



## 加快建設離岸人民幣央票回購市場的條件、意義及建議

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人民幣國際化已進入一個新的發展階段，主要離岸人民幣業務指標持續反彈，香港全球離岸人民幣業務樞紐地位不斷穩固。但也看到，隨着離岸人民幣市場的發展，市場對現有資金池深度和資金成本的穩定性有着更高的期待。隨着人行在香港發行央票常態化，可更多地利用央票開展回購業務，促進離岸人民幣市場健康發展，並增加離岸人民幣及人民幣資產的用途。

### 一、離岸人民幣流動性管理尚不夠完善

成熟國際貨幣的資金供應較為多元化、多渠道、多層次，形成短期與中長期資金有效聯結，充分利用貨幣、資金、債券、外匯市場及回購、掉期、託管、清算等金融工具，提高資金利用效率及效益，增強流動性管理靈活性，匹配差異化資金需求。貨幣當局則通過貨幣政策工具增強資金供應韌性、彈性及可持續性，並達致貨幣政策目標。

以美元為例，有抵押債券回購業務是短期資金主要來源，債券回購市場日均交易 2.4 萬億美元（2020 年）；外匯市場是另一短期資金來源，全球美元掉期日均接近 2.9 萬億美元（2019 年 4 月）；無抵押同業拆借在金融海嘯後有所回落，但仍發揮一定的調節功能。在歐元區，歐元債券回購及歐元掉期日均分別達到 2.5 萬億歐元（2021 年上半年）及 1.1 萬億美元（2019 年 4 月）。

香港完善全球離岸人民幣業務樞紐功能，人民幣資本市場及流動性管理工具逐步建立起來，但相對於成熟歐美市場，不僅交易規模較小，而且市場結構、機制和功能等存在距離。對比歐美短期資金供應的三個渠道，香港離岸人民幣市場主要依賴外匯市場人民幣與美元掉期交易，其他兩個渠道較為薄弱。

據國際清算銀行調查，2019 年 4 月離岸人民幣與美元掉期日均 1,367 億美元，比 2016 年 4 月調查（日均 860 億美元）增長 59%，這種以美元為抵押品從同業換回人民幣的方式，操作簡便，安全可靠，交易活躍，當金融機構有

短期人民幣需求時，很容易從持有人民幣長倉的同業獲得資金。而根據利率平價原理套算出來的離岸人民幣隱含收益率（CNH Implied Yield），能準確反映資金成本，成為離岸人民幣利率主要指標。

然而，人民幣掉期存在一些不足。一是受到美元因素較大影響，若離岸美元流動性不足、美元利率上升時，人民幣隱含收益率會被推高；二是受到人民幣匯率變化的影響，當離岸人民幣匯率 CNH 貶值，尤其是貶值預期持續增強時，隱含收益率也會大幅上升；三是受到銀行資產負債表影響，掉期是以美元頭寸換回人民幣，銀行要平衡考慮機會成本及資金價格，尤其是美元頭寸不足或過剩時，人民幣掉期的成本並不能如實反映人民幣的實際融資成本和流動性。由於短期人民幣資本市場結構的缺陷，近年來香港人民幣流動性波動仍然較大：

一是流動性時常波動，季度性流動性管理難度較大。香港離岸人民幣資金池相對淺小，2021 年 12 月底人民幣存款 9,268 億元。受季節性因素影響，或當有大規模跨境人民幣調撥時，人民幣資金價格有可能發生波動。此外，香港處於離岸市場，對全球市場波動十分敏感，加大了流動性管理難度。2018 年至今，一周期限離岸人民幣隱含收益率在 1% 至 5% 之間波動，個別時間超過 5% 甚至 10%。從圖 1 看，境外人民幣拆放利率曲線比境內波幅要大得多，可見香港人民幣資本市場發展不夠成熟。遇到年中派息、十一、年結及春節等特殊時點，大部分銀行為應付流動性抽緊而提前準備資金並“惜借”；

圖 1：香港一周期限隱含收益率與上海一周同業拆放利率



資料來源：Bloomberg，中銀香港金融研究院

二是香港短期及中長期資金價格高於境內，影響離岸人民幣投融資發展。長端資金，2018 年至今香港 2 年期人民幣國債孳息率日均 2.89%，高出境內同期國債孳息率 17 個基點。短端資金，比較香港財資市場公會離岸人民幣銀行同業拆息定盤價（CNH Hibor Fixing）及上海銀行間同業拆放利率（Shibor），2021 年香港 1 個月拆息日均 2.92%，比上海 1 個月拆息高出 48 個基點。相比 2020 年，1 個月離岸與在岸人民幣日均拆息差拉大了 12 個基點。同樣，2021 年 3 個月離岸與在岸人民幣息差亦有所拉大。

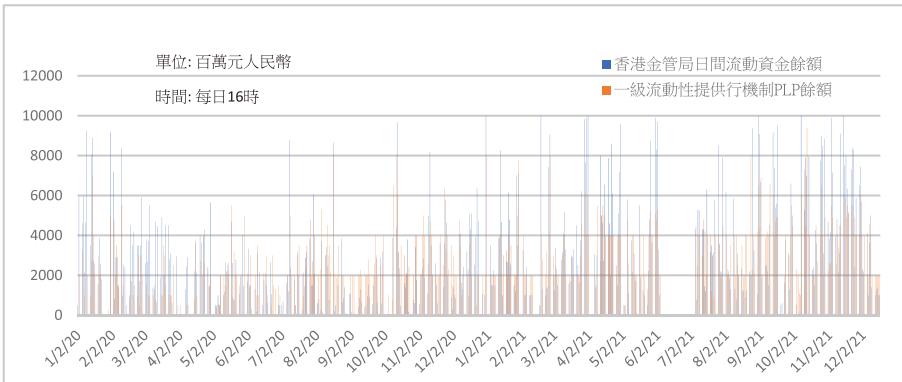
圖 2：香港一個月同業拆息定盤價與上海一個月同業拆放利率



資料來源：Bloomberg，中銀香港金融研究院

三是借助人民幣流動性管理工具受到一定限制，應對風險能力較弱。當香港人民幣流動性持續偏緊，銀行同業會求助於香港金管局及清算行。香港金管局於2012年推出人民幣流動資金安排，2014年又推出的一級流動性提供行機制PLP。兩項工具被頻密動用，2020年以後，日間人民幣流動資金安排每日下午4時使用餘額約有30多次達到80至100億元，接近用完額度；PLP申請規模也經常超過100億元（圖3）。但無論是金管局還是清算行，均非人民幣最後貸款人，只提供一定額度流動性支持，難以保持與境內市場同等流動性適度寬餘，應對全球性金融危機的能力也較弱。

圖3：香港金管局日間流動資金餘額及一級流動性提供行機制PLP餘額



資料來源：HKMA，中銀香港金融研究院

## 二、香港人民幣央票回購業務發展現狀

香港人民幣債券回購業務起步較晚。一方面，香港本地港元債券及票據發行量較小，回購市場沒有發展起來；另一方面，人民幣點心債市場於2015年後一度急劇萎縮，尤其是高等級、主權類人民幣債券及票據發行不足，令到人民幣回購業務的抵押品較為缺乏。

2018年以後，香港離岸人民幣市場出現持續復蘇勢頭，境外市場對人民

幣資產需求明顯增加，資金供求矛盾進一步突出。香港銀行業積極探索解決人民幣流動性不足的新辦法，爭取扭轉人民幣市場資金“緊平衡”狀態。與此同時，人行也在香港啟動了人民幣央票發行，並形成較大規模，為央票回購業務創造了有利條件。2021年初，香港商業銀行啟動人民幣央票回購做市機制，為市場參與者提供做市及雙邊報價服務。這是香港首次推出的商業性質人民幣央票回購業務。一年來參與央票回購的商業銀行正在增多，交易量也不斷增加，成為香港離岸人民幣市場重要的創新產品。

從目前人民幣央票回購業務開展情況，大致有以下幾個特點：

**1、市場性。**人民幣央票回購是一個自發市場，由市場對流動性管理需求推動，由各商業機構自由選擇，逐漸發展壯大，目前已有數十家銀行參與。做市商利用自有人民幣資金及所持有的人民幣央票，開展回購及逆回購，主動報價，並在彭博資訊終端機提供相關資訊。可敘做隔夜、1周、2周、1個月、2個月、3個月，交割時間為T+0、T+1、T+2等，交易時間為每工作日9時至17時。通過央票回購及逆回購，提供了人民幣流動性，活躍了央票交易、增加了市場上央票可獲得性，提升了市場參與者的興趣，令市場發展更加符合市場規律；

**2、指標性。**人民幣央票回購價格逐步成為一個被市場關注的，顯示短端資金流動性的又一個相關性指標。當市場主體預計人民幣資金將會趨緊時，對回購業務的需求較大，尤其是較長期限回購交易增多。總體上，央票回購與金管局人民幣流動性資金安排及一級流動性提供行機制PLP業務量變化規律吻合。市場參與者開始將央票回購利率作為流動性變化的參照。例如2021年春節期間、9月底（季度末）及十一長假前夕，回購交易量迅速增長，回購利率隨即反彈，與掉期的隱含人民幣收益率看齊。反之，當人民幣短期資金供求較穩定時，回購交易量相對減少，回購利率回落；

**3、擴展性。**從央票回購業務的參與者分佈情況看，英資銀行交易金額佔比超過四成，港資銀行佔比為三分之一，中資銀行約佔一成，東南亞銀行也佔一成左右。可見，金融市場業務較成熟的英資及港資銀行對回購也較熟悉，把握業務機會能力更強一些。近期更多外資銀行及東南亞銀行表現出濃厚的興趣，願意與做市商合作，開展回購業務。有些銀行通過參與回購業務，進一步參與央票的一級和二級市場業務；有些銀行已在內部進行新產品流程，估計短期內這個市場還將進一步擴容；亦有銀行在參與央票回購後，提出增加回購資產種類，多一些流動性管理工具；

**4、創新性。**做市商與市場參與者合作，加強市場機制建設及規則創新。國際間開展債券回購通行全球主回購協議GMRA，但大多數外資機構都未將離岸人民幣CNH納入相關法律合約，做市商與市場參與者協商，重簽或新簽

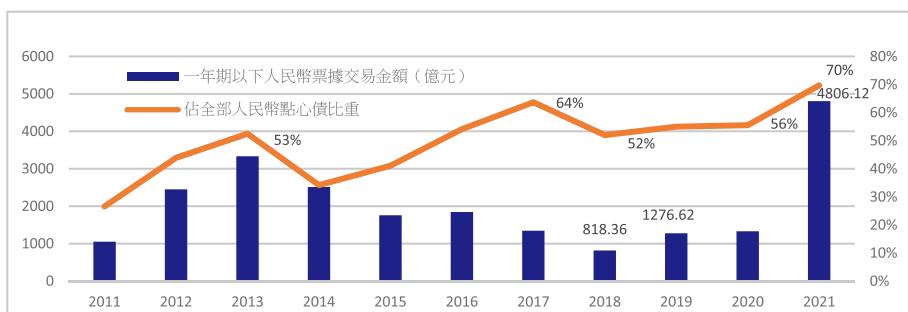
GMRA 時均已加入 CNH。此外，做市商對央票回購節假日安排進行研究，確定回購業務交易及結算本幣標準，採納中國內地及香港地區假期，制定明確假期表，積極推動市場參與者熟悉並遵守新安排，避免了因遇到歐美假期，交易及結算發生混亂。

### 三、央票回購市場具有一定的基礎條件

從歐美主要貨幣國際化發展邏輯及實際進程看，債券回購既是其成長為主要國際貨幣的必然結果，又是發揮主要國際貨幣功能的關鍵環節之一，因而擁有良好的市場前景。同樣，人民幣加快成為主要國際貨幣，債券回購業務這塊短板有待補齊。但根據離岸人民幣市場目前發育程度，還需要精心培育，可先從條件相對成熟的央票回購做起。

1、香港人民幣點心債市場以短期票據為特色。香港點心債市場於 2013-14 年達到第一個高峰，短期票據發行及交易就相當活躍。2013 年 1 年期以下發行餘額及交易金額均超過整體的一半。這幾年點心債市場加快復蘇，繼續體現短期票據為主特色。據香港金管局統計，由債務工具中央結算系統 CMU 託管及結算的人民幣債券，2021 年底 1 年期以下餘額 1,325 億元，比 2018 年底增長 54%，佔全部人民幣債券餘額的 50.4%，佔比連續 4 年超過一半。2021 年 1 年期以下交易金額達到創紀錄的 4,806 億元，比 2018 年全年增長 4.9 倍，佔所有期限人民幣債券交易金額的 70%，佔比連續 6 年超過一半（圖 4）。香港人民幣票據成為交易最活躍的點心債品種，為推動人民幣票據回購創造了條件；

圖 4：香港一年期以下人民幣票據交易金額及市場佔比

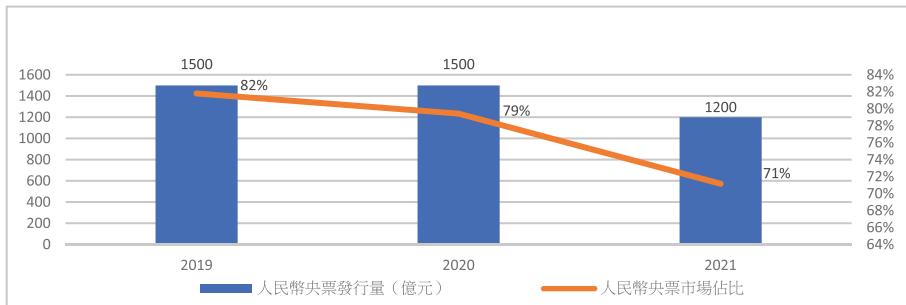


資料來源：HKMA，中銀香港金融研究院

2、人行常態化發行離岸央票提供充足抵押品。鑑於香港市場對優質及高流動性的人民幣資產有強勁需求，2018 年 9 月人行與香港金管局簽訂利用 CMU 債券投標平台在香港招標發行人民幣央票的合作備忘錄。同年 11 月底人行首次在香港發行 200 億元人民幣央票，包括 3 個月期及 1 年期。截至 2021 年底，香港人民幣央票共發行 38 隻、4,600 億元，年期包括 1 個月、3 個月、6 個月及 1 年。3 年來離岸央票發行佔全部點心債發行量七成以上，已形成常規化機制，與人民幣國債共築離岸人民幣基準孳息曲線。同時，主權發行的人民幣央

票是理想的抵押品，被金管局、清算行列為人民幣流動資金安排合資格抵押品；

圖 5：香港人民幣央票發行量及在人民幣點心債市場佔比



資料來源：HKMA，中銀香港金融研究院

**3、金管局、清算行已提供人民幣回購業務。**根據金管局人民幣流動性資金安排機制，銀行以合資格抵押品可從金管局獲得即日交收隔夜人民幣資金、翌日交收的1天期限人民幣資金、翌日交收的1星期期限人民幣資金及日間人民幣流動資金。金管局推出一級流動性提供行PLP時，最初定為7家PLP銀行，後增至9家。金管局為每家PLP銀行提供20億元人民幣回購協議安排，要求它們拓展莊家活動及有效管理流動性，可通過回購獲得日間及隔夜人民幣資金。香港人民幣清算行亦為參加行提供日間回購交易服務。因此，市場對回購業務有一定認識；

**4、香港完善金融基建確保回購業務安全暢順。**香港於1990年建立債務工具中央結算系統CMU，為外匯基金票據及債券提供電子結算交收服務。CMU系統連接港元、人民幣、美元、歐元即時支付結算系統RTGS，為債券交易提供即時或日終DVP結算，並提供即日及隔夜回購設施。CMU系統與歐洲清算、明訊、內地及其他地區中央證券託管結算系統聯網，還提供抵押品管理、債券借貸、市場莊家制度、票據及債券發行、託管服務，效率較高，具安全性。人民幣債券及票據發行、交易及延伸服務是CMU推動的重點，除了招標、交易及結算，還有託管服務，即接受人民幣國債、央票、政策性銀行債、地方政府債抵押，為回購業務提供支持。

#### 四、加快建設離岸央票回購市場的意義及建議

建設人民幣央票回購市場意義重大。相比人民幣與美元掉期，商業銀行以人民幣央票為抵押進行回購，可充分利用其持有的人民幣資產，在不改變資產負債結構的情況下，另闢一條人民幣短期資金來源。另一方面，開展央票回購，不會受制於匯率因素，是應對複雜市場局面較理想的流動性管理工具。

首先，提供多元化離岸人民幣流動性管理工具，平抑市場波動，收窄與境內市場人民幣息差。不斷提升人民幣國際貨幣功能、擴大全球人民幣使用範圍，首先要建設好離岸人民幣市場，賦能離岸人民幣更高流動性管理水平，強化匯

率利率穩定性。引入人民幣央票回購，與掉期、拆借一起豐富短期人民幣供應，邁出了夯實離岸人民幣市場重要一步。通過完善短期人民幣資金結構、穩定短期資金價格曲線、保持離岸流動性適當寬鬆，為離岸人民幣業務健康發展提供資金保障；

其次，完善離岸人民幣市場機制，提升人民幣國際債市場功能，為發展離岸投融資及資產管理建立定價機制。人民幣央票回購發展起來，與央票發行、交易構成完整的生態圈，是香港人民幣點心債趨於成熟的具象徵意義的標誌。由於央票回購流動性較好，投資者可根據需要隨時獲得或拆出人民幣，從而更願意購買及長期持有央票。繼而擴展至人民幣主權債、機構債及企業債發行、交易及回購，不斷壯大人民幣國際債市場，形成完整的離岸人民幣基準利率曲線，推動人民幣貸款及債券融資、人民幣資產管理業務，將人民幣真正留在境外。

長遠看，離岸人民幣市場應與在岸人民幣市場一體化發展。兩個市場之間可研究建立某種形式資金通道，將境內外人民幣流動性有機銜接起來，強化境內貨幣政策向外傳導機制，發揮貨幣政策工具調節境內外流動性的作用，提高宏觀審慎管理效果，提升防範全球性金融風險能力，為穩慎推進人民幣國際化奠定基礎。

當然，離岸人民幣央票回購市場起步時間不長，交易規模還較小，並存在一些問題或不足。例如央票發行後大型機構集中購買，而中小型機構持有相對較少，當需要通過回購獲得人民幣資金時，會受限於抵押品不足；由於回購是新產品，各機構引入的流程較為冗長；非銀機構回購參與度較低；離岸央票回購市場與境內市場缺乏連接等。

為更好地推動離岸人民幣央票回購業務，促進香港人民幣市場健康發展，建議有針對性地採取一些措施。首先，可考慮持續增加人民幣央票發行，令更多境外機構有機會購買並持有，豐富回購抵押品；而央票發行增加，市場也不會將其與人民幣融資成本上升及離岸人民幣流動性下降聯繫在一起；其次，探索完善在岸市場與離岸市場流動性通道，推動離岸央票回購做市商直接從境內不同商業銀行獲得帳戶融資或人民幣拆借；再次，豐富跨境流動性產品，研究推動境外機構參與境內掉期、回購及 CCS 交易，降低監管門檻；最後，加強離岸央票回購業務宣傳，鼓勵更多不同種類市場主體參與回購，活躍市場交易。

長期看，可充分發揮香港全球離岸人民幣業務樞紐的有利條件，精心培育離岸人民幣債券市場及資產業務，積極推動人民幣國債及政策性銀行債發行，豐富離岸人民幣回購產品，完善香港金融基礎設施託管服務及互聯互通機制，亦可利用香港稅收機制靈活性，研究提供適當的激勵措施，推動做市商調動更多資源提升服務，不斷做大回購交易規模，努力建設與人民幣國際地位相符合的離岸人民幣債券回購市場。

## Promoting Development of the Offshore PBOC Bills Repo Market – Analysis and Recommendations

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As RMB internationalisation enters a new phase, new milestones are being reached in the development of the offshore RMB market, and Hong Kong's status as a major global offshore RMB financial centre continues to strengthen. At the same time, market participants now have higher expectations regarding the depth and stability of the offshore RMB market. The regular issuance of the PBOC bills in Hong Kong provides top quality RMB assets to the offshore investors while promotes a healthy development of the offshore RMB eco-system which includes an active repo market.

### 1. Needs and Priorities for Further Development of Offshore RMB Liquidity

The supply of funds in mature international currencies is more diversified compared to that of RMB, with many types of tools, terms and infrastructures available for improving capital utilisation efficiency, enhancing liquidity management and meeting various funding requirements. Monetary authorities also use monetary policy tools to enhance the resilience and sustainability of funding supply and to achieve monetary policy objectives.

In USD, for example, repo transactions are the main source of short-term funding: as of 2020, average daily repo transaction volumes were approximately USD2.4 trillion. The foreign exchange market is another source of short-term USD funding, with average daily global trading volumes of USD swaps standing at approximately USD2.9 trillion as of April 2019. Although interbank lending declined after the financial crisis, it still plays an important role. In the Euro market, meanwhile, bond repo and FX swap average daily trading volumes are approximately €2.5 trillion (1H 2021) and USD1.1 trillion (April 2019) respectively.

In recent years, Hong Kong has played a key role in the development of the global offshore RMB market, with RMB capital markets deepening and liquidity management tools becoming more established. Compared to the European and US markets, however, the offshore RMB market features smaller transaction volumes and still has a lot of catching up to do when it comes to the sophistication of its market structure, mechanisms and functions. While the European and US markets have three main channels of short-term funding, Hong Kong's offshore RMB market instead mainly relies on RMB-USD swap transactions in the foreign exchange market, with the interbank lending and repo markets remaining comparatively smaller.

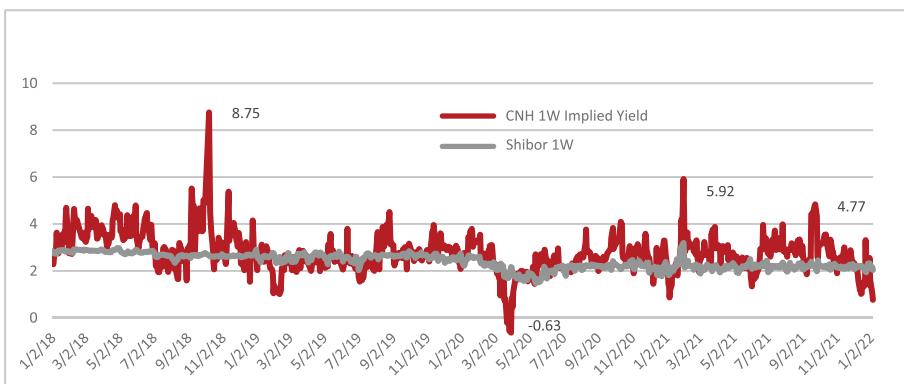
According to a survey conducted by the Bank of International Settlement, average daily transaction volumes of offshore RMB-USD swaps reached USD136.7 billion in April 2019, a 59% increase from the

USD86 billion daily average recorded in its April 2016 survey. This method of using USD as collateral to exchange RMB with other financial institutions is simple, safe and highly liquid. When financial institutions are faced with demands for short-term RMB funding, RMB-USD swaps make it easy for them to access funds from counterparties with excess RMB holdings. The CNH Implied Yield, calculated using the principle of interest rate parity, accurately reflects the cost of funding and has become the main indicator of the offshore RMB interest rate.

However, there are also some drawbacks to relying on RMB-USD swaps. First, the swap rate has a close relationship with the cost of USD: if offshore USD liquidity is insufficient, the USD interest rate will rise, which will in turn impact the RMB-USD swap point. Second, the implied yield is also affected by fluctuations in the USD/CNH spot exchange rate, which means that when CNH depreciates (or the market anticipates depreciation), the CNH Implied Yield will rise sharply. Third, since these swaps are converted from USD positions, users need to consider both opportunity cost and funding level before executing such swaps. For example, if a user has either an insufficient or excessive USD position, then the cost of an RMB-USD swap will not accurately reflect the true funding cost and liquidity of CNH. Owing to structural defects in the market for short-term CNH funding supply, liquidity in that market has remained relatively volatile in recent years for a number of reasons.

**First, CNH liquidity fluctuates and is especially difficult to manage across quarters.** Hong Kong's offshore RMB deposit base has been increasing, however is relatively small, with RMB926.8 billion in deposits at the end of December 2021. CNH funding levels can fluctuate due to seasonal factors as well as large-scale cross-border RMB transfers. Furthermore, Hong Kong's status as an offshore market makes it more sensitive to global market volatility, which increases the difficulty of managing liquidity. Since 2018, the implied yield of one-week CNH has fluctuated between 1% and 5%, sometimes exceeding 5% or even 10%. As can be seen in Figure 1, fluctuations in the CNH lending rate curve are much larger than that of CNY, indicating that the RMB market in Hong Kong is not yet sufficiently mature. In the middle of the dividend payment season, National Day, year-end, Chinese New Year holiday and other special days, many banks will try to secure enough funds in advance to cope with potential liquidity issues, and therefore become more reluctant to "lend" funds.

**Figure 1: CNH 1W implied yield and Shanghai Shibor 1W interbank offered rate**

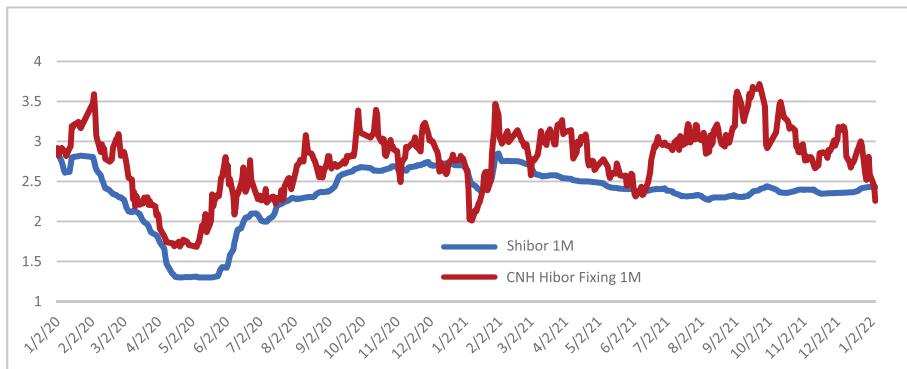


Source: Bloomberg, BOC Hong Kong Financial Research Institute

**Second, short and medium-term RMB funding levels in Hong Kong are typically higher than those in China's onshore RMB market, which adversely affects the development of CNH investment and**

**financing.** In terms of longer tenors, the average daily yield of offshore 2-year CGB from 2018 to the present day is 2.89%, which is 17 basis points higher than that of onshore CGB for the same period. Focusing on shorter tenors, Hong Kong's one-month fixing rate based on the Treasury Market Association CNH Hong Kong Interbank Offered Rate (TMA CNH HIBOR) averaged 2.92% in 2021, which was 48 basis points higher than Shanghai's one-month fixing rate based on the Shanghai Interbank Offered Rate (SHIBOR). Compared with the 2020 data, the average monthly offshore and onshore RMB interest rate spread has widened by 12 basis points. Similarly, three-month tenor offshore and onshore spreads also widened in 2021.

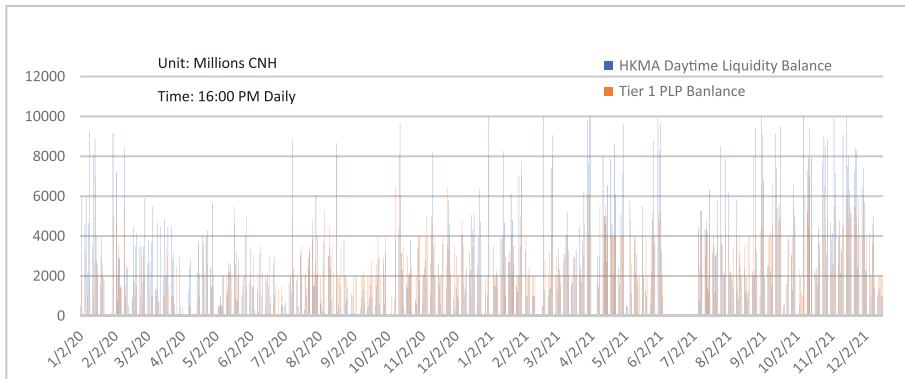
**Figure 2:CNH Hibor Fixing 1M and Shibor 1M**



Source: Bloomberg, BOC Hong Kong Financial Research Institute

**Third, useful RMB liquidity management tools are limited and risk management remains difficult.** When CNH liquidity in Hong Kong becomes tight, banks usually approach the HKMA and the clearing bank to seek an increase in the supply of funds. Indeed, the HKMA launched the RMB Liquidity Facility in 2012 and the Primary Liquidity Provider (PLPs) scheme in 2014 for this purpose. The two instruments are used frequently. Since 2020, there have been around 30 instances when the daily balance of funds utilised through the RMB Liquidity Facility has reached CNH8-10 billion by 4pm, nearly hitting the maximum limit. PLP limit applications also usually exceed CNH10 billion (see Figure 3). However, neither the HKMA nor the clearing bank is the “lender of last resort” for RMB. They can only provide a certain amount of liquidity support based on the current arrangement, which makes it difficult to maintain reasonable liquidity in the offshore market as compared to the onshore market. In addition, their ability to cope with a global financial crisis is weak.

**Figure 3: HKMA Daytime Liquidity balance and Tier 1 PLP balance**



Source: HKMA, BOC Hong Kong Financial Research Institute

## 2. Current Status of the CNH PBOC Bills Repo Market in Hong Kong

The development of the repo market in Hong Kong has been relatively slow. This is because HKD-denominated bonds and bills tend to have relatively small issue sizes, which has limited the development of the HKD repo market. In addition, the shrinking of the Dim Sum bond market after 2015, has resulted in a lack of the collateral needed for CNH repo transactions in the old days.

Since 2018, there has been a recovery of momentum in the offshore RMB market in Hong Kong, driven by a significant increase in demand for CNH-based assets in overseas markets. At the same time, however, the mismatch between liquidity supply and demand has become more prominent. Hong Kong's banking industry has actively explored new methods in an attempt to address tight CNH liquidity. The PBOC has also started issuing CNH bills in Hong Kong on a relatively large scale, which has created favourable conditions for the development of PBOC bills repo business. In early 2021, commercial banks in Hong Kong launched the CNH PBOC Bills Repo Business Market-making Mechanism, the first commercial CNH PBOC bills repo business in Hong Kong, which provides market-making and bilateral quotation services to market participants. This innovative PBOC bills repo business has become an important product in Hong Kong's offshore RMB market, as seen in the increase in the number of participating commercial banks and trading volumes over the past year.

The CNH PBOC bills repo business has the following characteristics:

**(i) Marketability.** CNH PBOC bills repo is a relatively spontaneous market that is driven by demand for liquidity management. It has grown and developed gradually through the free choices of financial institutions, and dozens of banks have participated in it to date. Market makers use their own RMB funding and PBOC bills to conduct repo and reverse repo, offer unsolicited quotations and provide information using Bloomberg. Available tenors include overnight, one week, two weeks, one month, two months, or three months; the value date can be T+0, T+1, T+2, etc., and trading is open from 9:00 to 17:00 every business day. Through PBOC bills repo and reverse repo services, the mechanism provides CNH liquidity, stimulates PBOC bills transactions, increases the availability of PBOC bills in the market and matches the interests of market participants, thus aligning market development with market discipline.

**(ii) Indexability.** The market has gradually come to focus on the repo price of PBOC bills as an alternative indicator of short-term liquidity. When market participants expect CNH funding to tighten, demand for repo transactions will increase, especially for longer tenors. In general, PBOC bill repo activity tends to be consistent with usage of the HKMA's RMB Liquidity Facility and variations in business volume from Primary Liquidity Providers (PLPs). Market participants have started to use the repo rate as a reference point for changes in liquidity. In 2021, for example, repo transaction volumes increased rapidly during the Chinese New Year holiday, at the end of the third quarter in September, and before the National Day holiday, with repo rates spontaneously rebounding to match the CNH Implied Yield in swaps. Conversely, when supply and demand for CNH short-term funding is relatively stable, repo transaction volumes decrease and repo rates fall.

**(iii) Extensibility.** Regarding participants in the PBOC bills repo market, British banks account for more than 40% of transaction volumes, local Hong Kong banks for around one-third, Chinese banks for

about 10%, and Southeast Asian banks for about 10%. It seems that British and local Hong Kong banks, who are relatively more experienced in offshore financial markets, are also more familiar with repo and are better placed to grasp the business opportunities. Recently, more overseas and Southeast Asian banks have shown interest, becoming more willing to cooperate with market makers to carry out repo transactions. After participating in the repo business, some banks have subsequently taken part in the primary auctions and secondary trading of PBOC bills. With other banks now in the process of seeking internal approval to set up new products, it is expected that the market will expand further in the near future. Furthermore, after taking part in PBOC bills repo business, some banks are now proposing to increase the types of assets eligible for repo transactions and add more liquidity management tools.

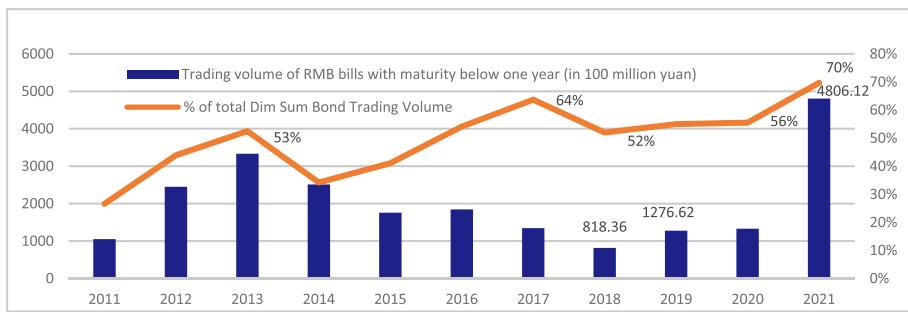
**(iv) Innovation.** Cooperation between market makers and market participants has stimulated innovation in both market mechanisms and compliance. For example, while the Global Master Repurchase Agreement (GMRA) has been widely adopted around the world as a tool for executing bond repo transactions, most overseas institutions had not yet incorporated CNH provisions into their legal contracts. Following negotiation between market makers and market participants, CNH provisions have been added upon the signing or re-signing of many GMRAAs. Furthermore, to avoid trade and settlement confusion arising from European and US holidays, market makers have carefully considered the arrangement of holidays for PBOC bills repo transactions and settlement, adopted a clear holiday schedule according to Hong Kong and Mainland China holidays, and actively encouraged market participants to follow the new arrangements.

### **3. The PBOC Repo Market at the Intermediate Stage of Development**

Reviewing the US and European currency markets from a historical perspective clearly shows that the development of a strong repo business is not only the inevitable result of becoming a major global currency, but is also a key process on the path towards such status. For RMB to truly become a major international currency, therefore, the current weaknesses in the RMB repo market must first be resolved. This will require careful cultivation given the offshore RMB market's current level of development. As such, development should start with the PBOC bills repo business, which is relatively more mature. Four factors are especially relevant:

**(i) Short-term PBOC Bills are a key characteristic of the Hong Kong CNH Dim Sum bond market.** The Hong Kong Dim Sum bond market reached its first peak around 2013-14, a period that saw highly active issuance and trading of short-term bills. In 2013, both the notional amount issued and trading volumes of short-term bills (i.e. maturity shorter than one year) accounted for more than half of the entire market. In recent years, the Dim Sum bond market has recovered, with short-term bills continuing to feature prominently. According to the HKMA, CNH bonds with a maturity shorter than one year under the custody of the Central Money Markets Unit (CMU) registered a total balance of CNH132.5 billion in 2021, an increase of 54% from 2018 levels. This makes up 50.4% of the total balance of CNH bonds, a proportion that has remained consistently above 50% over the past four years. In 2021, transaction volumes of bonds with a maturity shorter than one year reached a record of CNH480.6 billion, an increase of 4.9 times compared with the same figure for 2018. This accounted for 70% of the total volume of CNH bonds of all maturities, a proportion that has also continuously exceeded 50% over the past four years (see Figure 4). Hong Kong CNH PBOC bills have become the most actively traded Dim Sum bond, creating promising conditions for the development of the CNH bills repo market.

**Figure 4: Trading Volume and Market Share of RMB bills in HK with maturity below one year**

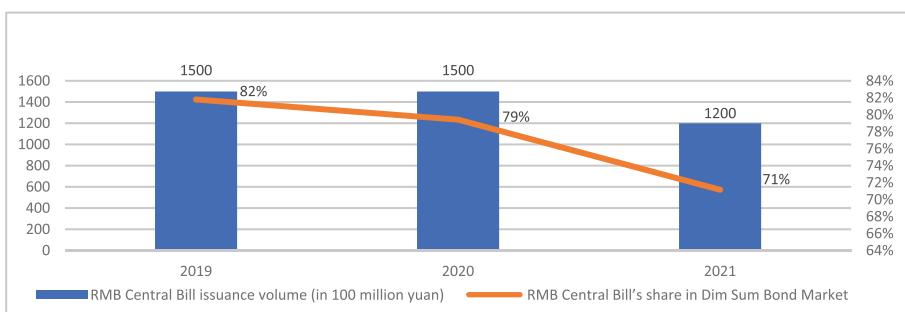


Source: HKMA, BOC Hong Kong Financial Research Institute

**(ii) The PBOC regularly issues offshore PBOC bills thus providing sufficient collateral.**

Given strong market demand in Hong Kong for high-grade and highly liquid RMB assets, the PBOC and HKMA signed an agreement in September 2018 to use the CMU's bond bidding platform to tender and issue PBOC bills in Hong Kong. In November 2018, the PBOC issued PBOC bills in Hong Kong for the first time, issuing a total of CNH20 billion across three-month and one-year tenors. As of 2021, a total of 38 issuances of CNH PBOC bills had been made in Hong Kong with a cumulative value of CNH460 billion, and maturities spanning from one month, three months, six months to one year. During the past three years, the issuance of offshore PBOC bills has accounted for more than 70% of the total notional issuance of all Dim Sum bonds, which in combination with CGBs has assisted in the process of building a CNH benchmark yield curve. The fact that PBOC bills are issued by the Central Government makes them ideally suited as collateral, hence them having been chosen as qualified collateral for the RMB Liquidity Facility by both the HKMA and the clearing bank.

**Figure 5: Hong Kong's RMB Central Bill issuance and share in the RMB Dim Sum Bond Market**



Source: HKMA, BOC Hong Kong Financial Research Institute

**(iii) The HKMA and the clearing bank have established the CNH repo business in Hong Kong.**

Through the HKMA's RMB Liquidity Facility, banks can obtain overnight RMB funds available on the same day, 1-day RMB funds available on the next day, 1-week RMB funds available on the next day and intraday RMB funds from the HKMA by using eligible collateral funds. The HKMA has also launched the Primary Liquidity Provider (PLP) scheme, initially designating seven banks as PLPs and later increasing the number to nine. The HKMA provides a dedicated repo facility of RMB2 billion to each of the PLPs, requiring them in turn to provide market-making services and effectively manage their liquidity. Using this repo facility, PLPs can obtain intraday or overnight RMB funds from the HKMA. The Hong Kong RMB Clearing

Bank also provides participating banks with intraday RMB repo trading. This scheme has helped market participants to enhance their understanding of the repo business.

**(iv) Hong Kong has improved its financial infrastructure to develop a safer and more efficient repo business.** In 1990, Hong Kong established a Central Clearing and Settlement System for Debt Instruments (CMU) to provide electronic settlement and services for exchange fund bills and bonds. The system was linked to the Real Time Gross Settlement (RTGS) System in HKD, RMB, USD and EUR, providing real-time and end-of-day delivery versus payment (DvP) services for bond trading. The CMU system was later connected to both Euroclear and Clearstream, in addition to central securities settlement and clearing systems in Mainland China and other jurisdictions. It offers an efficient, safe and convenient clearing and custodian system and provides a variety of services such as collateral management, securities lending, market-making for exchange fund bills and notes, an issuance programme for exchange fund bills and notes, and custodian services. The main focus of the CMU is to provide services for the issuance, trading and settlement of RMB bonds and bills. In addition, the CMU provides custodian services that accept collateral in the form of RMB government bonds, central bank bills, policy bank bonds and local government bonds, which further helps to support the repo business.

## **4. Suggestions for Further Development of the Offshore PBOC Bills Repo Market**

The development of the PBOC bills repo market will have a significant impact on the internationalisation of RMB. Compared with using USD-CNH swaps, PBOC bills repo transactions allow banks to make use of their existing CNH assets, meaning that they can achieve their short-term CNH funding goals without having to alter their asset and liability structures. Furthermore, PBOC bills repo transactions are not affected by foreign exchange rates, which makes them an ideal tool for managing liquidity. There are two main reasons why developing the PBOC bills repo market should be a priority:

**First, PBOC bills repo is an ideal liquidity management tool for offshore RMB and can also reduce market volatility and tighten spreads between onshore and offshore funding costs.** To promote the usage of RMB as a major international currency, it is necessary to further develop the offshore RMB market, including improving the availability of liquidity management tools and stabilising both the exchange rate and interest rate. PBOC bills repo is a critical instrument which must be developed alongside both swaps and interbank lending as a prerequisite for developing the offshore RMB market. This will help to further improve short-term RMB funding, stabilise the front end of the yield curve, and deepen liquidity.

**Second, PBOC bills repo can enhance the status of RMB as an international currency and help develop more efficient pricing of offshore RMB assets.** The continued development of the PBOC bills repo market alongside the primary auctions and secondary market trading of PBOC bills forms an integrated ecosystem that represents the maturing of the Hong Kong Dim Sum bond market. Investors and market participants greatly benefit from the improved liquidity offered by PBOC bills repo as it enables them to either obtain RMB funding or lend RMB when needed, which increases willingness to buy and hold PBOC Bills. This in turn increases primary issuance, secondary transaction volumes and repo volumes across RMB sovereign, institutional and corporate bonds. A growing RMB bond market not only helps to establish a more complete CNH yield curve, but also promotes loan business, bond financing and asset management, all of which encourage the global usage of RMB as a major international currency.

**The long-term goal should be to develop and integrate the offshore and onshore RMB markets.** We should explore methods to develop a funding channel that enables liquidity to flow between offshore and onshore markets. This would improve the effectiveness and strengthen the external transmission mechanism of onshore monetary policy, enhance its ability to prevent global financial risks, and build a stable foundation to promote RMB internationalisation.

The PBOC bills repo market is still comparatively small, having only started to develop relatively recently, and has several other problems which still need to be resolved. For example, most newly-issued PBOC bills are purchased by large financial institutions, which means that small and medium-sized institutions hold relatively fewer bills and are therefore limited by insufficient collateral when seeking RMB funding. In addition, since repo is a relatively new product, some institutions face long internal approval processes before they can engage in repo business. Furthermore, participation amongst non-bank institutions is relatively low, and there is not yet any channel to connect the offshore PBOC bills repo market with the onshore market.

To promote the development of the offshore PBOC bills repo market and the RMB market in Hong Kong, we recommend a number of targeted measures:

First, **a gradual increase in the notional issue size of PBOC bills should be considered.** This will give more institutions the opportunity to purchase and hold collateral which can be used in the repo market, without market participants connecting the issuance of PBOC bills with expectations of higher funding costs or the shrinking of the offshore RMB liquidity pool.

Second, we should **explore methods to establish a liquidity channel between the onshore and offshore markets**, which would enable offshore market-makers to finance themselves directly from onshore commercial banks.

Third, we should **enhance current cross-border liquidity products**, investigate methods for enabling offshore institutions to participate in the onshore swap, repo and CCS (cross currency swap) markets, and attempt to lower regulatory barriers.

Finally, there should be **greater promotion of the offshore PBOC bills repo market** to help attract more market players to participate.

In the long run, by taking advantage of its status as a global offshore RMB financial centre, Hong Kong can cultivate the offshore RMB bond market and asset management industry; **actively promote the issuance of Chinese Government Bonds and policy bank bonds;** strengthen the development of RMB repo products, and improve financial infrastructure such as custody services and connectivity mechanisms. We can further leverage Hong Kong's favourable taxation system to provide incentives for market makers to improve their services, expand market scale, and strive to develop an offshore RMB repo market that aligns with the international status of RMB.

# 主要經濟指標 (Key Economic Indicators)

	2020	2021	2021/Q3	2021/Q4
<b>一. 本地生產總值 GDP</b>				
總量 ( 億元 ) GDP(\$100 Million)	26,716	28,426	7,205	7,692
升幅 (%) Change(%)	-6.1	6.4	5.5	4.8
<b>二. 對外貿易 External Trade</b>			<b>2021/12</b>	<b>2021/1-12</b>
外貿總值 ( 億元 ) Total trade(\$100 Million)				
總出口 Total exports	39,275	49,607	4,895	49,607
進口 Total imports	42,698	53,078	5,223	53,078
貿易差額 Trade balance	-3,422	-3,471	-328	-3,471
年增長率 (%) YOY Growth(%)				
總出口 Total exports	-1.5	26.3	24.8	26.3
進口 Imports	-3.3	24.3	19.3	24.3
<b>三. 消費物價 Consumer Price</b>				
綜合消費物價升幅 (%) Change in Composite CPI(%)	0.3	1.6	2.4	1.6
<b>四. 樓宇買賣 Sale &amp; Purchase of Building Units</b>			<b>2022/01</b>	<b>2022/01</b>
合約宗數 ( 宗 ) No. of agreements	73,322	96,133	5,911	5,911
年升幅 (%) Change(%)	-2.0	31.1	-4.8	-4.8
<b>五. 勞動就業 Employment</b>			<b>2021/10-2021/12</b>	<b>2021/11-2022/01</b>
失業人數 ( 萬人 ) Unemployed(ten thousands)	259.1	250.9	14.3	13.5
失業率 (%) Unemployment rate(%)	5.5	5.5	3.9	3.9
就業不足率 (%) Underemployment rate(%)	3.1	2.7	1.7	1.8
<b>六. 零售市場 Retail Market</b>			<b>2021/12</b>	<b>2021/1-12</b>
零售額升幅 (%) Change in value of total sales(%)	-24.3	8.1	6.2	8.1
零售量升幅 (%) Change in volume of total sales(%)	-25.5	6.5	3.4	6.5
<b>七. 訪港遊客 Visitors</b>			<b>2021/12</b>	<b>2021/1-12</b>
總人數 ( 萬人次 ) arrivals (ten thousands)	356.9	9.1	0.9	9.1
年升幅 (%) Change(%)	-93.6	-97.4	91.0	-97.4
<b>八. 金融市場 Financial Market</b>			<b>2021/11</b>	<b>2021/12</b>
港幣匯價 (US\$100=HK\$)	775.2	779.8	780.2	779.8
H.K. Dollar Exchange Rate (US\$100 = HK\$)				
貨幣供應量升幅 (%) change in Money Supply(%)				
M1	30.1	8.0	9.4	8.0
M2	5.8	4.3	2.9	4.3
M3	5.8	4.3	2.9	4.3
存款升幅 (%) Change in deposits(%)				
總存款 Total deposits	5.4	4.6	3.3	4.6
港元存款 In HK\$	6.2	1.4	1.7	1.4
外幣存款 In foreign currency	4.6	7.9	4.9	7.9
放款升幅 (%) in loans & advances(%)				
總放款 Total loans & advances	1.2	3.8	4.2	3.8
當地放款 use in HK	1.7	4.7	5.6	4.7
海外放款 use outside HK	0.1	1.7	1.1	1.7
貿易有關放款 Trade financing	-6.2	14.2	14.9	14.2
最優惠貸款利率 (%) Best lending rate (%)	5.0000	5.0000	5.0000	5.0000
恒生指數 Hang Seng index	27,231	23,398	23,475	23,398