

# AERIAL VIEW

ACCESS A BROADER MARKET PERSPECTIVE



## CHINA RISING: THE DOOR WIDENS TO INVESTORS

BY KATY BURNE

# MAJOR MILESTONES

## NOVEMBER 2014

Stock Connect launches, bringing foreign investors access to Shanghai-listed China A-shares via Hong Kong

## FEBRUARY 2016

CIBM (China Interbank Bond Market) Direct scheme enables foreign investors, through onshore channels, to access China domestic bonds

## AUGUST 2016

Aggregate quota for Stock Connect removed; daily one persists

## DECEMBER 2016

Shenzhen China A-shares added to Stock Connect

## JULY 2017

Bond Connect launched, giving international investors access to China government bonds

## NOVEMBER 2017

FX derivatives allowed under QFII/RQFII investment scope for hedging purposes

## FEBRUARY 2018

Stock Connect collateral introduced to BNY Mellon triparty

## MAY 2018

China A-shares included in MSCI Index, in phases

## APRIL 2019

China included in the Bloomberg Barclays Global Aggregate Index for bonds

## JUNE 2019

China A-shares added to the FTSE Global Equity Index Series, in phases

## SEPTEMBER 2019

Announcement about intention to remove QFII/RQFII investment quota limitations; S&P Dow Jones China A-shares indices inclusion

## FEBRUARY 2020

China added to JPMorgan Government Bond Index - Emerging Markets

## JUNE 2020

Removal of QFII/RQFII investment quotas

## JULY 2020

Bond Connect announces fee reduction, trading hour extension, expansion of trading platforms and other enhancements

## NOVEMBER 2020

Announcement to unify QFII/RQFII; derivatives allowed on bonds, interest rates and foreign exchange through CIBM; financial futures listed and traded on China Financial Futures Exchange

## DECEMBER 2020

Foreign ownership cap for China A-shares lifted under QFI scheme

## FEBRUARY 2021

Stock Connect added access to the Shanghai Stock Exchange's Sci-Tech Innovation Board (STAR Market)

## APRIL 2021

Bond Connect collateral introduced to BNY Mellon triparty

# THE PACE WITH WHICH CHINA IS ALLOWING MORE SOPHISTICATED HEDGING AND FINANCIAL PRODUCTS IS CREATING NEW OPPORTUNITIES FOR FOREIGN INSTITUTIONS, WHO WANT GREATER ONSHORE EXPOSURE AND COLLATERAL MOBILITY.

BY KATY BURNE

**T**he liberalization of China's capital markets has accelerated in recent months, making it easier for foreign money to flow in and out through enhanced cross-border trading schemes, abolished investment quotas and an expanded scope of permissible financial products.

Reform-minded regulators there—who see the benefits of adding foreign institutional capital into the country's retail-oriented ecosystem—have relaxed foreign-exchange rules, allowed new trade types such as stock lending and futures, and indicated that fixed-income repurchase agreements are coming.

Currently, foreign owners account for only 3% of domestic fixed-income securities in China's onshore bond market, in part because the country has tightly controlled China's currency and sought to protect local companies from outside speculators and what they perceive as unstable capital. Now, all

that is changing because of global macroeconomic forces that are reshaping its domestic economy (see Figure 1).

"China was the catalyst we needed in Asia," says Tim Wannemacher, head of financing and co-head of global markets distribution for Asia Pacific at UBS in Hong Kong. "It has depth and a large amount of trading opportunities, so you could technically deploy a meaningful amount of money there."

Demand from institutional investors abroad is showing up in the rising number of account openings, daily trading turnover and assets in custody. Many of the new entrants are overseas hedge fund managers, private equity firms and institutional fund managers, seeking either local licenses through the qualified foreign investor (QFI) scheme or offshore gateways that are operated from Hong Kong.

China's domestic equity and fixed-income markets are already the second largest in the world by market capitalization. Adding to the allure since they

opened to foreigners in 2002 are the prospects for growth, a rising middle class that is generating more wealth, a stable currency and attractive returns on bonds relative to rates in developed markets. China's 10-year government bond yielded 3.24% as of March 19, compared to 1.63% on the comparable U.S. Treasury bond. Improving settlement timing and an alignment of offshore schemes with onshore holiday trading hours have also helped.

In the first nine months of 2020, China gained \$124 billion of foreign portfolio debt flows, more than the \$102 billion for all of 2019, according to the State Administration of Foreign Exchange (SAFE) (see Figure 2). The amount of yuan-denominated assets held by foreign investors is now \$1.22 trillion, according to Finadium, up from \$459 billion in 2016.

China's commitment to opening its capital markets has continued despite recent political developments between the U.S. and China. "The

---

**“As many markets closed in, China was opening up. The instrument selection is widening and giving managers like us a lot of opportunity for offshore fundraising to access the domestic market.”**

—RAJEEV MITTAL, FIDELITY INTERNATIONAL

intention to open up the markets and attract global investors appears to be very strong, even with rising geopolitical tensions,” says Lyndon Chao, head of equities and post trade at the Asia Securities Industry & Financial Markets Association (ASIFMA). “They are sophisticated enough to see the benefits of securities lending, but they will make sure they can control and monitor it.”

#### **CONNECT AND COLLATERAL**

Chinese regulators have become increasingly flexible because they see that more investors will help the country’s capital markets to flourish and domestic companies to raise cash.

The Stock Connect program, launched in 2014 for foreign investors to access China’s Shanghai and Shenzhen stock exchanges through Hong Kong, this February provided access to eligible A-shares listed on the Shanghai Stock Exchange’s (SSE) Sci-Tech Innovation Board (STAR Market). Around \$14 billion of foreign investment daily is already coming through Stock Connect into Mainland

China equities, according to Hong Kong Exchanges and Clearing Limited (HKEX) (see Figure 4).

The addition of eligible STAR Market shares in Stock Connect will help international investors expand their investments in biomedicine, technology and e-commerce companies, which are part of China’s growing new economy and which have seen increased investor interest amid the COVID-19 pandemic, says Tae Yoo, managing director in global client development at HKEX.

Bond Connect has separately taken off since launching in 2017. In April, BNY Mellon became the first triparty agent to enable foreign investors to pledge China government bonds as collateral. Previously there was no mechanism to finance bonds purchased through Bond Connect, but balances of Stock Connect collateral in triparty have increased more than 150% over the past year. “We already see increasing market take-up in being able to use China Connect stocks as collateral in triparty, so it’s logical to think we will see the same with Chinese bonds,” says Karen Lam, a partner at Linklaters in Hong Kong.

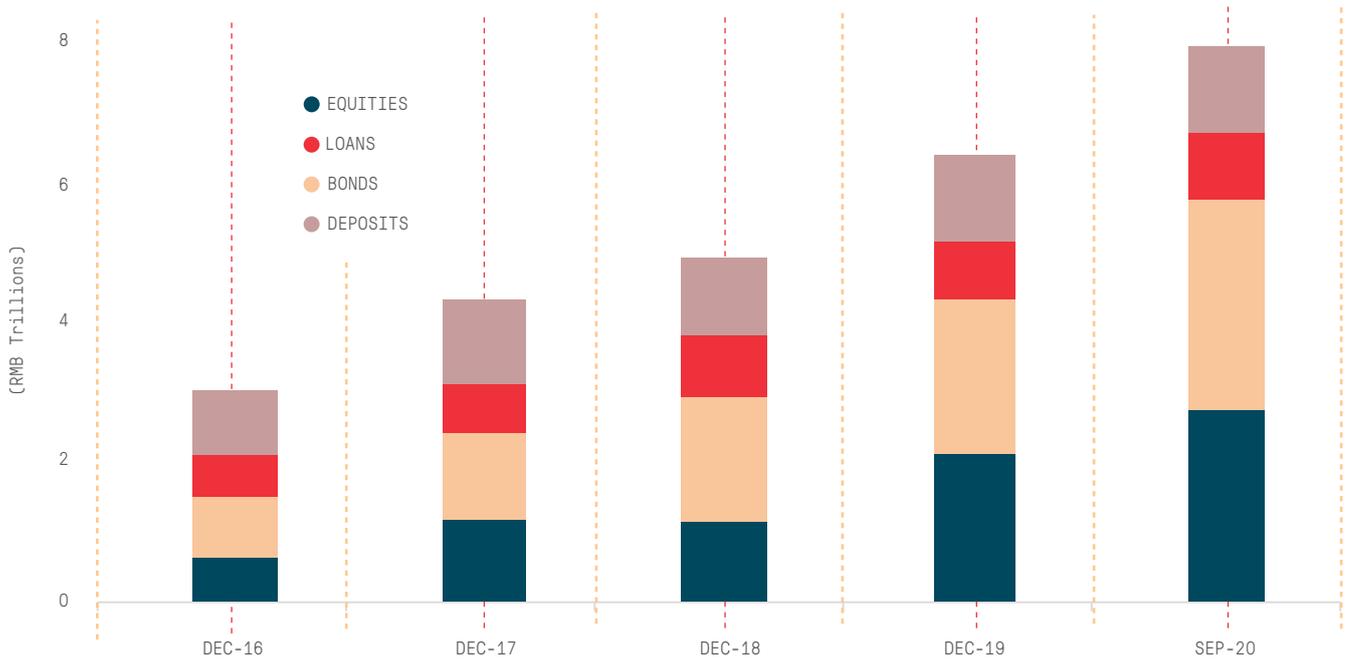
**D**ealers have sought the ability to use China government bonds as collateral for years because if those firms are sitting on inventory, without it being monetized, those bonds are trapped on their balance sheet and can prove costly when static. Meanwhile, receivers are likely to want to lend cash in exchange for China government bonds given the premium return that may be attainable when compared with other collateral markets.

“With [Stock and Bond] Connect securities representing a growing share of banks’ balance sheets, the focus on identifying solutions to use these securities, including as collateral in financing transactions, continues to increase across the market,” explains Nehal Mehra, global co-head of cross asset financing with global markets at Goldman Sachs.

Regulations prevent Bond Connect investors from using more than one custodian, despite this being recently relaxed for QFIs. As a result, BNY Mellon had to develop a custody agnostic solution in which it reflected

## ENTERING THE FRAY

RMB financial assets held by overseas entities are growing

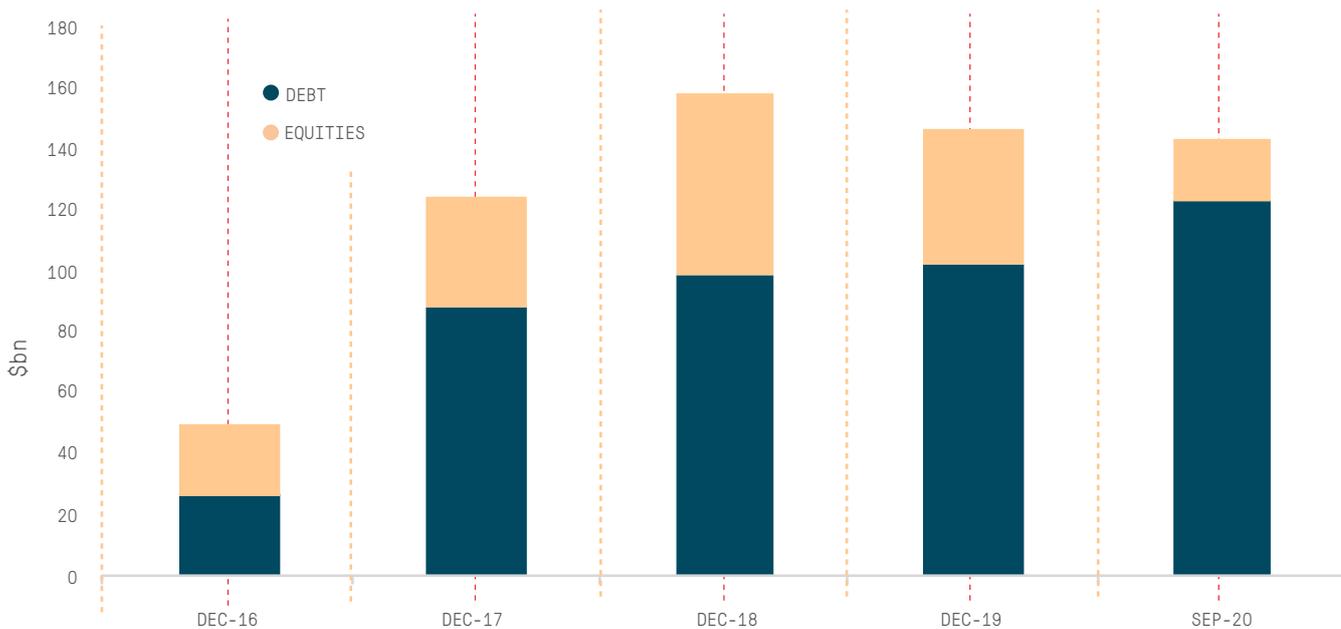


SOURCE: PEOPLE'S BANK OF CHINA, FINADIUM ANALYSIS

FIGURE 1

## ANNUAL PORTFOLIO FLOWS TO CHINA

Purchases of securities are surging, helped by the scrapping of QFII quotas



SOURCE: STATE ADMINISTRATION OF FOREIGN EXCHANGE

FIGURE 2

---

# “It’s a solution that allows for a triparty model to work with existing Bond Connect non-trade transfer restrictions, and once clients see that, there will be significant demand.”

— NIGEL RANGEL, HSBC

the bond holdings in the global triparty system, whilst not directly holding them in its own custody network. It also developed a solution with trading platforms in case the borrower defaults. Combined, these hold the promise of many new ways to use China fixed-income collateral globally.

“It’s a solution that allows for a triparty model to work with existing Bond Connect non-trade transfer restrictions, and once clients see that, there will be significant client demand,” says Nigel Rangel, senior product manager for banks and broker dealers within Markets and Securities Services at HSBC.

## **QFI AND RELATED REFORMS**

Other deregulatory efforts have allowed the foreign institutional investors licensed onshore to trade on margin, lend or borrow China A-shares through onshore brokers and custodians, and to transact in new financial and commodity futures as hedging tools for the first time.

“We’ve seen huge momentum from global investors seeking to take advantage of China’s market deregulation,

through our custody, FX and collateral management platforms,” says Sam Xu, China Country Executive at BNY Mellon. “Firms who prove agile enough to capture these long-awaited opportunities in securities finance, collateral efficiency and hedging can get a meaningful edge in their execution.”

Last year, authorities in China merged the separate Qualified Foreign Institutional Investor (QFII) regime with a sister one for renminbi investments (RQFII), creating a unified QFI channel. They also abolished fixed investment quotas and removed limits on the number of brokers QFIs could use for fixed income and equities. (Approved quotas had risen to \$116 billion right before they were abolished, up from \$87 billion at the end of 2016, Bloomberg data show. See Figure 3.)

The issue is that until the reforms speed up even more, multiple access channels will continue to operate side by side to encourage the broadest possible participation while the specifics are ironed out. The Stock and Bond Connect schemes have been so successful, for example, that local players see the government aiming to even the playing field between those channels

and the QFI scheme.

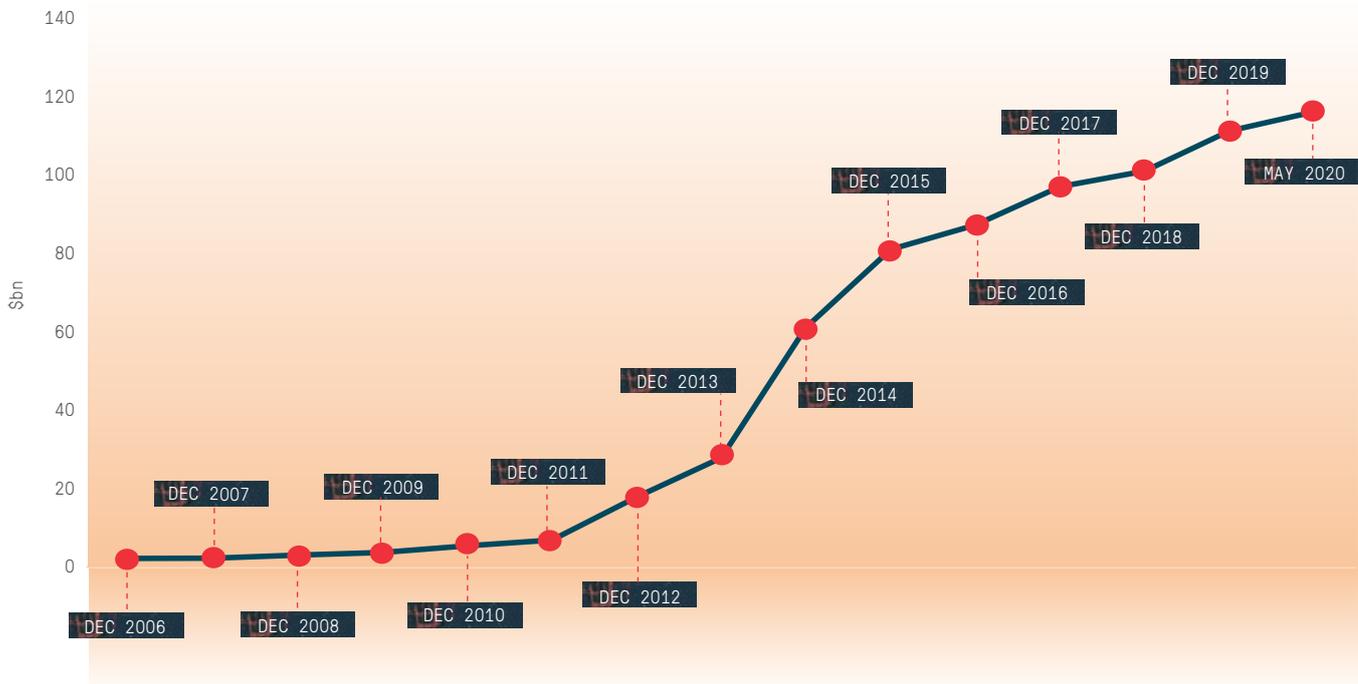
“The Connect [channels] will not be allowed to outpace direct access,” says Stuart Jones, chairman of the Pan Asia Securities Lending Association, or PASLA. “Whilst the Connect scheme has been a hugely successful program, there is little desire to see flows leave the QFI channel for Connect. QFI reforms will open up a lot more opportunity with offshore funds being able to access more products and trade them directly.”

There also remains plenty of work to do before offshore investors can get the full extent of access that they want through the QFI regime, while not being physically located in China. “They would like to have more choice, like short selling, bond repo and exposure to government bond futures,” says Natasha Xie, partner at law firm Junhe.

The small number of QFIs who are lending or borrowing China equities are engaging directly with beneficial owners. But the new reforms come with mechanisms that are not aligned with international practices. For example, equity lending and borrowing have to be conducted through the China Securities Finance Corporation

## FULL QUOTA

Approved Mainland quotas for investment firms rose, until they were abolished in May 2020



SOURCE: BLOOMBERG, STATE ADMINISTRATION OF FOREIGN EXCHANGE

FIGURE 3

(CSFC), which prescribes that collateral is ring-fenced by the borrower and does not allow an offshore custodian to be part of the clearing process. The CSFC can also demand 150-200% of margin for stock borrowing.

“They launched QFI access to stock borrowing and lending at the end of December and so there are teething issues,” says Chao at ASIFMA. But it is nonetheless important progress. Some participants have continued to conduct their securities lending activities and hedges from offshore synthetically, via derivatives, until the kinks are worked out.

Meanwhile, eligibility for stock lending among offshore asset owners using Stock Connect is restricted to exchange members, although it is understood that regulators see the benefits of permitting this if they can control aspects of short selling that they view as harmful.

Added to that, China has no concept of agency lending in securities finance. When an offshore institution wants to finance the Stock Connect shares in their inventory to generate cash, they either do so as a principal using their custodian for support, or they pledge the China A-shares acquired under the Stock Connect scheme, in which case the shares are held by triparty agents.

A lack of global offshore holders negatively impacts liquidity, but it doesn’t seem to have prevented securities lending volumes onshore rising 1,025% from October 2019 to October 2020, according to Finadium. The current \$20 billion of equities borrowed is dwarfed by the \$11.4 trillion market capitalization of shares listed across the Shanghai Stock Exchange (\$6.5 trillion) and the Shenzhen Stock Exchange (\$4.9 trillion).

“The lack of support for an agent lending concept means a substantial

number of foreign investors will be unable to participate, because they don’t have the ability to handle reconciliations, taxes and other aspects of securities lending,” says Wannemacher.

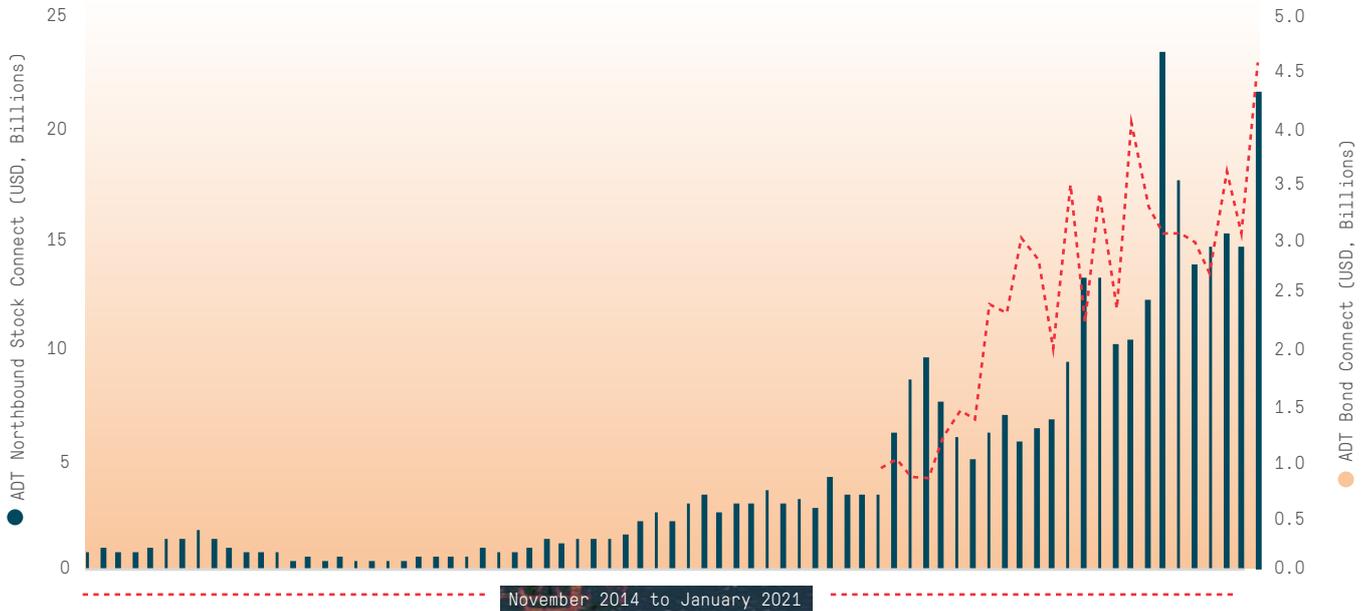
### GATHERING MOMENTUM

By far the biggest catalyst for the opening up of China has been its inclusion since 2018 in major equity and bond indices by the likes of MSCI, FTSE Russell and Bloomberg Barclays, which are heavily tracked as benchmarks for passive investments such as exchange traded funds (ETFs).

Another major event was China’s inclusion in the International Monetary Fund (IMF) “special drawing rights” basket alongside major reserve currencies such as the U.S. dollar and euro, providing more weight to those considering Chinese debt as a form of highly liquid assets in their portfolios.

## FLOWING IN

Stock and Bond Connect have grown in popularity since launching in 2014 and 2017, respectively



SOURCE: HONG KONG EXCHANGES AND CLEARING LIMITED

FIGURE 4

“With the index inclusions, you saw a wave of capital moving in and now the direction of travel is only upwards,” explains Rajeev Mittal, Fidelity International’s head of APAC ex-Japan. In 2017, the firm became the first offshore asset manager to get a private fund qualification allowing it to sell private funds as investment solutions on the mainland, and last year it applied to build a full-scale manager onshore after foreign ownership caps were lifted.

The pace of change has been even more remarkable because it came as growth elsewhere was interrupted from the pandemic. “As many markets closed in, China was opening up,” notes Mittal. “The instrument selection is widening and giving managers like us a lot of opportunity for offshore fundraising to access the domestic market and cater to investors sitting outside of China.”

The limited access to hedging solutions, however, remains an impediment for global hedge funds who run low net exposures rather than one-directional

portfolios. Currently, offshore funds are not allowed to engage directly in equity or interest-rate futures, only a limited set of internationalized commodity derivatives. Even their currency hedges have to be linked to CNH, the offshore version of the yuan.

Access to CNY, the onshore yuan, also remains limited for foreign-owned firms, so hedges of Mainland China bonds and equities can be costly relative to trades denominated in CNH because of liquidity constraints. A new circular announced in 2018 called PBOC 159 is designed to resolve those hedging issues by giving institutions license onshore—through the China Interbank Bond Market (CIBM) and QFI channels—to buy or sell CNY.

BNY Mellon, which has been licensed to trade spot CNY since 2011 and CNY forwards and swaps since 2014, has been building its own desk to cater to those changes.

China’s central bank has also steadily advanced work on cross-border use

cases of a digital yuan and sustainable investing among asset managers with environmental, social and governance (ESG) mandates. These hot new areas, combined with the recent reforms, could herald a new era in China’s ability to attract foreign sources of capital.

The question remains how much capital, when some of the particulars such as timelines and caveats are yet to be announced. Global investors are aware that these guardrails could take time, given that domestic and external macro developments may impact the Chinese reform agenda. ●

*Katy Burne is Editor-in-Chief of Aerial View Magazine in New York.*

*Questions or Comments?*

*Write to [Daniel.Larner@bnymellon.com](mailto:Daniel.Larner@bnymellon.com) in Clearance and Collateral Management; [Michael.Davies@bnymellon.com](mailto:Michael.Davies@bnymellon.com) for BNY Mellon Markets; or reach out to your usual relationship manager.*

## ACCESS ROUTES

China has permitted a growing range of products onshore and offshore\*

### FIXED INCOME – LIVE

	Access Point	Year Began	Channel	Trade Type	Currency	Notes
ONSHORE	CHINA	2013	QFI	BUY/SELL	CNY	
ONSHORE	CHINA	2020	QFI	SECURITIES LEND/BORROW	CNY	FOR HEDGING PURPOSES ONLY
ONSHORE	CHINA	2016	CIBM DIRECT	SECURITIES LEND/BORROW	CNY	FOR HEDGING PURPOSES ONLY
ONSHORE	CHINA	2016	CIBM DIRECT	BUY/SELL	CNY	
OFFSHORE	HONG KONG	2021	BOND CONNECT	TRIPARTY COLLATERAL	CNH	
OFFSHORE	HONG KONG	2017	BOND CONNECT	BUY/SELL	CNH	

### FIXED INCOME – NOT LIVE

	Access Point	Year Began	Channel	Trade Type	Currency	Notes
ONSHORE	CHINA	UNDER DISCUSSION	CIBM DIRECT	REPURCHASE AGREEMENTS	CNY	
ONSHORE	CHINA	2020	QFI	REPURCHASE AGREEMENTS	CNY	TO BE ANNOUNCED BY PBOC
OFFSHORE	HONG KONG	ANN. SEP 2020	BOND CONNECT	DERIVATIVES	CNH	FOR RMB CLEARING BANKS VIA AN RMB PARTICIPATING BANK
OFFSHORE	HONG KONG	ANN. SEP 2020	BOND CONNECT	BOND ETF	CNH	

### RATES – LIVE

	Access Point	Year Began	Channel	Trade Type	Currency	Notes
OFFSHORE	HONG KONG	2006	INTERBANK	INTEREST RATE SWAP	CNH	
OFFSHORE	HONG KONG	2013	INTERBANK	CROSS CURRENCY SWAP	CNH	

### RATES – NOT LIVE

	Access Point	Year Began	Channel	Trade Type	Currency	Notes
ONSHORE	CHINA	UNDER DISCUSSION		REVERSE REPO VS CHINA GOVT BOND	CNY	

## EQUITIES – LIVE

	Access Point	Year Began	Channel	Trade Type	Currency	Notes
ONSHORE	CHINA	2011	QFI	DERIVATIVES	CNY	
ONSHORE	CHINA	2002	QFI	BUY/SELL	CNY	QUOTAS ENDED 2020
ONSHORE	CHINA	2020	QFI	SECURITIES LEND/BORROW	CNY	CHINA A-SHARES ONLY; FACE CSFC
ONSHORE	CHINA	2020	QFI	TRADING ON MARGIN	CNY	
ONSHORE	CHINA	2011	QFI	STOCK INDEX FUTURES	CNY	
OFFSHORE	HONG KONG	2018	STOCK CONNECT	TRIPARTY COLLATERAL	CNH	STOCK CONNECT + STAR MARKET
OFFSHORE	HONG KONG	2020	STOCK CONNECT	SECURITIES LEND/BORROW	CNH	LIMITED, EXCHANGE PARTICIPANTS ONLY
OFFSHORE	HONG KONG	2014-2016, IN PHASES	STOCK CONNECT	BUY/SELL	CNH	DELIVERY VS PAYMENT ONLY FROM 2016

## FX – LIVE

	Access Point	Year Began	Channel	Trade Type	Currency	Notes
ONSHORE	CHINA	2002	QFI	SPOT FX	CNY	ONLY THROUGH A CUSTODIAN
ONSHORE	CHINA	2010	CIBM DIRECT	SPOT FX	CNY	FOR HEDGING PURPOSES ONLY
ONSHORE	CHINA	2017	QFI	DERIVATIVES	CNY	FOR HEDGING PURPOSES ONLY
ONSHORE	CHINA	2017	CIBM DIRECT	DERIVATIVES	CNY	FOR HEDGING PURPOSES ONLY
OFFSHORE	HONG KONG	2018	PBOC 159	SPOT FX	CNY	CNY CLEARING AND MARKET MAKERS ONLY
OFFSHORE	HONG KONG	2018	PBOC 159	FORWARDS	CNY	CNY CLEARING AND MARKET MAKERS ONLY
OFFSHORE	HONG KONG	2018	PBOC 159	SWAPS AND CROSS-CURRENCY SWAPS	CNY	CNY CLEARING AND MARKET MAKERS ONLY
OFFSHORE	HONG KONG	2018	PBOC 159	OPTIONS	CNY	CNY CLEARING AND MARKET MAKERS ONLY

## COMMODITIES – LIVE

	Access Point	Year Began	Channel	Trade Type	Currency	Notes
ONSHORE	CHINA	2020	QFI	LISTED FUTURES	CNY	

BNY Mellon is the corporate brand of The Bank of New York Mellon Corporation and may be used as a generic term to reference the corporation as a whole and/or its various group entities. This material and any products and services may be issued or provided under various brand names of BNY Mellon in various countries by duly authorized and regulated subsidiaries, affiliates, and joint ventures of BNY Mellon, which may include any of those listed below:

The Bank of New York Mellon, a banking corporation organized pursuant to the laws of the State of New York, whose registered office is at 240 Greenwich St, NY, NY 10286, USA. The Bank of New York Mellon is supervised and regulated by the New York State Department of Financial Services and the US Federal Reserve and is authorized by the Prudential Regulation Authority ("PRA") (Firm Reference Number: 122467).

The Bank of New York Mellon operates in the UK through its London branch (UK companies house numbers FC005522 and BR000818) at One Canada Square, London E14 5AL and is subject to regulation by the Financial Conduct Authority ("FCA") at 12 Endeavour Square, London, E20 1JN, UK and limited regulation by the PRA at Bank of England, Threadneedle St, London, EC2R 8AH, UK. Details about the extent of our regulation by the PRA are available from us on request.

The Bank of New York Mellon SA/NV, a Belgian limited liability company, registered in the RPM Brussels with company number 0806.743.159, whose registered office is at 46 Rue Montoyerstraat, B-1000 Brussels, Belgium, authorized and regulated as a significant credit institution by the European Central Bank ("ECB") at Sonnemannstrasse 20, 60314 Frankfurt am Main, Germany, and the National Bank of Belgium ("NBB") at Boulevard de Berlaumont/de Berlaumontlaan 14, 1000 Brussels, Belgium, under the Single Supervisory Mechanism and by the Belgian Financial Services and Markets Authority (FSMA) at Rue du Congrès/Congresstraat 12-14, 1000 Brussels, Belgium for conduct of business rules, and is a subsidiary of The Bank of New York Mellon.

The Bank of New York Mellon SA/NV operates in Ireland through its Dublin branch at Riverside II, Sir John Rogerson's Quay Grand Canal Dock, Dublin 2, D02KV60, Ireland and is registered with the Companies Registration Office in Ireland No. 907126 & with VAT No. IE 9578054E. The Bank of New York Mellon SA/NV, Dublin Branch is subject to limited additional regulation by the Central Bank of Ireland at New Wapping Street, North Wall Quay, Dublin 1, D01 F7X3, Ireland for conduct of business rules and registered with the Companies Registration Office in Ireland No. 907126 & with VAT No. IE 9578054E.

The Bank of New York Mellon SA/NV is trading in Germany through its Frankfurt branch "The Bank of New York Mellon SA/NV, Asset Servicing, Niederlassung Frankfurt am Main", and has its registered office at MesseTurm, Friedrich-Ebert-Anlage 49, 60327 Frankfurt am Main, Germany. It is subject to limited additional supervision by the Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, Marie-Curie-Str. 24-28, 60439 Frankfurt, Germany) under registration number 122721.

The Bank of New York Mellon SA/NV operates in the Netherlands through its Amsterdam branch at Strawinskyalaan 337, WTC Building, Amsterdam, 1077 XX, the Netherlands. The Bank of New York Mellon SA/NV, Amsterdam Branch is subject to limited additional supervision by the Dutch Central Bank ("De Nederlandsche Bank" or "DNB") on integrity issues only (registration number 34363596). DNB holds office at Westeinde 1, 1017 ZN Amsterdam, the Netherlands.

The Bank of New York Mellon SA/NV operates in Luxembourg through its Luxembourg branch at 2-4 rue Eugene Ruppert, Vertigo Building - Polaris, L- 2453, Luxembourg. The Bank of New York Mellon SA/NV, Luxembourg Branch is subject to limited additional regulation by the Commission de Surveillance du Secteur Financier at 283, route d'Arlon, L-1150 Luxembourg for conduct of business rules, and in its role as UCITS/AIF depositary and central administration agent.

The Bank of New York Mellon SA/NV operates in France through its Paris branch at 7 Rue Scribe, Paris, Paris 75009, France. The Bank of New York Mellon SA/NV, Paris Branch is subject to limited additional regulation by Secrétariat Général de l'Autorité de Contrôle Prudentiel et Première Direction du Contrôle de Banques (DCB I), Service 2, 61, Rue Taitbout, 75436 Paris Cedex 09, France (registration number (SIREN) Nr. 538 228 420 RCS Paris - CIB 13733).

The Bank of New York Mellon SA/NV operates in Italy through its Milan branch at Via Mike Bongiorno no. 13, Diamantino building, 5th floor, Milan, 20124, Italy. The Bank of New York Mellon SA/NV, Milan Branch is subject to limited additional regulation by Banca d'Italia - Sede di Milano at Divisione Supervisione Banche, Via Cordusio no. 5, 20123 Milano, Italy (registration number 03351).

The Bank of New York Mellon SA/NV operates in Denmark as The Bank of New York Mellon SA/NV, Copenhagen Branch, filial af The Bank of New York Mellon SA/NV, Belgium, and has its registered office at Strandvejen 60/5, 2900 Hellerup, Denmark. It is subject to limited additional regulation by the Danish Financial Supervisory Authority (Finanstilsynet, Århusgade 110, 2100 København Ø).

The Bank of New York Mellon SA/NV operates in England through its London branch at 160 Queen Victoria Street, London EC4V 4LA, UK, registered in England and Wales with numbers FC029379 and BR014361. The Bank of New York Mellon SA/NV, London branch is authorized by the ECB (address above) and subject to limited regulation by the FCA (address above) and the PRA (address above).

Regulatory information in relation to the above BNY Mellon entities operating out of Europe can be accessed at the following website: <https://www.bnymellon.com/RID>.

The Bank of New York Mellon, Singapore Branch, is subject to regulation by the Monetary Authority of Singapore. The Bank of New York Mellon, Hong Kong Branch (a branch of a banking corporation organized and existing under the laws of the State of New York with limited liability), is subject to regulation by the Hong Kong Monetary Authority and the Securities & Futures Commission of Hong Kong.

For recipients of this information located in Singapore: This material has not been reviewed by the Monetary Authority of Singapore.

**For clients located in Australia:**

**The Bank of New York Mellon is exempt from the requirement to hold, and does not hold, an Australian financial services license as issued by the Australian Securities and Investments Commission under the Corporations Act 2001 (Cth) in respect of the financial services provided by it to persons in Australia. The Bank of New York Mellon is regulated by the New York State Department of Financial Services and the US Federal Reserve under Chapter 2 of the Consolidated Laws, The Banking Law enacted April 16, 1914 in the State of New York, which differs from Australian laws.**

The Bank of New York Mellon has various other branches in the Asia-Pacific Region which are subject to regulation by the relevant local regulator in that jurisdiction.

The Bank of New York Mellon Securities Company Japan Ltd, as intermediary for The Bank of New York Mellon.

The Bank of New York Mellon, DIFC Branch, regulated by the Dubai Financial Services Authority ("DFSA") and located at DIFC, The Exchange Building 5 North, Level 6, Room 601, P.O. Box 506723, Dubai, UAE, on behalf of The Bank of New York Mellon, which is a wholly-owned subsidiary of The Bank of New York Mellon Corporation.

Past performance is not a guide to future performance of any instrument, transaction or financial structure and a loss of original capital may occur. Calls and communications with BNY Mellon may be recorded, for regulatory and other reasons.

Disclosures in relation to certain other BNY Mellon group entities can be accessed at the following website: <http://disclaimer.bnymellon.com/eu.htm>.

This material is intended for wholesale/professional clients (or the equivalent only), is not intended for use by retail clients and no other person should act upon it. Persons who do not have professional experience in matters relating to investments should not rely on this material. BNY Mellon will only provide the relevant investment services to investment professionals.

Not all products and services are offered in all countries.

If distributed in the UK, this material is a financial promotion. If distributed in the EU, this material is a marketing communication.

The views expressed within this material are those of the contributors and not necessarily those of BNY Mellon. This material, which may be considered advertising, is for general information purposes only and is not intended to provide legal, tax, accounting investment, financial or other professional advice on any matter. This material does not constitute a recommendation or advice by BNY Mellon of any kind. Use of our products and services is subject to various regulations and regulatory oversight. You should discuss this material with appropriate advisors in the context of your circumstances before acting in any manner on this material or agreeing to use any of the referenced products or services and make your own independent assessment (based on such advice) as to whether the referenced products or services are appropriate or suitable for you. This material may not be comprehensive or up to date and there is no undertaking as to the accuracy, timeliness, completeness or fitness for a particular purpose of information given. BNY Mellon will not be responsible for updating any information contained within this material and opinions and information contained herein are subject to change without notice. BNY Mellon assumes no direct or consequential liability for any errors in or reliance upon this material.

This material, which may be considered advertising, is for general information purposes only and is not intended to provide legal, tax, accounting, investment, financial or other professional advice on any matter. This material does not constitute a recommendation or advice by BNY Mellon of any kind. Use of our products and services is subject to various regulations and regulatory oversight. You should discuss this material with appropriate advisors in the context of your circumstances before acting in any manner on this material or agreeing to use any of the referenced products or services and make your own independent assessment (based on such advice) as to whether the referenced products or services are appropriate or suitable for you. This material may not be comprehensive or up to date and there is no undertaking as to the accuracy, timeliness, completeness or fitness for a particular purpose of information given. BNY Mellon will not be responsible for updating any information contained within this material and opinions and information contained herein are subject to change without notice. BNY Mellon assumes no direct or consequential liability for any errors in or reliance upon this material.

This material may not be distributed or used for the purpose of providing any referenced products or services or making any offers or solicitations in any jurisdiction or in any circumstances in which such products, services, offers or solicitations are unlawful or not authorized, or where there would be, by virtue of such distribution, new or additional registration requirements.

Any references to dollars are to US dollars unless specified otherwise.

This material may not be reproduced or disseminated in any form without the prior written permission of BNY Mellon. Trademarks, logos and other intellectual property marks belong to their respective owners.

The Bank of New York Mellon, member of the Federal Deposit Insurance Corporation ("FDIC").

© 2021 The Bank of New York Mellon Corporation. All rights reserved.