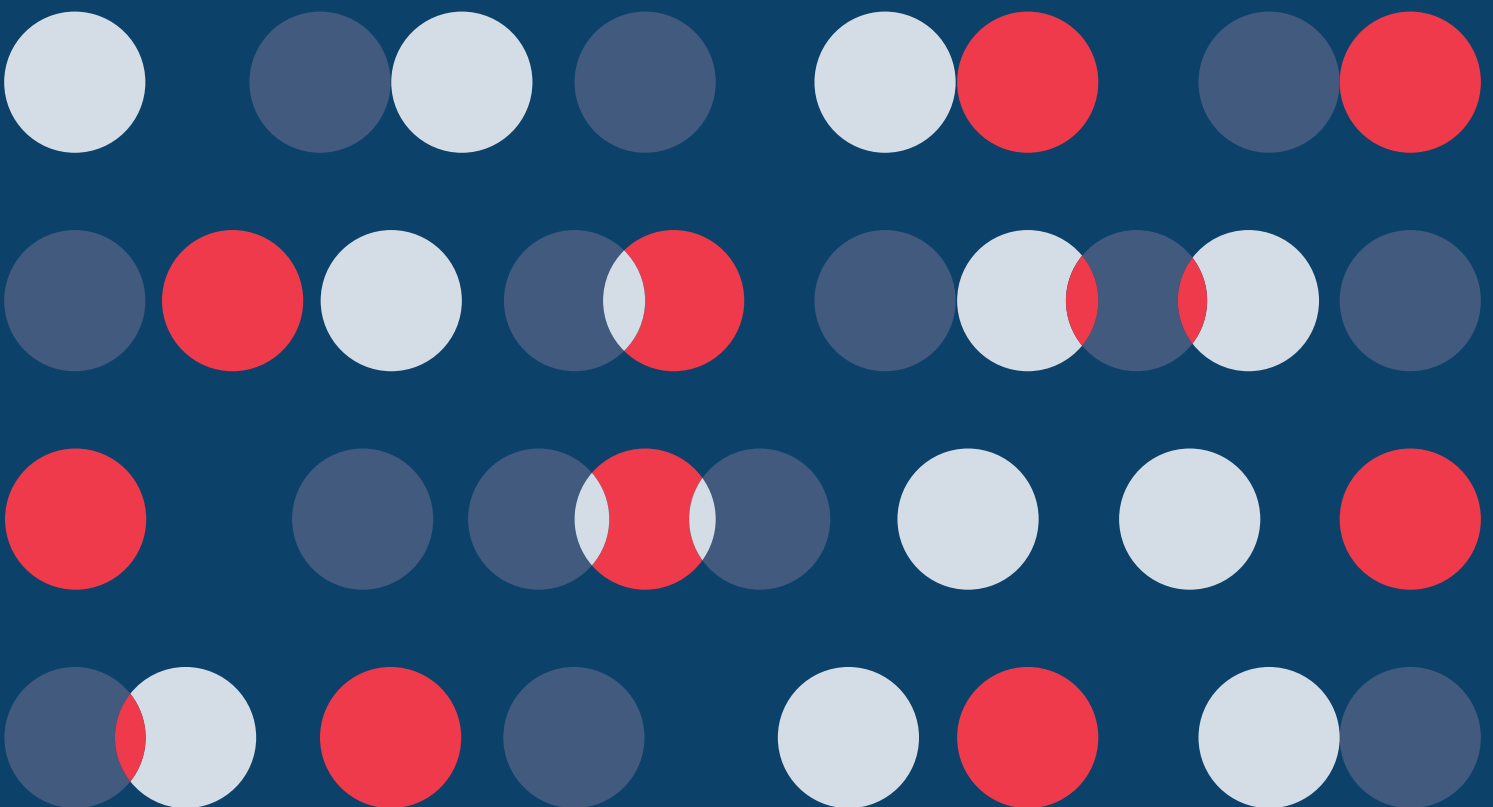


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RESEARCH REPORT

MACRO-PRUDENTIAL MANAGEMENT OF CROSS-BORDER  
CAPITAL FLOWS AND THE OPENING UP OF CHINA'S  
BOND MARKET — INTERNATIONAL EXPERIENCE AND  
CHINA'S EXPLORATIVE IMPLEMENTATION



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## SUMMARY

Recently, Mainland China announced certain macro-prudential regulatory measures, including the adjustment of the foreign exchange (FX) risk reserve requirement ratio on onshore Renminbi (RMB) FX forward transactions and the restoration of the counter-cyclical adjustment factor in the mechanism of determining the RMB's central parity rate, to cushion FX market volatility. Since 2015, Mainland China has been gradually building up its macro-prudential policy framework to enhance the steady operation of the domestic financial market and to effectively counteract potential external shocks. This paper reviews the international practice of macro-prudential management policies and discusses the feasibility of implementing such policies for modulating the openness of the Mainland bond market.

The regulatory framework for international cross-border capital flows saw significant changes in the aftermath of the 2008 Global Financial Crisis. New regulatory policies and guidelines have been published by the International Monetary Fund with comprehensive analyses and designs related to the principles and major tools and their application and effectiveness in cross-border capital flow management. These have become important reference for emerging markets to establish their own frameworks in the macro-prudential management of cross-border capital flows.

Macro-prudential management refers to the use of a series of macro-prudential indicators and taxation instruments to curb the accumulation of systemic risks and to increase the stability of financial institutions within a country. These include increasing the capital adequacy ratio, loan-to-deposit ratio and loan-to-value ratio of foreign-currency liabilities, limiting net open positions in FX, or restricting the ratio of foreign-currency collateralised loans. Since 2010, emerging markets like Brazil and Korea, which are relatively more open in respect of their capital accounts, are using these macro-prudential policies to address the large net inflow of funds resulting from the post-crisis quantitative easing measures. However, not many tools are applied in capital outflow management.

Specific tools in the macro-prudential regulatory framework gradually being built up by Mainland China since 2015 to manage cross-border capital flows include the following:

- (1) During the period of capital outflows or expected depreciation pressure on the RMB exchange rate, the following measures were adopted: an increase of the FX risk reserve requirement ratio to 20%; the introduction of reserve requirements on foreign financial institutions' RMB deposits at domestic financial institutions; the application of a counter-cyclical adjustment factor in the mechanism of determining the RMB's central parity rate; and the imposition of unified regulations on local and foreign currencies.
- (2) During the period of capital inflows or expected appreciation pressure on the RMB exchange rate, the following measures were adopted: the adjustment of previously imposed policies, including the restoration of the counter-cyclical adjustment factor to neutral in the mechanism of determining the RMB's central parity rate; the adjustment of the FX risk reserve requirement ratio down to zero; the reduction of the reserve requirements to 0% on foreign financial institutions' domestic RMB deposits; the modulation of the scale of domestic financial institutions' financing to foreign banks engaged in the RMB business based on counter-cyclical factor management; and the permission of domestic enterprises to issue RMB bonds in overseas markets and to remit in the RMB raised under the comprehensive macro-prudential regulatory framework for cross-border financing.

Being a transparent and controllable closed-loop system, Bond Connect could work as a valve to modulate cross-border capital flows to help regulators to maintain balanced capital flows and proactively manage capital flows. It could also help monitor the scale of foreign capital raised in corporate bonds issuance and enhance the effectiveness of macro-prudential management. With reference to the IMF's principles of capital flow management, this paper briefly explores potential measures that could be adopted in the process of opening up the Mainland bond market. These include:

- (1) Macro-prudential principles could be incorporated into the tax structure on investments in the domestic bond market by overseas residents based on the scale of capital inflow and the maturities of bonds held by non-residents. Using a transparent and predictable taxation structure could effectively modulate the duration structure of cross-border capital, thereby reducing the impact of short-term capital flows.
- (2) For addressing capital outflows resulting from the overseas investments of domestic residents, unified regulations should be applied to the relevant overseas asset portfolios held by financial institutions, including both RMB bonds and foreign-currency bonds, so as to evaluate and control their FX exposures.
- (3) There should be continuous efforts in attracting foreign investors to participate in the domestic market in order to foster a mature domestic market with high liquidity to better counteract the impact from massive cross-border capital flows.

## **1. INTERNATIONAL MONETARY FUND (IMF)'S MANAGEMENT FRAMEWORK, TOOLS AND PRINCIPLES FOR CROSS-BORDER CAPITAL FLOWS**

Through the 2008 Global Financial Crisis (GFC) and the post-crisis quantitative easing (QE) measures, emerging markets (EMs) experienced consecutively large scale of capital inflows, outflows and inflows again. In 2007, capital inflows into emerging markets hit a record high of US\$1.5 trillion. After the 2008 GFC, the inflows sharply plunged to US\$768.6 billion in 2008 and US\$567.4 billion in 2009. A new wave of capital flowed into EMs after the major developed countries implemented QE. In 2010, capital inflows to EMs significantly expanded to US\$1.2 trillion<sup>1</sup>.

These waves of cross-border capital flows impact profoundly on the financial stability and the independence of monetary policies of EMs. To address the challenges from sizeable capital flows onto EMs' macro-economy and financial stability, how to manage cross-border capital flows effectively is a major concern to EMs and the international community.

### **1.1 Changes in regulatory attitude towards global capital flow: from encouraging free capital flows to being supportive of capital management and macro-prudential regulation**

Traditionally, the IMF and major international institutions preferred free flows of global capital and advised EMs to open up their markets to boost economic growth. They were not supportive of capital controls which were denounced as easy to circumvent and ineffective. However, the 2008 GFC put the global financial system under great stress. The IMF which had supported capital liberalisation then softened its stance and began to reconsider the validity and appropriateness of capital management. In the spring of 2010, the IMF released the Global Financial Stability Report that recognised the risks of capital flows and called on countries to tackle capital inflows with macroeconomic and macro-prudential policies. Major policy documents were later approved by the IMF Board (including "Institutional View" published at the end of 2012 and "Guidance Note" published in April 2013) to establish an integral framework for capital flow management. This includes capital flow management tools and their application, capital flow regulations and the guidance on openness of the capital account. Based on this framework, EMs began to gradually develop their own macro-prudential management policies and implement them in combination with other capital management measures, to take the place of capital controls or to reduce their market distortion effect.

### **1.2 IMF's capital flow management measures and macro-prudential regulatory framework**

According to the definition by IMF, Capital Flow Management Measures (CFMs) include administrative measures, taxations and levies, and other tools which limit capital flows or influence the structure of capital flows. Specifically, these measures are classified into the following types: (1) capital controls in the general sense, i.e. differential measures based on residency (residency-based CFMs); and (2) macro-prudential measures, aiming primarily at reducing systemic financial risks and risks associated with capital flows (not aiming at capital flows themselves). Macro-prudential measures are applied onto the trading currency, not the residency of the parties to the transaction. The objective is to restrict the ability of domestic entities to raise capital through overseas debt issuance or credit lending, so as to evade any effects of cross-border capital flows on the credit growth in the domestic banking system in order to ensure financial institutions' robustness.

In practice, a range of macro-indicators and management tools are in place under macro-prudential regulatory framework to curb the accumulation of systemic risks. These instruments

<sup>1</sup> Source: IMF. *World Economic Outlook*, April 2014.

are mainly implemented to limit bank lending and liabilities, and foreign-currency transactions. The objective is to prevent excessive cross-border lending and borrowing and capital inflows from impacting the macro economy and financial system. The international applications of certain macro-prudential management tools are illustrated below.

### **(1) FX-related macro-prudential management tools**

These measures are primarily applied to domestic banks, by restricting banks' FX positions to reduce FX risk exposure and therefore banks' dependence on short-term FX liabilities, thereby mitigating systemic liquidity risks. Specific tools include imposing limits on banks' FX positions or investment in FX assets or bank lending in FX, and differential reserve requirements on liabilities in local currency and FX, etc.

Korea has succeeded in the application of such tools among EMs. In June 2010, the Korean financial authorities announced a package of prudential measures to prevent excessive FX leverage. The FX derivatives positions of domestic and foreign-funded banks were capped respectively at 50% and 250% of their capital to constrain banks' capability in FX trading with short-term US dollar (USD) liabilities. Similar measures were adopted by Indonesia and Peru. They had imposed limits on the FX derivatives positions of domestic and foreign-funded banks and on banks' short-term FX borrowing.

### **(2) Levies on foreign-currency bank deposits or non-core foreign-currency short-term liabilities**

Specific measures include imposing limits on the ratio of banks' non-resident short-term liabilities to their capital level, and levy on banks' non-deposit foreign-currency liabilities with maturities less than one year. In December 2010, the Korean financial authorities announced of a "macro-prudential stability levy" on the foreign-currency liabilities of domestic banks and Korean branches of foreign banks. The levy rate decreases as the maturity get longer. Studies show that the measures introduced in Korea in 2010 to restrict FX transactions resulted in a decline in banks' short-term FX borrowing, thus reducing their vulnerability to external funding shocks. Although macro-prudential policies are no substitute for warranted macroeconomic policy adjustments, they seem to have served the purposes well<sup>2</sup>.

### **(3) Capital adequacy ratio, reserve ratio, loan-to-value (LTV) ratio, debt-to-income (DTI) ratio and other indicators as prudential means**

Cross-border capital flows may lead to excessive risks in the banking sector, e.g. an increase in credit risks associated with FX lending and currency risks reflected in FX positions. Measures to reduce risks from banks' FX loans or FX assets include: imposing higher capital requirements on FX loans, increasing reserve requirements on FX liabilities, or raising risk-adjusted weightings of certain types of lending in calculating the capital adequacy ratio. Measures to address asset price inflation include lower lending ratio and higher margin requirements. These tools are generally used to reduce systemic risk and can be currency-based rather than residency-based.

## **1.3 Managing capital inflows**

Under IMF's capital flow management policy framework of 2011, macroeconomic policies, macro-prudential management policies and capital controls are all options to manage capital inflows. The effectiveness of the policy tools depends on the cross-border capital inflow channel and institutional constraints of the country.

<sup>2</sup> Source: "Reducing Risks in Asia with Macroprudential Policies", IMF Blog website, 30 April 2014.

Generally, macroeconomic policies are used to tackle the macroeconomic risks associated with capital inflows, while macro-prudential policies are used to defend against the associated financial risks. Capital control measures are the last resort if both of the above are inadequate to tackle the risks.

**First, if the domestic economy is affected by capital flows through macroeconomic channels**, macroeconomic policies may be considered in first place to cope with the resultant macroeconomic risks. For example, when rapid inflows result in exchange rate appreciation, excessive expansion of the FX reserves or escalating the hedging costs of monetary policies.

**Second, if domestic financial stability is affected by capital flows through financial channels**, macro-prudential management measures should be deployed to strengthen the domestic banking and financial systems. Different measures would be applied under two different situations: where capital inflows are through regulated financial institutions (mainly through banks) or otherwise (see Table 1).

Table 1. Different management tools applied for capital inflows through two different channels	
<b>1. Capital inflows through regulated banking system</b>	
Excessive reliance on short-term funding to finance long-term loans	This will lead to an excessively risky external liability structure. To tackle this kind of risk, a package of macro-prudential tools (e.g. currency-dependent liquidity requirements) or capital controls (e.g. limits on external borrowing, or higher reserve requirements on liabilities to non-residents) could be implemented.
Incurring risks in bank assets (including credit risks associated with FX lending and currency risks reflected in FX positions)	Banks incur credit risks when the ultimate borrower (a firm or a household) borrows FX but its income is in local currency. More stringent regulations on FX lending would be needed, e.g. higher capital requirements on FX loans, or limits on loans to borrowers who cannot demonstrate a risk hedge. In case banks lend out local currency but borrow FX, this will incur currency risk. Possible measures to tackle this include tightening FX position limits and raising FX liquidity provision requirements.
Capital inflows amplifying bank lending and therefore macroeconomic risks	Appropriate measures include macro-prudential policies to restrain lending in local currency or FX. Examples are: increasing proportionately the deposit reserve ratio, (the same increase or a differential increase for local-currency and FX liabilities), raising risk-adjusted weightings in capital adequacy ratio calculation for certain types of lending, or tightening loan classification rules. These measures would tend to increase bank lending rates and constrain credit growth.
Capital inflows leading to lending expansion and therefore asset price bubbles	If bank lending fuels asset price bubbles, macro-prudential measures could be adopted. These include counter-cyclical capital requirements, lower loan-to-value ratios on collateral (especially for real estate loans), and higher margin requirements (for equity-related lending). In case no timely and effective results are observed, capital controls may be useful options.
<b>2. Capital inflows bypassing regulated financial institutions</b>	
Direct borrowing from abroad by domestic non-financial private entities, leading to currency risk	After 2008, a large number of domestic borrowers in EMs are tempted by relatively low interest rates to take on excessive FX risk. For borrowers who are unhedged (i.e. firms or households whose principal income is not in FX), capital controls may be appropriate, particularly on the riskier forms of liabilities, or FX borrowing by domestic (non-financial) entities may be prohibited.
Non-financial sector directly borrow from abroad, leading to asset price inflation and possibly bubbles	Such borrowing is easier to bypass the regulations on domestic banking system and increases the financial leverage in the domestic market. Neither monetary policies nor macro-prudential policies would be effective. Direct restrictions on foreign borrowing (together with other complementary tools) would be effective means.

Source: "Managing Capital Inflows: What Tools to Use?", *IMF Staff Discussion Note*, 2011.



## 1.4 Managing capital outflows

Capital outflow is a normal outcome upon the opening of the domestic economy and financial liberalisation. The major channels of capital outflows include: overseas asset allocation by domestic investors, overseas expansion of domestic enterprises and the repatriation of returns on foreign direct investment by foreign investors. Macroeconomic policies could be applied to tackle small scales of capital outflows or relatively large-sized outflows that would not lead to a crisis. If there are unexpected and persistent capital outflows with sizeable scales that may undermine macro-financial stability, the choice of measures would need to take into consideration multiple factors, including the costs and effectiveness in restraining capital outflows.

With reference to the IMF's principles of capital flow management, measures targeting capital outflows are generally temporary, and should be tailored to the country's circumstances, such as its administrative capabilities and the degree of openness of its capital account. The scope of regulation should be adequately extensive and the measures should be timely adjusted in accordance with the changing domestic conditions. Specific tools include: residency-based measures — restricting residents' overseas investments and asset transfers, restricting non-residents' remittance of proceeds from the sale of their investments in the domestic market (e.g. lock-up period on the currency conversion of returns on equity investment, and tax on transfer of returns by non-residents); non-residency-based measures — prohibiting the conversion of assets in domestic currency and their transfer, and restricting the withdrawal of non-residents' local-currency bank deposits.

## 1.5 Principles of cross-border capital flow management

After the 2008 GFC, EMs began to adopt macro-prudential management measures (mainly during 2009-2010 and in countries which are relatively more open in respect of their capital accounts, e.g. Brazil, Korea and Thailand) to address the large inflow of funds and currency appreciation pressures resulting from the post-crisis QE measures. However, there are few empirical examples on how to manage capital outflows. In considering what measures to adopt, EMs should take into account, the following principles:

- (1) A certain degree of capital flows and volatility that have no significant impact on the exchange rate is expected to be normal economic and financial outcome after the opening up of the capital account. There is no need to implement specific CFMs on capital flows of this nature.
- (2) Macroeconomic policies, macro-prudential management policies and capital controls are all among the toolkit to manage capital inflows. The choice for sequential application will depend on the channels of capital inflows and the country's circumstances (such as the maturity of the domestic financial market, the administrative capabilities of market agencies, the degree of openness of the capital account, institutional and legal constraints, and the credit relationship with the international community).
- (3) Depending on the channel of capital inflows, macroeconomic policies and macro-prudential management tools may be firstly adopted to defend against capital flows and exchange rate volatility.
- (4) The management on capital inflows can act as preventive measures against capital outflows. To ease the impact of capital outflows on the domestic market, measures on managing capital inflows surges could be implemented in advance with reference to the IMF's principles of capital inflow management.



## 2. ESTABLISHMENT AND EVOLUTION OF MAINLAND MACRO-PRUDENTIAL REGULATORY FRAMEWORK FOR CROSS-BORDER CAPITAL FLOWS

### 2.1 Macro-prudential measures adopted by the Mainland under the circumstances of capital outflows or expected depreciation pressure on the Renminbi (RMB) exchange rate

Starting from 2015, the People's Bank of China (PBOC) deployed macro-prudential management on cross-border capital flows. A series of measures were launched aiming at pro-cyclical increase in leverage by onshore and offshore market entities and the excessive speculation in the FX market. These included: an increase of the FX risk reserve requirement ratio to 20%; the introduction of reserve requirements on foreign financial institutions' RMB deposits at domestic financial institutions; the application of a counter-cyclical adjustment factor in the pricing mechanism of the RMB's central parity rate; and the imposition of unified regulations on local and foreign currencies. A macro-prudential regulatory framework for cross-border capital flows was thereby established (see Table 2).

Table 2. Major macro-prudential measures adopted by the Mainland between 2015 and 2018H1	
1. Macro-prudential management on cross-border capital flows	
Measures to address the increase in leverage through external debts by Mainland entities	In 2015, the PBOC implemented a macro-prudential management model for cross-border financing activities in the China (Shanghai) Pilot Free Trade Zone. In April 2016, unified macro-prudential management on cross-border financing in local and foreign currencies <sup>3</sup> were extended to all financial institutions and enterprises throughout the country.
Measures on offshore RMB	The PBOC imposed in January 2016 normal deposit reserve requirements on foreign financial institutions' RMB deposits at domestic financial institutions. The deposit reserve requirements were reduced to 0% in September 2017.
2. Macro-prudential management on excessive speculation in the FX market	
Measures to modulate the demand in the FX market	In May 2017, a counter-cyclical adjustment factor was applied in the mechanism for determining the RMB's central parity rate to counteract the pro-cyclical market sentiment and weaken any potential herding effect in the FX market. The counter-cyclical factor returned to neutral in January 2018, and also resumed in August 2018.
Measures implemented in the Mainland FX market	Macro-prudential measures were implemented on banks' FX forward business and their RMB exchange business at the end of August 2015. Financial institutions were required to comply with FX risk reserve requirements equal to 20% of the amount of their previous month's RMB forwards contracted (including options and swaps). The FX risk reserve requirement ratio was reduced to 0% on 11 September 2017, and then restored to 20% in August 2018 to maintain the broad stability of the RMB exchange rate at a reasonable equilibrium level

Source: Relevant policies announced by PBOC.

### 2.2 Restoration of previous macro-prudential measures during the period of capital inflows or expected appreciation pressure on the RMB exchange rate

A new round of counter-cyclical adjustment was carried out as expectations of the RMB's devaluation gradually receded after the second half of 2017 (2017H2). Earlier macro-prudential measures have been progressively restored to enable advancement in the RMB's internationalisation.

<sup>3</sup> Cross-border financing refers to fund-raising in local or foreign currencies from non-residents by domestic institutions. Unified management refer to the unification of medium-term and long-term management of domestic and foreign entities' cross-border financing in local and foreign currencies. Currently, the Mainland adopts macro-prudential measures in its management of cross-border financing activities of banking-type financial institutions.

First, in respect of the RMB exchange rate, the PBOC has restored the neutral effect of the “counter-cyclical factor” in the quotation model for determining the daily central parity rate of the RMB against the USD. RMB quotation banks can have their own discretion in setting the counter-cyclical factor in making their price quotations based on changes of the fundamentals of the macro economy and the cyclicity of the FX market.

Second, the PBOC Notice of Adjusting the Policies on FX Risk Reserves (PBOC Notice No. 207[2017]) was issued for a change in the provision in the Notice of Strengthening the Macro-Prudential Management of FX Forward Sale (PBOC Notice No. 273[2015]). The FX risk reserves ratio on the previous month's FX forwards was reduced from 20% to 0%.

Third, for cross-border financing, the PBOC issued the Notice of Further Improving Policies on Cross-Border RMB Business to Enhance Trade and Investment Facilitation (PBOC Notice No. 3 [2018]) on 5 January 2018, setting out clear regulations on the overseas issuance of RMB bonds by domestic enterprises. Provided that relevant procedures under the full-scale macro-prudential management regime are followed suit, Mainland enterprises are allowed to issue RMB bonds overseas and to transfer the funds raised back home based on their actual needs. This shows that the Mainland is using macro-prudential policies to ease the conditions on which Mainland enterprises can issue bonds overseas, and this further promotes the development of the offshore RMB bond market.

Fourth, the PBOC made counter-cyclical adjustment on cross-border RMB account financing by commercial banks on 19 January 2018, requiring that the upper limit on RMB cross-border financing that can be taken by a commercial banks will depend on the bank's outstanding RMB deposits and a counter-cyclical factor, which was set to be 3. Account financing by domestic agency banks offered to foreign participating banks in RMB business had been one critical measure to facilitate RMB cross-border trade settlement. After the RMB exchange rate reform in August 2015<sup>4</sup>, the Mainland had imposed strict control over commercial banks' financing to foreign participating banks in a bid to stabilise the offshore RMB market. The policy was adjusted on 19 January 2018, under which administrative control gave way to adjustment by a counter-cyclical factor. This allows more room for policy operation to support macro-control policies and promote the global use of the RMB.

### **2.3 Continuous adoption of macro-prudential management measures with counter-cyclical adjustments contributes positively to the development of the offshore RMB market**

According to Sun Guofeng et. al. (2017), macro-prudential management, unlike capital controls, are applied to all dimensions using market-based measures with counter-cyclical adjustments. Macro-prudential management is a more desirable option in the light of the currently more flexible RMB exchange rate. The 19<sup>th</sup> National Congress Report also suggested a dual structure for financial regulation, combining monetary policies and macro-prudential management policies.

After 2015, the PBOC has enhanced the cross-border RMB management tools and implemented macro-prudential policies on FX, cross-border loans and liquidity, supporting both legitimate capital inflows and outflows. In practice, implementing macro-prudential control measures to address specific issues would facilitate RMB internationalisation and the healthy development of the offshore RMB market.

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<sup>4</sup> On 11 August 2015, the PBOC reformed the pricing mechanism of the CNY/USD central parity rate. This move was considered a milestone in the market-based system reform of the RMB exchange rate.

### 3. WHAT CFMS CAN BE ADOPTED FOR THE MAINLAND BOND MARKET'S OPENING UP AND CAPITAL FLOW MANAGEMENT?

#### 3.1 Principles and considerations in choosing management tools

Long-term capital flows is conducive to global resources allocation and economic growth. However, excessive capital inflows within a short time that go beyond the threshold that macroeconomic policies and the domestic financial market can cope with would adversely impact the macroeconomy (e.g. too speedy an appreciation in the exchange rate that leads to asset price inflation and macroeconomic risks). Hence, measures to restrain capital inflows (or alter their structure) are needed to maintain financial stability.

With reference to the IMF's principles of capital flow management, the following principles and considerations can serve as the basis in choosing related measures for addressing cross-border capital flow in the opening up of the Mainland bond market.

- (1) The effective CFMs in managing capital inflows depend on a number of factors, including the scale of inflows (whether they have given rise to macro financial risks), the nature of inflows (long term or short term), and the inflow channels (through the banking system or through unregulated financial institutions). **Macroeconomic policies, macro-prudential management and capital controls are all tools that could manage capital inflows. Each of them has their specific functionalities, to be applied in specific sequence in an integrated manner depending on the channels of inflows and the suitability.** If the inflows are long-term in nature and mainly have an effect on the macroeconomic environment (rather than on the banking system), the application of macroeconomic policies would be more appropriate.
- (2) **Alternatively, capital inflows may be eased by permitting orderly capital outflows.** After 2017H2, the RMB had been generally on the rise against the USD and steady against a basket of currencies. Accordingly, the Mainland has reinstated its previous macro-prudential measures. If Southbound trading link of the Bond Connect scheme is implemented at the appropriate time, it would facilitate two-way movements of capital, thereby to alleviating the pressure from one-way capital movement on the RMB exchange rate.
- (3) **Measures that are easy and practical to implement should be adopted.** Higher priority should be given to price-based tools (such as levies on capital inflows) which are more transparent and easy to implement. Moreover, such tools to be applied on short-term capital movements generally incur relatively low social costs.

#### 3.2 Bond Connect could facilitate the implementation of macro-prudential regulation of cross-border capital flows

**Firstly, being a transparent and controllable closed-loop system, Bond Connect could work as a valve to modulate cross-border capital flows to help regulators to maintain balanced capital flows and proactively manage capital flows.**

In the first place, Bond Connect is designed as a closed loop for cross-border capital flows. Current RMB outflows and inflows through this channel will be repatriated in the opposite direction in due course. Moreover, such capital flows are highly transparent, enabling prompt supervision on their impacts on the domestic market. Based on the data, regulators can respond quickly with measures to regulate the inflows, and practise real-time counter-cyclical management. Furthermore, as the bond market is more closely linked to macroeconomic cycles, Bond Connect could be a window for observing corporate debt financing or cross-border capital flows in a more timely and dynamic manner, thereby facilitating counter-cyclical adjustments.

Given the closed-loop design, transparency and controllability of Bond Connect, the regulators can more effectively manage cross-border capital flows under the scheme by using levies and counter-cyclical adjustment tools. Bond Connect can be used as a valve to modulate cross border capital movements and ensure balanced capital flows.

**Secondly, Bond Connect could help monitor the scale of foreign capital raised in corporate bonds issuance and enhance the effectiveness of macro-prudential management.**

A way through which cross-border capital may bypass macro-prudential regulation is that Mainland enterprises raise funds by bond issuance in the offshore market via their overseas subsidiaries, and deposit the funds as collateral in domestic banks, leading to credit expansion domestically. This kind of FX debts generated by foreign bond issuance by offshore companies are not fully reflected in the residency-based international balance of payments (BoP) account, such that the actual size of enterprises' FX debts is not revealed. This may circumvent macro-prudential measures and cause currency mismatch.

As Bond Connect is designed as a closed loop, the size of capital inflows, their investment targets as well as transactions under the scheme are all clearly monitored under the radar of the macro-prudential regulatory framework. This would facilitate the monitoring of domestic enterprises' overseas financing activities.

**Thirdly, as foreign capital inflows into the domestic bond market are still limited, they could be modulated with more reliance on macroeconomic policies.**

As of March 2018, foreign institutions were holding 5.85% of China's sovereign bonds and 1.90% of total Mainland bonds<sup>5</sup>, a relative low percentage of foreign institutions' holding compared to other countries<sup>6</sup>. However, significant increase in net foreign capital inflows into the Mainland bond market was observed. New investment by foreign institutions and individuals in Mainland bonds amounted to RMB 346.2 billion in 2017. In the first quarter of 2018, foreign institutions' and individuals' holdings of Mainland bonds increased by RMB 162.2 billion from the end of 2017, which is already close to half of the increment seen in the entire year of 2017.<sup>7</sup>

Nevertheless, the cross-border capital inflows in BoP items other than the domestic bond market (including goods and services, and direct investment) have larger impacts on the RMB exchange rate. According to the aforementioned basic principles of capital flows management, if the inflows are long-term with relatively greater impact on the macroeconomy, there should be more use of macroeconomic policies, such as increasing the flexibility/volatility in RMB exchange rate and encouraging two-way cross-border corporate investment, to induce two-way capital movements.

### 3.3 Specific alternative measures

**Firstly, macro-prudential principles could be incorporated into the tax structure on overseas residents' investment in the domestic bond market (capital inflows from non-residents)**

<sup>5</sup> Source: China Central Depository and Clearing (CCDC) website.

<sup>6</sup> See the research report, *Tapping into China's domestic bond market — An international perspective*, published on the HKEX website, May 2017.

<sup>7</sup> Source: PBOC website for the changes in foreign (institutional and individual) holdings in the Mainland bond market in 2017 and the first quarter of 2018.

A primary option to address capital inflows is to impose a capital inflow tax on certain securities (including debts and equities). This practice has been adopted in countries like Korea and Brazil since 2008 (see Table 3). The result shows that taxation on capital inflows can significantly curb the local currency's appreciation.

Type of measures	Countries	Details
Interest-free reserve requirement; financial transaction tax	Brazil, Chile	In January 2011, Brazil imposed a 90-day interest-free reserve requirement on banks in respect of their USD short positions in the money market; and in July 2011, a financial transaction tax of 1% was levied on USD short positions in the futures market. In Chile, short-term capital inflows are subject to interest-free reserve requirements.
Reserve requirements	Turkey	A reserve operation mechanism (ROM) and reserve operation coefficients (ROC) were introduced in 2011 for the Turkish lira to absorb liquidity and expand the FX reserves.
Macro-prudential stability levy	Korea	To relieve pressure from capital inflows, domestic and foreign banks were required to pay a macro-prudential stability levy in respect of their non-core foreign currency liabilities in 2011.
Taxation on interest	Korea	Foreign investors were exempted from income tax in May 2009. In January 2011, a tax on interest income from bond investments by foreign investors was reinstated to curb non-residents' increasing investments in Korean government bonds after the second round of QE. The measure restored a level-playing field between residents and non-residents.

Source: "Managing Capital Inflows : What Tools to Use?", *IMF Staff Discussion Note*, 2011; "Capital Flows Management: Lessons from International Experience", Joint Conference of PBOC and IMF, March 2013.

A transparent and predictable tax structure allows investors to compare costs and benefits of short-term liquidity. Such use of price-based tools to modulate cross-border investment behaviours can effectively modulate the duration structure of cross-border capital flows, thereby reducing the impact of short-term capital flows.

**Secondly, for addressing capital outflows resulting from the overseas investments of domestic residents, unified regulations should be applied to the relevant overseas asset portfolios held by financial institutions, including both RMB bonds and foreign-currency bonds, so as to evaluate and control their FX exposures.**

If a bank has its regulated capital priced in local currency while holding FX assets, the value of the bank's assets and revenues will be susceptible to FX movements. From the perspective of prudential regulation, it is necessary to reassess the bank's ability to manage its FX exposures so that when the exchange rate reverses, the resulting changes in FX asset values will not affect the bank's capital adequacy ratio, loan quality and liquidity level.

Currently, restrictions on banks' FX exposures and investments in FX assets have been included in the Mainland's macro-prudential regulatory framework. If financial institutions continue to increase their holdings of foreign-currency assets through Bond Connect, Qualified Domestic Institutional Investors (QDIIs) and other channels, their overseas bond holdings denominated in local and foreign currencies should be included in risk control indicators (such as regulated capital and risk reserve requirements) and in the calculation of "capital at risk" in order to increase capital adequacy requirement on such holdings. There should also be liquidity risk identification and monitoring respectively for local and foreign currencies to minimise currency mismatches between banks' assets and liabilities.

**Thirdly, there should be continuous efforts in attracting foreign investors to participate in the domestic market in order to foster a mature domestic market with high liquidity to better counteract the impact from massive cross-border capital flows.**

**In the long run, the development of a mature and liquid domestic market is a more effective way to counteract the impact from massive cross-border capital flows.**

Opening up the domestic market can diversify market participants and reduce the adverse impact of exchange rate volatility and capital flows. Participation of the more mature international players in the domestic market can improve the liquidity, breadth and depth of the domestic market. In particular, the flow of foreign capital into long-term debt securities (such as sovereign bonds and local government bonds) can facilitate the development of exchange rate and fixed-income products and other hedging tools. This will provide better cushion to counteract the impact of capital flows on the macroeconomy, hence enhancing the stability of the bond market and other market segments.

Specifically, market depth and breadth can be expanded with the following market opening measures: (1) Enhancing two-way capital movements by launching Southbound trading link under Bond Connect at the appropriate time in accordance with macro-prudential principles; (2) facilitating the inclusion of RMB bonds into international bond indices, including Citi World Government Bond Index (WGBI) and JPMorgan Government Bond Index - Emerging Markets (JPM GBI-EM), to attract more international investors in the Mainland bond market, thus driving diversification in the participant base<sup>8</sup>; and (3) in the light of more prominent two-way movements of the RMB exchange rate, enriching the suite of hedging products and tools for investors to hedge FX and interest rate risks, thereby improving risk mitigation capability and pricing efficiency in the Mainland financial market.

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<sup>8</sup> See the research report, *The inclusion of China into global bond indices: Current status and future development*, published on the HKEX website, 7 June 2018.



## **References**

1. International Monetary Fund. (2010) "Global Liquidity Expansion — Effects on 'Receiving' Economies and Policy Response Options", *Global Financial Stability Report*, April 2010.
2. International Monetary Fund. (2011) *Recent Experiences in Managing Capital Inflows — Cross-Cutting Themes and Possible Guidelines*, February 2011.
3. International Monetary Fund. (2012) *Liberalizing Capital Flows and Managing Outflows — Background Paper*, March 2012.
4. International Monetary Fund. (2012) *The Liberalization and Management of Capital Flows: An Institutional View*, November 2012.
5. International Monetary Fund. (2013) *Guidance Note for the Liberalization and Management of Capital Flows*, April 2013.
6. International Monetary Fund. (2015) *Managing Capital Outflows — Further Operational Considerations*, December 2015.
7. International Monetary Fund. (2017) *Increasing Resilience to Large and Volatile Capital Flows: The Role of Macroprudential Policies*, July 2017.
8. Ostry, Jonathan David, et. al. (2011) "Managing Capital Inflows: What Tools to Use?", *IMF Staff Discussion Note*, April 2011.
9. Sun Guofeng and Li Wenzhe. (2017) "Monetary Policies, Exchange Rate and Capital Flows: from Triangle to Scalene", *Working paper, People's Bank of China*, March 2017.

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