have shown a trend of consolidation and harmonization.

02

Rating System

After years of development, the international ESG rating industry has entered a stage of consolidation and integration, and has formed a competitive pattern led by Moody's, MSCI, Sustainalytics, ISS, S&P, etc. China's ESG rating industry started late but developed rapidly where several local ESG data suppliers and rating agencies have emerged, including ChinaBond Financial Valuation Center Co. (hereinafter referred to as "ChinaBond Pricing Center").

03

Responsible investor organizations

Responsible investment refers to adding ESG factors to the traditional investment framework, covering the concepts of sustainable finance, ESG investment, low-carbon finance, climate finance, green finance, etc. Major global responsible investor organizations consist of United Nations Principles for Responsible Investment (UNPRI), Global Sustainable Investment Alliance (GSIA) and Global Impact Investing Network (GIIN).

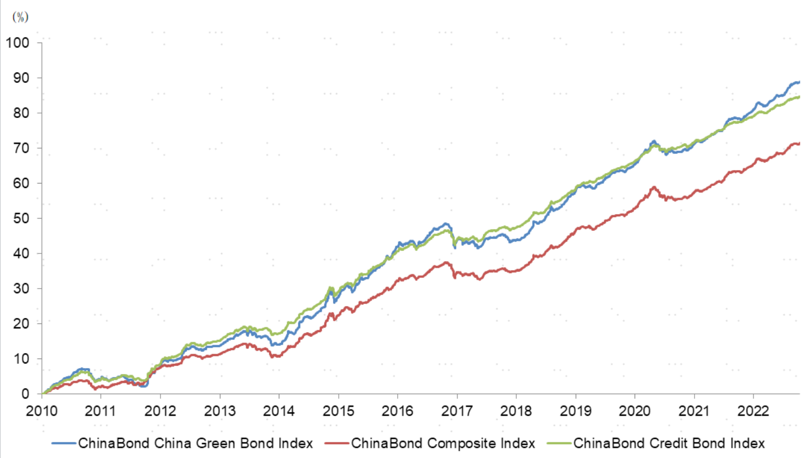
04

Investment products

Fixed income ESG investment products include ESG bonds (Note 1) and related investment funds, due diligence management investments and impact investments. According to the Environmental Finance 2021 survey, there are 58 actively managed funds worldwide that invest exclusively in green bonds, with more than $25 billion assets under management. According to GSIA report, the market size of investors using impact investing strategies (Note 2) has been rising since 2010. By the end of 2018, $10.4 trillion assets in the world's five largest developed capital markets were associated with three impact investing strategies, compared to $6.1 trillion in 2014.

In terms of investment performance, by comparing the ChinaBond-China Green Bond Index (CBA04901.CS) to ChinaBond-Composite Index (CBA00201.CS) and ChinaBond-Credit Bond Index (CBA02701 .CS) starting from December 31, 2009, we can find that China Green Bond Index significantly outperformed the ChinaBond Composite Index, and the gap gradually widened. The constituent bonds of the China Green Bond Index have higher ratings, and the index performance slightly outpaced the ChinaBond Credit Bond Index, reflecting the relatively higher returns of green bonds (Figure 1).

Figure 1: Comparison of the growth rate of green bond index and ordinary bond index



Note: The data on the vertical axis corresponds to the closing price increase of the three indices since the benchmark day of ChinaBond-China Green Bond Index (as of December 31, 2009)
Source: Wind

Building a fixed income ESG buy-side evaluation system from a Chinese perspective

According to GSIA, global investors adopt ESG strategies including ESG integration, Screening of investments, Sustainable themed investing, Impact/Community investing and Corporate engagement and shareholder action, which is shown in Table 1. In major global markets, the strategies involving the largest size of invested assets are ESG integration, Negative/exclusionary screening and Corporate engagement & shareholder action. The ESG integration strategy has grown rapidly, with the size of assets managed using this strategy nearly doubling since 2016; in 2018, it surpassed the negative/exclusionary screening and led the world in terms of assets under management. 25.2 trillion USD of assets were managed using the ESG integration strategy in 2020. In addition, sustainability-themed investments have grown to more than six times their original size in 2016, far outpacing all other strategies and demonstrating their growth potential.

Table 1 Global Mainstream ESG Investment Strategies

ESG integration	The systematic and explicit inclusion by investment managers of environmental, social and governance factors into financial analysis.
Screening of investments	Including negative screening, that is, removing specific industries or companies from the investment portfolio based on ESG standards; standardized screening, that is, Screening of investments against minimum standards of business or issuer practice based on international norms such as those issued by the UN, ILO, OECD and NGOs (e.g. Transparency International), Best-in-class/positive screening, that is, investment in sectors, companies or projects selected for positive ESG performance relative to industry peers, and that achieve a rating above a defined threshold.
Sustainabilitv themed investing	Investing in themes or assets specifically contributing to sustainable solutions (e.g., clean energy).
Corporate engagement and shareholder action	ESG-based guidelines for exercising shareholder rights and influencing corporate behavior from the management
Impact/community investing	Targeting certain environmental and social issues, including community investing and funding for businesses with a clear social or environmental purpose

Source: GSIA, CICC FICC

Before applying the investment strategies, buy-side institutions need to establish an internal ESG evaluation system. The third-party's rating system provides a technical basis for investors to evaluate portfolio's ESG performance. However, ESG reflects the buy-side institutions' investment value, and the buy-side ESG evaluation systems have their own characteristics, of which the investment strategies vary widely as well.

Currently, the domestic buy-side ESG evaluation system is still in the early stage of development, with two fundamental issues that worth attention. On the one hand, Chinese ESG investment should follow the existing global principles, combined with a comprehensive understanding of the existing practices. On the other hand, the ESG investment principles of Chinese financial institutions should also take into consideration of domestic conditions, to avoid incompatibility or inadaptability with the Chinese capital market.

01

ESG evaluation system from China's perspective should follow international practices

In the interconnected bond market, China needs to tell the Chinese bond story with ESG as a common discourse system. Companies with more comprehensive ESG information disclosure and better ESG performance will obtain better financing opportunities.

The "carbon peaking and carbon neutrality" goal is about building a community with a shared future for mankind, and the logic is similar for green bonds investment. By the beginning of 2021, 127 countries have committed to achieve carbon neutrality by the middle of 21st century. The green transition of enterprise entities is inseparable from the financial support of financial institutions, thus the green bond investment field has great potential.

Currently, sustainable development is a common challenge for governments and a passport for corporates to the international market. Corporates need to enhance the awareness of compliance, abide by the policies of each country and elevate the sustainable development that affects the enterprises' future to the strategic level. This will be the investment trend of the future.

The ESG evaluation system from China's perspective should be based on the domestic conditions

There are several reasons why the China's ESG evaluation system should be based on China's domestic conditions. Firstly, the energy structure of China is different. China's energy supply relies on coal with 56% of total coal energy consumption, while the world average is less than 30%. The transition of China's energy structure will be difficult and more emphasis placed on green transition, with long-term impact of carbon neutrality included in the ESG evaluation system. Secondly, the industrial structure is distinctive. China's manufacturing sector accounts for a sizable portion. The 14th Five-Year Plan (2021-2025) for National Economic and Social Development and Vision 2035 of the People's Republic of China proposed to "ensure that the share of manufacturing in the economy remains stable", while manufacturing industry, as a major user of electricity, has a large carbon emission base, and its production process is more likely to generate waste compared with other industries, taking longer to transform and develop. Thirdly, population structure is also a critical factor. China has a large population, few resources per capita, and a large rural population base. These characteristics determine the distinctive requirements of ESG in China, specifically in terms of unique indicators for improving people's lives.

02

Therefore, it is important to both draw on the generally accepted international indicators and make targeted adjustments to the indicator system and scoring weights based on China's conditions when constructing a China perspective fixed income ESG buy-side evaluation system.

Based on the above, CICC, together with the ChinaBond Pricing Center, strives to build a fixed income ESG evaluation system in line with China's conditions. The scoring range is from 1 to 10, where the scoring weights of the three pillars E (environment), S (society) and G (governance) are 40%, 20%, and 40%, respectively. The three pillar scores include 12 theme scores, each encompassing multiple subdivision impact factors. The data at the bottom level consists of statistical data of over 160 indicators from the ChinaBond Pricing Center and statistical indicators from CICC Research (shown as Table 2).

The above fixed income ESG Metrics fully refers to the ChinaBond ESG evaluation and database. ChinaBond Pricing Center launched ESG bond research in 2018, and the evaluation system combines both international mainstream framework and China's bond market characteristics organically. ChinaBond Pricing Center independently built ESG database and released ChinaBond ESG evaluation series in October 2020, filling the gap of ESG evaluation in the domestic bond market. More than 160 underlying indicators of ChinaBond are based on ChinaBond ESG database. 4000 Chinese bond issuers' unstructured and alternative data since

Table 2: Fixed-income ESG Metrics established by CICC and ChinaBond Pricing Center

Grading system (1-10 points)	Factors Considered		
Overall ESG Score **Full coverage of domestic bond issuers**	**Total score (updated after semi-annual report and annual report)** Environmental(E) : Social(S) : Governance(G) = 4:2:4		
3 Center Factors E+S+G	**Environment (annual update)** Weights focus on carbon neutrality theme	**Social Responsibility (Annual Update)** Themes scores are relatively balanced	**Corporate governance (updated after semi-annual report and annual report)** Similar to the logic of credit rating
12 Theme Scores 4 themes/dimensions	Carbon Neutral Green Development Resource Utilization Pollution Control	Employee Development Product Reliability Social Contributions National Strategy	Governance Structure Information Disclosure Behavioral Norm Operating Capacity
Influencing factors Topic segmentation	Industry: the impact of carbon neutrality policies on the industry Enterprise: main business carbon emission, green strategic planning, environmental protection investment, energy utilization, water resource utilization, land resource utilization, wastewater pollution prevention, waste gas pollution prevention, solid waste treatment	Enterprise: employee rights protection, benefits, career development, quality assurance, after-sales service, customer privacy protection, charity and taxation, employment, technology research and development	Enterprise: actual controllers, executives, financial statement quality, public image management, business ethics, major litigation and arbitration, financing stability, product competitiveness
Label and organize the data of more than 160 indicators			

Source: CICC FICC

2017 are integrated using financial technology to collect and analyze ESG information.

The fixed income ESG Metrics reflects the long-term investment principle. It highlights sustainability from a non-financial perspective, enables the long-term assessment of carbon neutral policies, and responds to major policies such as green development, carbon neutrality, rural revitalization and common prosperity, and comprehensively evaluate the ESG performance of more than 4,000 Chinese bond issuers.

The biggest highlight of the evaluation system is the inclusion of the carbon neutral policies. Industries with different resource endowments and at different stages of the industrial chain are evaluated, and the short-term costs and long-term potential returns brought by carbon neutral policies are thoroughly analyzed with reference to the framework proposed by the Institutional Investors Group on Climate Change (IIGCC). The CICC Carbon Neutral Index consists of four components include existing carbon emissions, green premium, policy regulatory pressure and social governance, focusing on industries that are more affected by carbon neutral policies, such as coal, non-ferrous metals, and basic chemical industries. This fully reflects trends of energy becoming "light", finance becoming "heavy", commodities becoming "recycled", technology becoming "beneficial", regions becoming "remodeled" and consumption becoming "low-carbon".

Enriching fixed income investment based on ESG evaluation system

Compared with the traditional credit evaluation framework, the ESG evaluation system can provide new perspectives and diverse strategy choices for investors. The traditional framework has certain limitations such as the risk of short-term fluctuations, the risk of financial statement distortion, and the fact that financial indicators are weighted more than non-financial indicators. The ESG evaluation system breaks through the limitations of the traditional credit rating framework and focuses on enterprises' sustainable development ability, and achieve capital gain through long-term investment in sustainable enterprises.

As green bonds service provider and investor, securities companies should implement the major decision and deployment of the Central Committee of the Communist Party of China and the State Council of the People's Republic of China on carbon peaking and carbon neutrality, actively respond to the call for financial services for the real economy, attach great importance to the development of green bond underwriting business, assist directing capital flow to green fields such as clean energy, clean transportation, sustainable construction and industrial low-carbon, and expand market impact. By incorporating the fixed income ESG evaluation system into business process, the security industry will continue developing the green concept, give full play to its professional advantages, contribute to the realization of China's green and low-carbon transition, and continuously promoting the high-quality and sustainable development of green finance.

In terms of green bond financing, securities companies can contribute to the development of the green bond market, guide social capital to flow into green industries and support the green development of the real economy. In 2021, securities companies issued multiple benchmark green bonds and sustainable development bonds.

In terms of promoting the construction and improvement of green bond standards, securities companies can give full play to their advantages in international business and promote the alignment of domestic green bond standards with international standards.

In terms of improving the liquidity of the green bond market, securities companies can promote the market-making business, especially by leveraging the core market maker status to increase the volume of market-making transactions. Active market-making for bonds that conform to the ESG evaluation system will enhance the liquidity of green bonds.

In terms of innovation of green investment and financing products, securities companies can productize ESG investment strategies and promote the concept of value investment to clients. For example, on June 4, 2021, the ChinaBond CICC Green Asset-Backed Security Index was released. The constituent securities of this index consist of green asset-backed securities and green asset-backed notes (excluding subordinated notes) issued in China with a remaining maturity of one month or more and meeting the criteria pre-set by the index sponsor (i.e. CICC), which can be used as a performance benchmark and underlying index for investment in such securities. In order to actively respond to the call of national rural revitalization strategy and guide financial resources to key areas and weak links of rural revitalization, the ChinaBond CICC Rural Vitalization Credit Bond Select Index was released on July 15, 2021. The constituent securities of this index are screened with reference to prescribed scoring methodologies by the index sponsor (i.e. CICC) and consist of credit bonds (excluding subordinated bonds) with a pending period of not less than one month and with funds raised for rural revitalization purposes, which can be used as a performance benchmark and underlying index for investing in such securities.

Looking ahead, we have good reasons to believe that securities firms will further expand the scope of ESG index investment products and provide investors with Chinese perspectives, solutions and strategies to help the high-quality development of China's bond market and support the green transition of China's economy.

Note:

1.According to the criteria of the International Capital Market Association (ICMA) for ESG bonds, ESG-themed bonds are divided into four categories: Green Bond, Social Bond, Sustainability Bond and Sustainability- Linked Bond.

2.As defined by GIIN, impact investments are investments made with the intention to generate positive, measurable social and environmental impact alongside a financial return. (Please refer to: https://thegiin.org/impact-investing/)

Inbound Investment into China Market – An Ever-Evolving Landscape

J.P. Morgan Securities Services

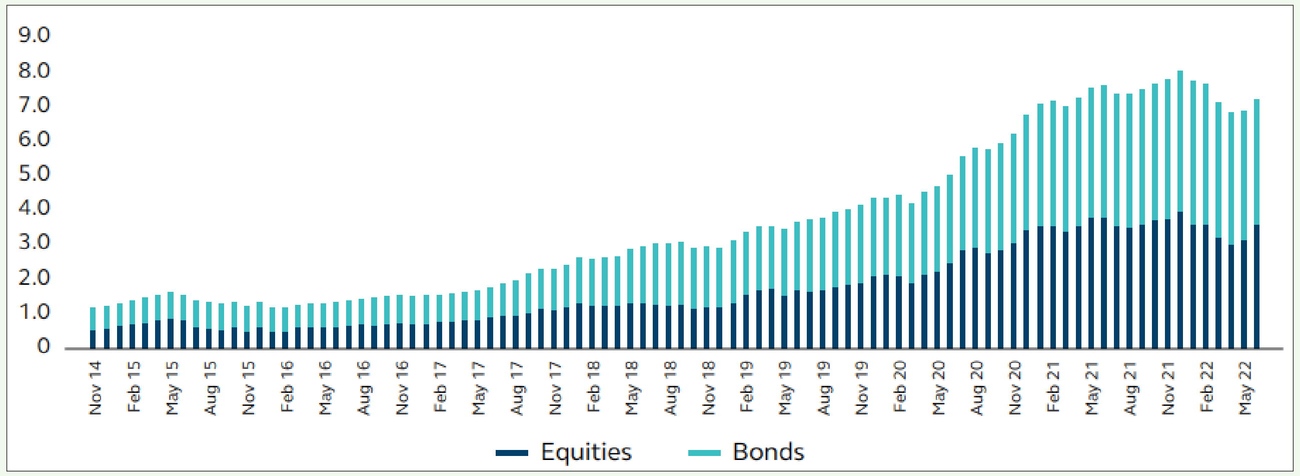
January 2023

It has been around two decades since the launch of the Qualified Foreign Institutional Investors (QFII) scheme in China. Throughout these years, the China market access routes for foreign investors have evolved rapidly across all fronts, including the availability of expanded investment programs, relaxed market entry and repatriation rules, and enhanced operational arrangements to further align with international practices. All of these ongoing developments drove the market toward greater efficiency and connectivity, paving the way for foreign investors to capture opportunities in China's on-shore equities and fixed income markets.

The Momentum of Market Liberalization Continues

China has grown to become the second largest equities and bond markets in the world with about USD11 trillion (RMB 80trillion) in market capitalization in the equities market based on data from Shanghai, Shenzhen and Beijing Stock Exchanges, and nearly USD18trillion (RMB 127 trillion) outstanding in the bond market according to China Central Depository and Clearing Co., LTD. and Shanghai Clearing House data, as at the end of November2022. International investors' holdings in equities and bonds were RMB 7.2 trillion in June 2022according to an article published by Hong Kong Exchanges and Clearing Limited (HKEX) on its website referenced under the chart below. Although foreign holdings only account for around 4% of the equities market and less than 3% of the bond market, global investors have been ramping up their investments into the China Mainland market over recent years, either driven by their evolving asset allocation strategies or necessitated by index tracking or benchmarking activities.

Foreign investors' holding of China equities and bonds (in RMB trillion)



Source: HKEX
https://www.hkex.com.hk/-/media/HKEX-Market/Mutual-Market/Stock-Connect/Reference-Materials/Resources/HKEX-Connect-Story.pdf

Major global index providers have begun including a selection of China securities into their key indices over the past few years, including MSCI Emerging Markets Index in May 2018, FTSE Emerging Index in June 2019 and S&P Dow Jones' global benchmarks in September 2019 on China A-shares; and Bloomberg Barclays Global Aggregated Index in April 2019, J.P. Morgan Government Bond Index – Emerging Markets (GBI-EM) in February 2020 and FTSE Russell World Government Bond Index (WGBI) in October 2021with respect to China fixed income. These index inclusion decisions came in conjunction with the market authorities' initiatives to enhance access for foreign investors investment into China Mainland markets across all investment channels, continuously making investment easier for foreign institutions. With major global index providers reacting to China's market liberalization, the industry fully anticipates that China's market regulation will continue to develop and foresees that China become a more familiar place for foreign investors to operate in.

Select Recent Developments and Landscape Changes Across the Major Investment Channels

Market authorities and market infrastructures in Mainland China and Hong Kong are continuing along the trajectory of liberalization across both equities and bond markets, broadening the scope of eligible instruments, simplifying market entry and repatriation, and creating a more familiar operating environment for foreign investors accessing China market.

01

QFI: Qualified Foreign Investors (QFI) scheme was one of the earliest investment channels established to foreign investors and allows them to access securities traded on the stock exchange, as well as allowing QFIs to access the China Interbank Bond Market (CIBM). QFI has seen major changes and expansion in recent years providing increased permissible instrument scope and a further harmonized general regulatory framework and operational arrangement. Select key developments include:

- In December 2022, Deliver Versus Payment (DVP) reform in the China A-share market became effective, which was another milestone in market development to further minimize any market settlement risk. While there is no change to the settlement cycles, the DVP reform further stipulated and strengthened any default handling procedures and as well as the roles and responsibilities of various market participants.

- In November 2021, the Beijing Stock Exchange (BSE) officially went live with a focus on innovation-oriented small and medium-sized enterprises. This is the third stock exchange in China in addition to the Shanghai and Shenzhen Exchanges. QFI investors are permitted to invest in BSE listed securities with their existing QFI license. Furthermore, in November 2022, the BSE unveiled rules and guidelines for margin finance and short selling, supporting investors with diversified trading strategy needs as part of the markets continued evolution.

- In 2020, regulators and financial market infrastructure companies released a series of expansions and rule relaxation under the QFI route, which was generally seen as a landmark change since the initiation of this channel in 2002. Key changes included 1)once an investor obtains QFI license, they no longer need to apply for an investment quota; 2) the consolidation of the QFII and Renminbi-QFII (RQFII) investment channels into a single QFI route, which further streamlined and harmonized relevant rules and operational nuances across the two channels, and allowing QFI investors to fund through injecting foreign currency and/or RMB of their choice; 3) further relaxed investor eligibility requirement such as removing quantitative criteria including years of track record and asset under management, and further simplifying application document requirements and streamlining the regulatory review process, ultimately shortening the market entry lead time to allow foreign investors to begin investing through QFI sooner; 4) expanded scope of investment to include permissible instruments such as financial futures, commodity futures, private investment funds, margin trading and securities lending, providing foreign investors additional flexibility and options to meet their evolving investment objectives in China.

02

Stock Connect Northbound: Stock Connect Northbound channel currently allows foreign investors to trade a subset of eligible China A-shares through the connectivity of market trading and settlement infrastructure between the China Mainland and Hong Kong markets. This investment route has also seen a continued expansion and evolution since the launch of Shanghai-Hong Kong Connect in 2014 and Shenzhen-Hong Kong Connect in 2016. Select key developments include:

- In December 2022, the China Securities Regulatory Commission (CSRC) and the Hong Kong Securities and Futures Commission (SFC) jointly announced its plan to further expand the eligible stocks available through the Stock Connect channel, allowing foreign investors to trade an expanded universe of securities. The effective date of this expansion will be announced in due course, with preparatory work expected to take around three months.

- In August 2022, the CSRC, SFC and the HKEX jointly announced a planned enhancement to the Stock Connect trading calendar to allow foreign investors to trade China A-shares through the Stock Connect channel on all trading days where both the China Mainland and Hong Kong markets are open. Under the existing Northbound arrangements, Stock Connect is closed on a China Mainland market trading day when the corresponding settlement day (i.e., T+1) is a public holiday in Hong Kong.

- In July 2022, a select group of China onshore market listed Exchange-Traded-Funds (ETFs) became eligible to trade through Stock Connect Northbound channel, further expanding the instrument universe for foreign investors when investing through Stock Connect.

- In February 2021, a select group of stocks traded on the Shanghai Stock Exchange's Sci-Tech Innovation Board (STAR) became eligible for trading through the Stock Connect Northbound channel, broadening the scope of securities for foreign investors to meet their investment objectives.

- In August 2020, the Master Special Segregated Account (SPSA) service was launched by the HKEX for Stock Connect Northbound investment to enable block trading for sell orders.

03

CIBM Direct and Bond Connect: These two investment channels allow foreign investors to access the CIBM. Since 2016 when the CIBM Direct channel was extended to a much wider type of institutional investors from the initial pilot program and the initiation of the Bond Connect channel in July 2017, market authorities and infrastructure companieshave continued to implement enhancements to streamline operational arrangementsand simplify market access, providing a more efficient and familiar operating environment for foreign investors across market entry, trading, settlement and funding. Select key developments include:

- To further shorten CIBM time-to-market for foreign investors across both the CIBM Direct and Bond Connect channels, multiple initiatives have been implemented over the years to simplify market entry procedure and documentation requirements. As an example, in March 2021, the 'Registration Form for Overseas Institutional Investors in CIBM' was revised. The revision permits an investment manager to only register once with the People's Bank of China (PBOC) across all its current and future products, removing the need for an investment manager to file separate forms on a per product or fund basis. PBOC further streamlined the market entry process under CIBM Direct by removing the regulatory filing requirement of Bond Settlement Agency Agreement in June 2022.

- Bond trading arrangements have also seen continued positive changes over the years where a series of market enhancements across trading hours and mechanisms have created a more familiar environment for investors across global time zones. Since September 2020, the CIBM trading hours of cash bonds with settlement cycle Trade Date (T)+1 and above was extended to 8 p.m. China time. Trading hours of bonds settling T+0 remained unchanged. The trading hour improvement provided investors who do not have an APAC time zone trading hub additional flexibility to capture China bond trading opportunities.

- Settlement arrangements for the CIBM across CIBM Direct and Bond Connect continue to be optimized to accommodate the needs of foreign investors domiciled across different time zones and jurisdictions. In addition to the CIBM settlement cycle being extended to T+3 for foreign investors in 2019, two further enhancements were also introduced to increase operational flexibility for foreign investors. In March 2020, a special T+N settlement cycle was announced to facilitate some investors' needs to settle a trade beyond T+3 cycle. In addition, a recycling settlement service to allow foreign investors to settle a previously affirmed but failed bond trade within three business days of the initial failed settlement date was introduced so in the event of a fail, the investors do not need to execute a new trade in the market. These continued market and operational enhancements provide investors with more flexibility and time to prepare for settlement or arrange funding.

- From a funding perspective, there has been continued liberalization relating to foreign exchange and repatriation to provide foreign investors additional flexibility in counterparty selection and further standardization in rules and operational arrangements. Some examples include:

  - Effective 1st January 2023, for foreign investors investing through the CIBM Direct channel and injecting both RMB and foreign currencies, at the time of repatriation, the controlling threshold will be imposed on foreign currency only instead of on both RMB and foreign currencies. The calculation methodology will also be relaxed from 110% to 120%, giving foreign investors more flexibility when managing their funding needs and repatriation requirements.

  - In March 2021, eligible Bond Connect foreign investors were permitted to trade onshore CNY FX with up to three Hong Kong FX Settlement Banks, facilitating the investor's commercial, index tracking, or best execution needs when investing in CIBM through the Bond Connect channel. Prior to this change, Bond Connect investors could only trade FX with a single Hong Kong FX Settlement Bank as appointed by their local custodian bank in their capacity as Central Money markets Unit (CMU) Member. As part of the same guidance, the Hong Kong Monetary Authority (HKMA) provided further guidance on the regulatory monitoring methodology and reporting thresholds associated with the 'genuine and reasonable' criteria associated with the booking of onshore CNY FX.

  - In March 2021, eligible CIBM Direct investors were permitted to trade with multiple onshore CNY FX counterparties of the investors' choice moving away from a situation where institutional investors could only trade CNY FX with their designated Bond Settlement Agent. Moreover, effective January 2023 regulators removed the number of counterparties (previously limited to up to three) allowed for FX hedging, as a result the investor can choose FX counterparties at their discretion for both FX spot and derivatives trading. This change brought institutional investors in line with sovereign investors, from the perspective of having the option to trade with multiple counterparties. Sovereign investors had enjoyed this flexibility for some time, albeit through the China Interbank FX Market (CIFXM) route.

- Market authorities and financial infrastructure companies have continued to broaden the scope of permissible instruments for foreign investors accessing China's onshore bond market, examples of ongoing developments include:

  - In July 2022, the Swap Connect Northbound link was announced jointly by the PBOC, the HKMA and SFC to enable eligible foreign investors to trade interest rate swap (IRS) products in Mainland China through the connectivity between China onshore and Hong Kong financial market infrastructure companies. The implementation date will be announced in due course.

  - In February 2022, PBOC announced Measurers for the Administration of Bond Lending business in CIBM to further standardize the bond lending arrangements in the market, which include a requirement for all borrower and lender participants to execute a standard Bond Lending and Borrowing Master Agreement recognized by the PBOC. In June 2022, the China National Association of Financial Market Institutional Investors (NAFMII) released the standard CIBM Bond Lending and Borrowing Master Agreement template.

In January 2022, an Interim Measure on Interconnectivity between CIBM and the exchange-traded bond market was published, establishing an arrangement for eligible investors to leverage their existing setup in one market to trade the eligible securities in another market via the connection between relevant financial market infrastructure companies.

The Ever-Evolving Landscape

China has undoubtably shifted into a higher gear with respect to its market liberalization over the past few years. Infrastructure and operational expansions and simplifications have occurred across all aspects from the market entry process through trading, funding and settlement. Key milestones achieved include equities and bond inclusion into many of the flagship indices of global index providers. Similar to what is seen in many other markets around the globe, international investors will find some unique elements when investing in the China market compared to their home market, however these can increasingly now be considered as nuances rather than barriers and are easily navigated with the appropriate focus and support. As market authorities and financial market infrastructure companies continue their trajectory of market easing and strengthening infrastructure connectivity, global investors increasingly find the China market a more familiar and welcoming environment to operate in.

As a global custodian, J.P. Morgan supports our clients' inbound investment into the Chinese securities markets through the full range of investment channels including QFI, Stock Connect, CIBM Direct, Bond Connect, as well as investment in the China B-share market. China is a key market for our international clients diversifying their global investment, as such we will continue to partner closely with our clients to navigate the evolving China market landscape and adapt our product offerings as the market further develops.

J.P. Morgan assumes no responsibility or liability whatsoever to any person in respect of the contents of this article.

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