Asia FI & FX Strategy Viewpoint

FINI: A material efficiency gain in the use of HKD liquidity

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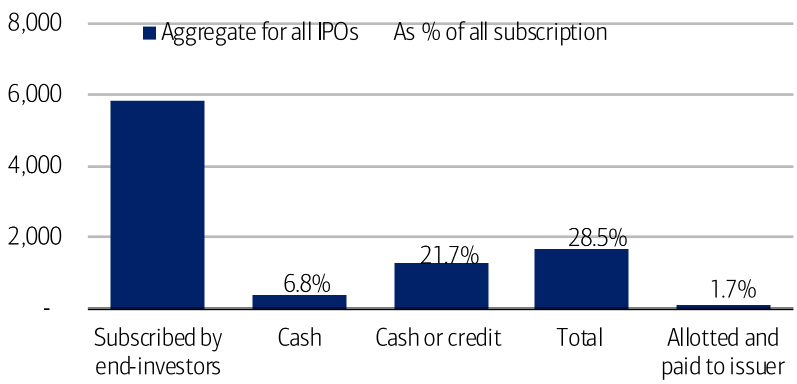
HKEX is scheduled to launch FINI on 22 November 2023

Since November 2020, the HKEX has been planning to reform and update its IPO process. For macro investors, the most material change is that the total volume of HK$ required for pre-funding will dramatically decline. This will result in reduced amount of interbank transfer of cash, less transfer of aggregate balance between Hong Kong banks and lower HIBOR volatility around the time of IPOs. According to the HKEX's study, the new pre-funding framework for the IPO pipeline can reduce the net cash movement by 72-98%. If true, going forward, only the largest IPOs will have a residual impact on HIBOR while the level of aggregate balance remains low.

HK$ settlement strong despite weak equity turnover

Despite the material efficiency gains the new FINI framework will provide for HKD liquidity, we expect HKD funding to remain tight, at least until the Fed begins to cut in 2Q24. Throughout 2023, the volume of equity turnover in Hong Kong has edged lower but this has not resulted in reduced volume of final clearing and settlement in HK$. Rather, throughout 2023, we have seen the demand for HK$ clearing and settlement increase, while the aggregate balance remains at its lowest level since 2008. The strong demand in HK$ settlement is also reflected in our 'Discipline Ratio' which gives us a short-term estimate for the fair-value of front-end HKD FX implied yield. We stay paid front-end HKD forward points to be exposed to any rebound in equity leverage on the Hang Seng.

Exhibit 1: The breakdown of cash transfer versus final allotted amount
The new pre-funding framework for IPOs will only require a fraction of the cash transfer



Source: HKEX

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HKEX – Hong Kong Exchange and Clearing Limited

IPO – initial public offering

HK$ - Hong Kong Dollar

FINI – Fast Interface for New Issuance

For a complete list of our FX/rates trade recommendations please see [Global Emerging Markets Weekly: After the Q3 fall, Winter... 06 October 2023]

FINI: A material efficiency gain in the use of HKD liquidity

The link between IPOs and interest rates in Hong Kong

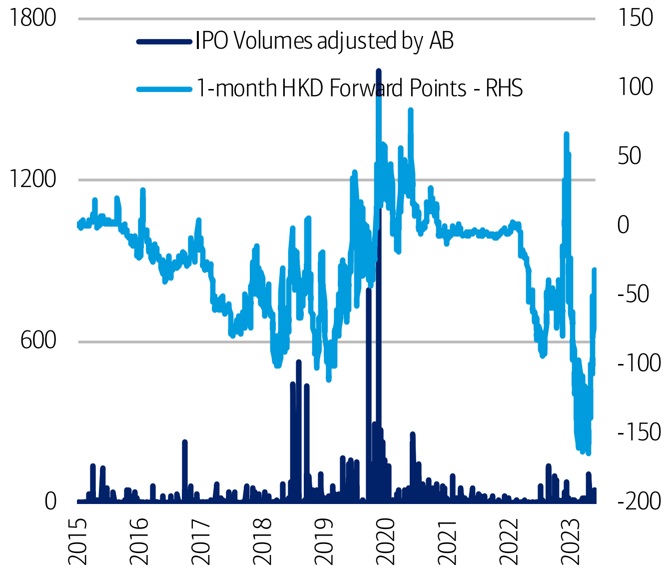
IPO represented an opportunity to play HKD forward points. During previous cycles when the HKMA's aggregate balance shrink, the topic of upcoming IPOs in Hong Kong becomes quite thematic for Asia's macro investors. An IPO represents a period where HKD liquidity is artificially constrained as large pools of HKD cash are sent to the issuers' designated bank account and 'locked up' for the duration of the IPO settlement process before the cash is returned to subscribing investor who did not receive any allocation. This problem is made worse and exacerbated when the interest in the IPO is strong and oversubscription is very high.

The interaction between IPOs and funding pressure is unique to Hong Kong. This problem of HKD funding squeeze triggered by an IPO is unique to the Hong Kong monetary system due to the set-up of the Linked Exchange Rate System (LERS) where HKD payment must be paid and settled with aggregate balance, the clearing unit at the HKMA's real-time gross settlement system. Unlike other monetary jurisdiction in which the local central bank provides target for overnight interest rates, the set-up of the LERS does not permit the HKMA to inject liquidity to offset the short-term funding pressure (see Asia FI & FX Strategy Viewpoint: A primer on HKD funding 29 May 2023 for a detailed overview for how HKD money market works).

An IPO is period of temporary imbalance between the supply-and-demand of HKD funding. As such, while USDHKD trades within the range of 7.75-7.85, the level of aggregate balance is fixed regardless of the demand for HKD settlement. This results in HIBOR spikes in periods of excess imbalance between supply and demand for HKD settlement: this is often the case during an oversubscribed IPO at a time when the aggregate balance is low due previous carry trade outflows.

The current system presents periods of liquidity choke points during the IPO process. Under the current arrangement, there are two choke points for HKD funding: immediately prior to the closing of the subscription period (where the receiving bank has to receive all the necessary funds for the IPO) and during the refund period when the receiving bank has to return the funds back to those who failed to secure an allotment in the IPO process.

Exhibit 2: IPO volumes and movement in front-end HKD forward points
In 2018 and 2019, IPO volumes impacted the funding conditions in HKD



Source: Bloomberg

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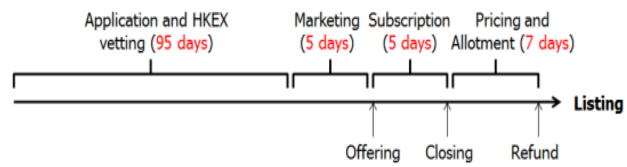
Exhibit 3: Process for listing on Hong Kong Stock Exchange
During the pricing and allotment period, an excess amount of HKD cash is locked up and unavailable to be recycled back into the interbank system



Source: HKMA staff estimates, based on listing documents in HKEX's website

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The issue of large IPO and volatility in HKD funding recognized is by Hong Kong's regulatory bodies. This problem of an inefficient use of HKD liquidity at a time of reduced supply is well recognized by the HKEX and HKMA. The current system increases credit cost of the IPO process in Hong Kong and results in reduced competitiveness versus global peers. Moreover, this system also introduces macroeconomic risk due to the uncertainty associated with the overall funding requirement, resulting in increased interest rate volatility which reverberates across the HIBOR curve. For this reason, in addition to better aligning the IPO settlement period with practice of London and New York, the HKEX launched consultation for the **Fast Interface for New Issuance (FINI)** system to modernize the IPO system in Hong Kong and is scheduled to be implemented by November 22, 2023.

How the pre-funding in the current IPO pipeline works

The current system is IPO subscriptions uses a "pre-fund and refund" system. For macro investors, the most important change lies with the improved efficiency on the use of interbank liquidity. The current IPO pipeline uses a "pre-fund and refund" system where the entire HK$ amount of the oversubscription must be sent by financial entities, who are offering the IPO to the public, to the issuer's bank before the ballot. Those who did not receive share allocation would subsequently get a refund several business days later.

The current IPO funding system is a very inefficient use of interbank liquidity. In a November 2020 Concept Paper for the FINI, the HKEX noted that the current system "entail unnecessarily large interbank movements of money that are often far in excess of what is required to safely settle investors' share allotments"[1].

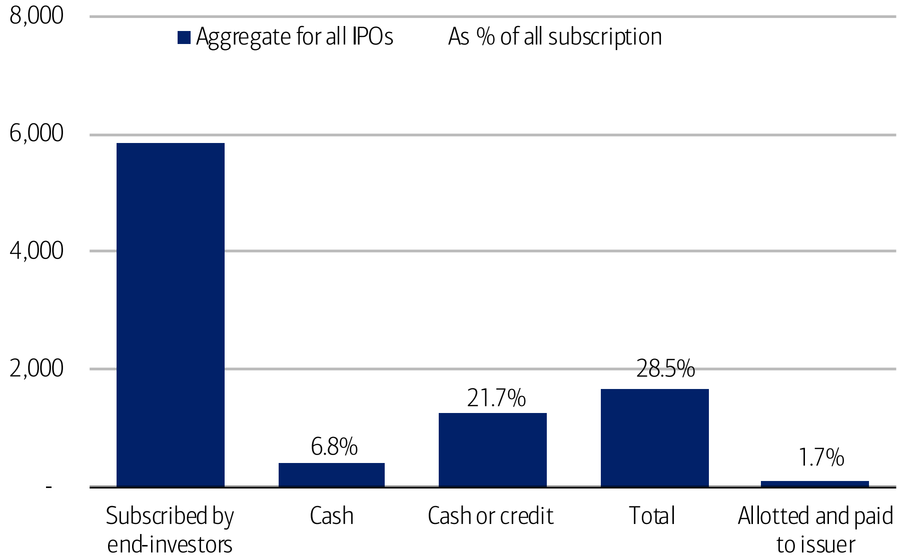
The final amount allotted and paid to the issuer was 1.7% of total liquidity transferred. Exhibit 4 presents the data in a study the HKEX conducted of the cash

[1] https://www.hkex.com.hk/-/media/HKEX-Market/Services/Next-Generation-Post-Trade-Programme/Fini/FINI_Concept-Paper_EN.pdf

needs of the current "pre-fund and refund" system between the period January 2018 and September 2020. During this period, Hong Kong investors had total subscription of HK$5.8tn to the available IPOs during that period. Because of the "pre-fund and refund" system, Hong Kong banks had to transfer the total subscription amount to the issuer's receiving bank, resulting in increased interbank payment and enhanced velocity of the aggregate balance. However, the final amount that was allotted to investors and paid to the issuer was HK$101bn, or 1.7% of the total subscription amount.

Exhibit 4: Pro forma reduction in pre-funding and interbank settlement amounts (HK$ bn)

The new system can reduce interbank transfer of cash by 70-98%



Source: HKEX

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A new framework towards the pre-funding of IPOs in Hong Kong

The new system substantially reduces the amount of interbank funding necessary – especially for popular IPOs. In the extreme, during this period, 98% of the interbank transfer tied to IPO process was unnecessary. Additional interbank transfers added to the velocity of the aggregate balance and increased funding cost throughout Hong Kong's financial system. The new system the HKEX proposes is reduce the inefficient use of interbank liquidity and narrows the distance between the amount investors have to send, versus the final amount that is allotted and paid.

To understand the new system, we review several concepts with the IPO system and the terminology the HKEX uses, as defined below.

- **PO_{MAX}:** The total size of the public offer at its highest theoretical clawback level.
- **D_{CPx}:** Total subscription value by investors.
- **T_{CPx}:** Level of prefunding required. This is the lower of **PO_{MAX}** or **D_{CPx}**.
- **C_{CPx}:** The amount of total funding that needs to be secured in cash. This level is determined as the lower of **PO_{MAX}** or 10% of **D_{CPx}**.

- **R_{CPx}:** The level of prefunding that can be satisfied by having access to committed credit line. This is the difference between total level of prefund required (**T_{CPx}**) and the amount that cash required (**C_{CPx}**).

Using the PingAn Gooddoctor as a worked example. In their concept paper, the HKEX provided a worked example of how the new methodology would have cut down on the level of pre-funding required in past IPOs (see **Exhibit 5**). Using the example of PingAn Gooddoctor, we can see the mechanics behind the new system and where the efficiency gains interbank liquidity comes from.

The pre-funding level for each broker is capped at the maximum amount the issuer is seeking to raise. For context, PingAn Gooddoctor was a heavily oversubscribed (654 times) IPO which makes it a good example of how a popular IPO can consume Hong Kong's interbank liquidity. The logic in the new system is that <u>no individual broker should have to prefund more than the total amount that can possibly be raised by the issuer</u> (as represented by **PO_{MAX}**). Using the example of CP'A[2], in the current system, this broker would have had to transfer their total subscription value (**D_{CPx}**) to the receiving bank of the issuer, which in this example is HK$ 25.8bn. In the new system, the maximum amount PingAn Gooddoctor was seeking to raise was HK$2.2bn, thus, no individual broker would have to pre-fund and transfer more than this amount.

The brokers that received lower subscription can pre-fund more of their subscription using committed credit lines as opposed to cash transfer. For the broker CP'B, although their pre-funding requirement is the same as CP'A, the amount of subscription they received is less. Thus, they can fund a portion of their pre-funding using committed credit lines instead of cash. From a system's perspective, this also reduces the amount of interbank transfer necessary. For CP'C, because the amount of subscription they received is relatively low, they can pre-fund almost the entirety of their subscription using credit lines instead of sending cash.

Exhibit 5: Worked example for pre-funding under the new proposed system
Under the new system, the amount of pre-funding and cash level sent would be substantially lower than in the current system

Ping An Gooddoctor (1833)				
Initial public offer allotment	*HKD million*	570	*6.5% of the IPO size*	
PO_{MAX} | Upper allotment limit	*HKD million*	2,193	*25% of the IPO size, assuming largest clawback*	
Total subscription value	*HKD million*	372,750		
Oversubscription ratio		654x		
Final share allotment value	*HKD million*	2,193	*25% of the IPO due to >95x oversubscription ratio*	
Pro forma pre-funding requirements		**CP 'A'**	**CP 'B'**	**CP 'C'**
Number of subscriptions received		30,172	7,109	1,886
D_{CPx} | Total subscription value	*HKD million*	25,855	17,912	1,180
T_{CPx} | Pre-funding required = min (PO_{max}; D_{CPx})	*HKD million*	2,193 (PO_{max} < D_{CPx})	2,193 (PO_{max} < D_{CPx})	1,180 (PO_{max} > D_{CPx})
C_{CPx} | *of which* minimum cash = min (PO_{max}; 10% * D_{CPx})	*HKD million*	2,193 (PO_{max} < 10% * D_{CPx})	1,791 (PO_{max} > 10% * D_{CPx})	118 (PO_{max} > 10% * D_{CPx})
R_{CPx} | *of which* cash or credit = T_{CPx} – C_{CPx}	*HKD million*	0	402	1,062
Final share allotment value	***HKD million***	**217**	**94**	**12**

Source: HKEX

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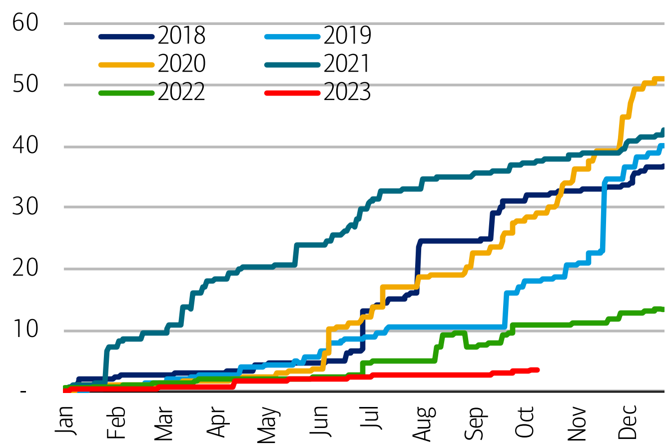
[2] CP stands for CCASS Participant, or a broker is accepting bids from investors for the IPO

Current market conditions of HKD funding and HIBOR

IPO volume in 2023 has been extremely weak. Exhibit 6 shows the year-to-date volume of IPOs in Hong Kong since 2018. Because of the weak financial sentiment in both of China's onshore and offshore financial markets, equity issuance volumes have been low with the year-to-date volume at only around US$3.5bn, as compared to the already low record of US$10bn in 2022 at around the same time that year. The weak IPO pipeline removes a source of demand for HKD settlements and has helped keep HIBOR lower and less volatile amid the aggregate balance reaching its lowest level since 2008.

Secondary market transaction of Hong Kong-listed equities is also close to a decade low. In addition to the weakness seen in the primary market, transaction volume in the second market is also quite low. **Exhibit 7** shows the quarterly boxplot of the total daily volume traded on the Hong Kong Stock Exchange where the red circle denotes the median daily transaction volume for the quarter. We can see, quarter-to-date in 4Q23, the median daily transaction volume is the third lowest in the sample, with only 2Q12 and 3Q12 having posted even lower trading volumes.

Exhibit 6: Hong Kong year-to-date IPO volume by year (US$ bn)
Year-to-date, in 2023, a total of US$3.5bn was raised in IPO in Hong Kong



Source: Bloomberg

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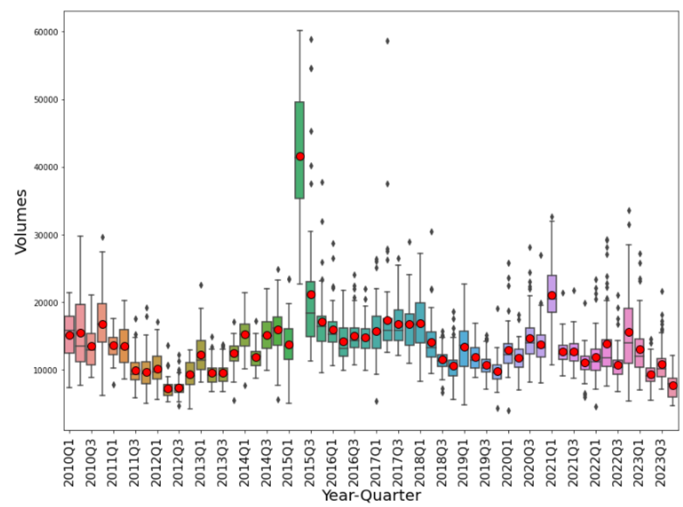
Exhibit 7: Boxplot of volumes on the Hong Kong Stock Exchange
The median quarterly equity transaction volume on the HKEX is now the third weakest in the sample since 2010



Source: Bloomberg

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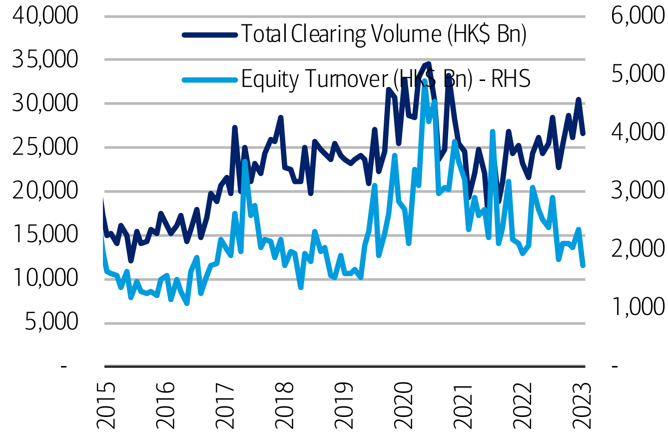
Weakness in primary and secondary transactions in the equity market has not reduced the total volume of HK$ settlement. Despite weak transaction volumes in the primary and secondary market for Hong Kong equities, we have not seen the demand for HK$ clearing and settlement decline. **Exhibit 8** shows the contrasting trend between the clearing volume of HK$ versus the general pattern of equity turnover in Hong Kong. Since January 2023, we have seen the total clearing of HK$ broadly increase while secondary market transactions broadly decrease. This divergent trend has also occurred in the past (1H18), but typically, the net direction of equity turnovers should drive the clearing and settlement activities of the HK$ as the financial sector in Hong Kong is many times larger than the real economy.

The ratio of total clearing in HK$ versus the aggregate balance broadly explains the market price of Hong Kong interest rates. Exhibit 9 shows that the market price of Hong Kong interest rates is determined by the demand-and-supply dynamics of HKD funding. The final demand factor for HK$ would be the need to clear and settle in HK$, for which the HKMA publishes a monthly figure. Meanwhile, the supply-side factor is the size of the HKMA's aggregate balance as all HK$ payment have to be settled interbank by the use of aggregate balance. The ratio of these two factors broadly guides where the 1-month HIBOR fixing should be over the cycle.

Exhibit 8: Total HK$ Clearing amount and HKSE Total Turnover

Since January 2023, the path of volume of HK$ clearing and equity volumes in Hong Kong has been diverging



Source: CEIC, Bloomberg

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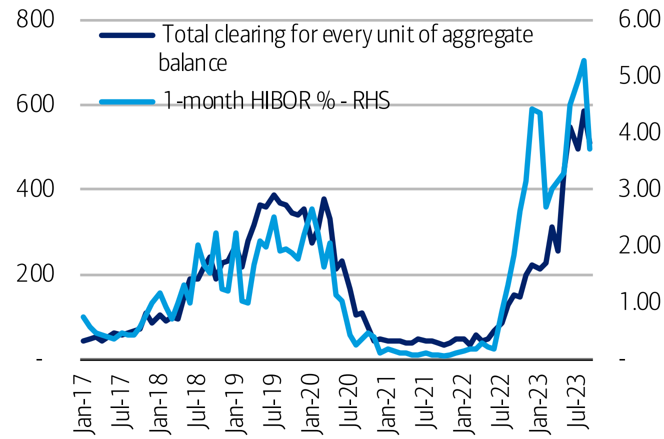
Exhibit 9: Total HK$ clearing versus the aggregate balance and 1-month HIBOR

The sustained rise in HK$ clearing and settlement is pushing up the cost of borrowing in Hong Kong



Source: CEIC

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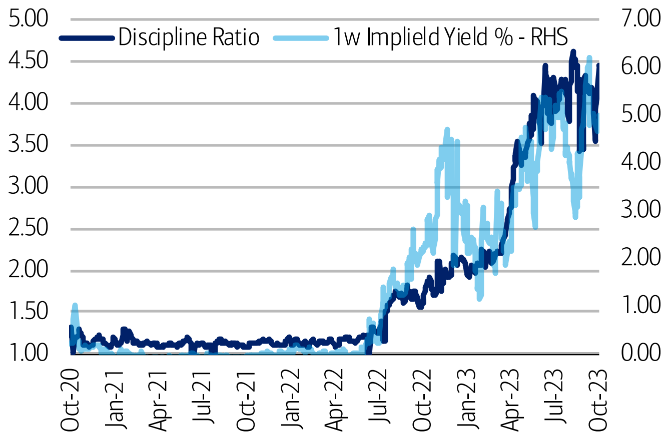
The ratio of total clearing versus the aggregate balance can be proxied by our 'Discipline Ratio'. In Asia FI & FX Strategy Viewpoint: Elasticity and discipline: the intra-day fluctuations in aggregate balance 07 August 2023, we introduced the concept of the Discipline Ratio for the Hong Kong Dollar money markets. The Discipline Ratio is the ratio in which the intra-day aggregate balance has to collapse back to the level at the start of the trading day – else the HKMA's discount window would be triggered. The larger the Discipline Ratio, the more Hong Kong banks would bid up the cost of overnight borrowing to avoid triggering the discount window. The benefit of using the Discipline Ratio is that the HKMA provides daily data on the 4pm size of the aggregate balance, whereas total clearing volumes are only available once a month. The Discipline Ratio implies that 1-week FX implied yield in Hong Kong should remain at close to 5-5.50% given the fundamental demand-and-supply dynamics of Hong Kong Dollar payments.

Exhibit 10: Discipline Ratio and 1-week FX implied yield
The Discipline Ratio shows that front-end HKD implied yield should remain at 5-5.5%.



Source: Bloomberg, BofA Global Research

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Staying paid front-end HKD FX swap. In Asia Cross-asset Strategy: Consequences of higher-for-longer for Hong Kong 17 August 2023, we entered into a pay HKD 3x6 FX swap position (entry: -135pips, target: -60pips,, stop: -180pips). Risk to the trade is weaker HK$ settlement resulting in lower HIBOR. Although our expectation for higher equity leverage brought by a rebound in the Hang Seng Index has not materialized, the structurally elevated demand for HK$ clearing and settlement and the constrained aggregate balance has kept HKD funding tight. With China's economic data incrementally improving, we cannot rule out that 4Q may result in an increase in equity leverage on the Hang Seng, albeit from a very low base. As such, we will let our 1x4 position roll towards to become a spot 3-month HKD forward point allowing us to retain upside exposure to Hong Kong rates.

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