

Asia FI & FX Strategy Viewpoint

China: declining yields and FI's asset scarcity conundrum

Examining the issue of asset scarcity

One dominant theme in the China fixed-income space in recent years is 'asset scarcity' – the lack of sufficient supply of low-risk, decent-yielding assets relative to demand. As a manifestation of such imbalance, the 10y CGB yield has shifted lower from around 3.2% in 1H21 to as low as 1.6% in Jan-2025. We think the fundamental reason behind the asset scarcity issue is weak confidence and growth expectations, which have led to more precautionary savings and insufficient credit demand.

Outlook scenarios for asset scarcity and rates-

Under a positive reflationary scenario, credible fiscal stimulus would eventually kick off a virtuous cycle that entails households reducing savings and companies increasing capex. Bond yields will likely bottom out and term premium will likely increase. Another remedy to the asset-scarcity problem is to allow domestic FIs to invest more overseas to obtain higher yields, but this seems unlikely in the near term given FX concerns.

Conversely, if the US further ramps up tariffs and China falls short in delivering demand-side stimulus measures, the downward pressure on growth and price levels could turn more severe. In this case, we could end up with a 'lower-for-longer' rates environment. Since it takes time to implement reflationary policies and revive confidence, we think the path of least resistance is still lower rates for the remainder of 2025.

Banks: trade-off between loans and bonds

China banking sector's new loans declined from RMB20tn per annum in 2020-21 to RMB18tn in 2024, while new bond investments increased from RMB5-6tn per annum to RMB10tn over the same period. The lack of high-quality loans has pushed demand toward bonds, but banks' NIM and ROE have been under pressure, which impaired the banks' ability to generate capital organically. According to our channel checks, major banks still expect their bond investments to grow in line with total assets. Loan demand, asset yields, credit risk, and capital are key considerations for determining allocation between loans and bonds. (*Emma Xu – Equity Research*)

Insurers: lack of alternatives

In China, major insurers have 60-70% of their investment in fixed-income products, and only 10-12% in stocks and funds. Though regulators encourage insurers to invest more in equities, the likelihood of seeing a significant change in mix is still low. We expect the insurers we cover to report flattish growth in new business in 2025, indicating the total new investment size will be similar to that in 2024. Negative interest spread remains a pressing issue for insurers. Regulators have been trying to address it from both asset and liabilities sides – from cutting guarantee rates to broadening investment scope. (*Michael Li – Equity Research*)

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules.

Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Refer to important disclosures on page 22 to 24.

12799764

Timestamp: 26 February 2025 03:30PM EST

27 February 2025

GEM FI & FX Strategy
Asia

Table of Contents

Causes of asset scarcity	2
Scenario analysis on future path of asset scarcity and rates	3
Banks: trade-off between loans and bonds	3
Insurers: lack of alternatives	3
Acronyms	3
Research Analysts	3

Janice Xue

Emerging Asia FI/FX Strategist
Merrill Lynch (Hong Kong)
+852 3508 8587
janice.xue@bofa.com

Benson Wu

China & Korea Economist
Merrill Lynch (Hong Kong)
benson.wu@bofa.com

Claudio Piron

Emerging Asia FI/FX Strategist
Merrill Lynch (Singapore)
claudio.piron@bofa.com

Equity Research

Emma Xu >>
Research Analyst
Merrill Lynch (Hong Kong)
emma.xu@bofa.com

Michael Li >>

Research Analyst
Merrill Lynch (Hong Kong)
m.li@bofa.com

Susie Liu, CFA >>

Research Analyst
Merrill Lynch (Hong Kong)
susie.liu@bofa.com

See Team Page for List of Analysts

Causes of asset scarcity

Janice Xue

Merrill Lynch (Hong Kong)
janice.xue@bofa.com

Benson Wu

Merrill Lynch (Hong Kong)
benenson.wu@bofa.com

Lower rates, flatter curve, and thinner credit spread in asset scarcity era

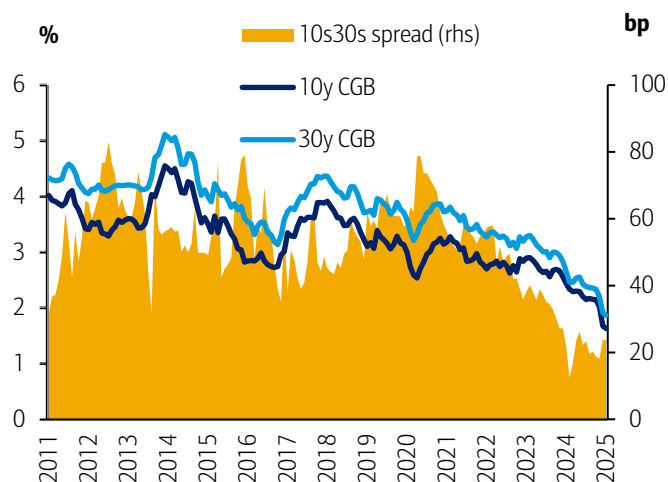
The persistent decline in China rates since 2021 is in sharp contrast to rates markets of other major economies. While the dominant drivers for global rates have been sticky inflation and 'higher for longer' policy rates, the key theme in the China onshore fixed-income space has frequently been categorised as 'asset scarcity' – the lack of sufficient supply of low-risk, decent-yielding assets relative to demand.

As a manifestation of such imbalance, 10y China government bond (CGB) yield has shifted lower from around 3.2% in 1H21 to as low as 1.6% in Jan 2025. During this period, rising demand for long-duration, risk-free assets has compressed 10s30s CGB spread from c.60bp to c.20bp (Exhibit 1). Besides, credit spreads for high-quality bonds have stayed at historically low levels, as market participants have been continuously searching for yield enhancements in the lower rates environment (Exhibit 2).

In this note, we first provide an analysis on the causes of asset scarcity, from the perspectives of households, firms, and government sectors. Secondly, we analyse potential paths for the evolvement of asset scarcity issue, as well as rates implications under different policy responses. In the following two sections, our equities analysts delve into the patterns of bond investments in recent years among **domestic banks** – the most-important buyers of government bonds, and **insurers** – a steady force of duration demand (Exhibit 3 and Exhibit 4). The discussion also covers the impact of lower rates environment for those institutions and a rough bond demand projection for 2025.

Exhibit 1: Long-term China government bond yield

Both bond yields and term premium have declined steadily in recent years

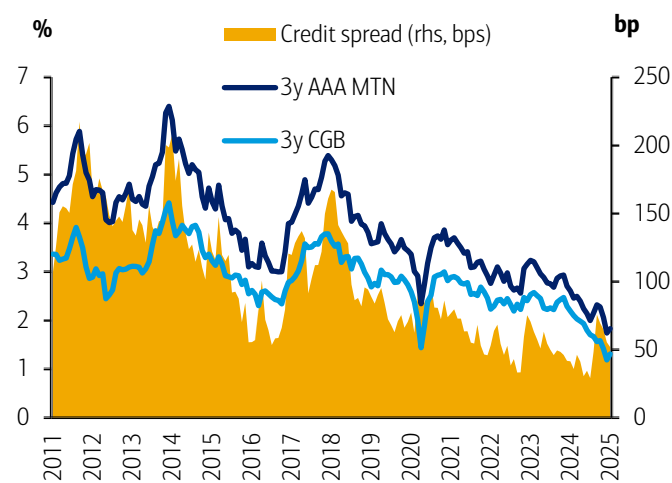


Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 2: Credit spread of 3y MTN over CGB

Credit spread has tightened in recent years amid declining yields



Source: Bloomberg, BofA Global Research

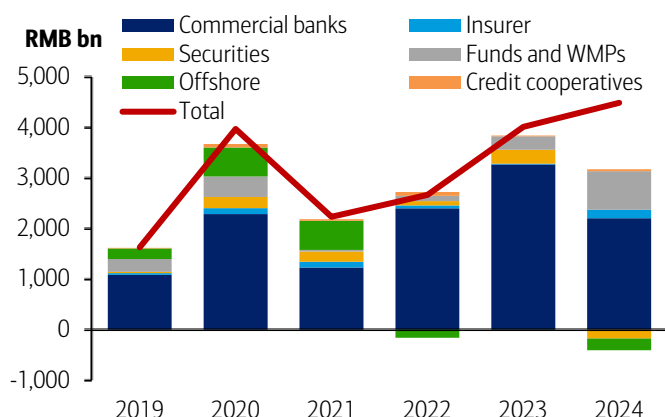
Note: MTN stands for Medium-term note. CGB stands for China government bond.

BofA GLOBAL RESEARCH



Exhibit 3: Changes in central government bond (CGB) holdings by investor types

Commercial banks bought a larger share of CGBs in 2022 and 2023

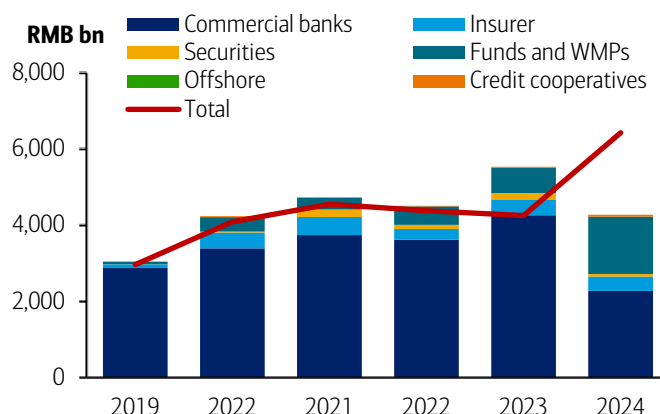


Source: CCDC, CEIC, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 4: Changes in local government bond (LGB) holdings by investor types

Commercial banks are the dominant buyer in the LGB market



Source: CCDC, CEIC, BofA Global Research

BofA GLOBAL RESEARCH

In our view, the fundamental reason behind the asset scarcity issue is weak confidence and growth expectation, which led to more precautionary savings and insufficient credit demand. In this section, we take a deep-dive on this topic through the lenses of households, firms, and government sectors.

Household sector's deleveraging

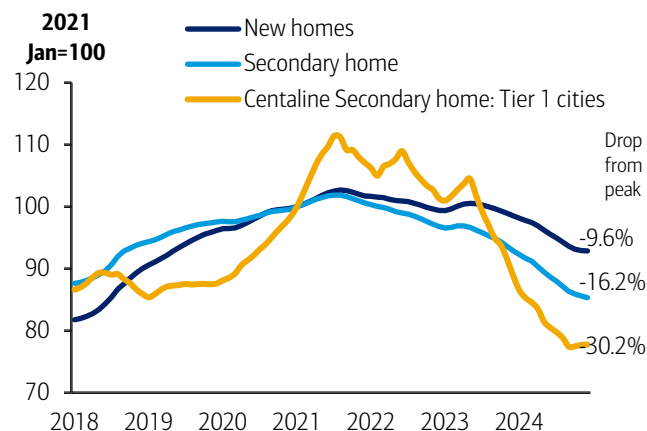
Amid the downturn in property market and economy in general, household sector has been going through a deleveraging process in recent years. A 2019 survey published by the PBoC suggests net value of properties made up more than 70% of urban households' per capita wealth.

The negative wealth effect from lower housing prices, subdued asset returns relative to mortgage rates, as well as dampened confidence on employment and income, have jointly encouraged households to reduce debt and increase precautionary savings (Exhibit 5 and Exhibit 6). As shown in Exhibit 7, households' loan-to-deposit ratio peaked at 70% in 4Q21 and fell to 54% as of end-2024.

Looking at the gap between household new deposits and new loans, it has widened from RMB2.6tn per year on average during 2019-21 to RMB12.6tn per year during 2022-24 (Exhibit 8). While it seems the pace of new household deposit growth has slowed since 2H23, we believe it merely reflects savings reallocation towards other low-risk investment options amid declining deposit interest rates. As evidence, the outstanding balance of Wealth Management Products (WMP) issued by the banking sector rose from RMB25.3tn in 1H23 to RMB30.0tn as of end-2024 (Exhibit 9).

Exhibit 5: New and secondary home prices

Tier-1 cities' secondary home prices have fallen to below 2018 level

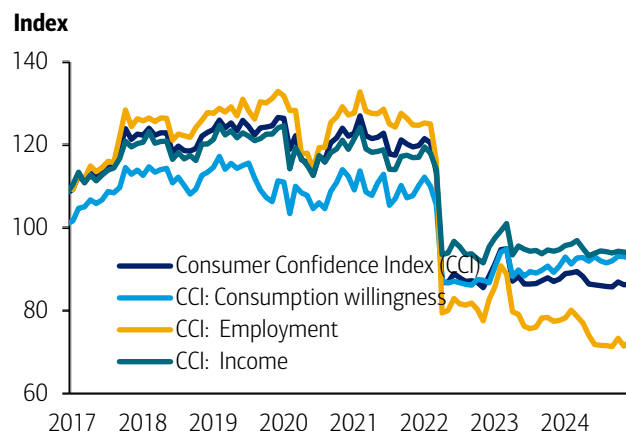


Source: BofA Global Research, NBS, CEIC, Wind, Centaline

BofA GLOBAL RESEARCH

Exhibit 6: Consumer confidence indices

Consumer confidence hovering around the lowest level since reopening

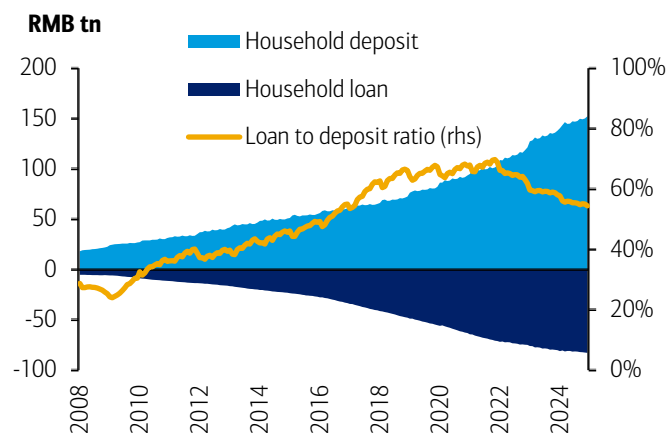


Source: BofA Global Research, NBS

BofA GLOBAL RESEARCH

Exhibit 7: Household loan to deposit ratio

Households' loan-to-deposit ratio peaked at 70% in 4Q21 and fell to 54% as of end-2024

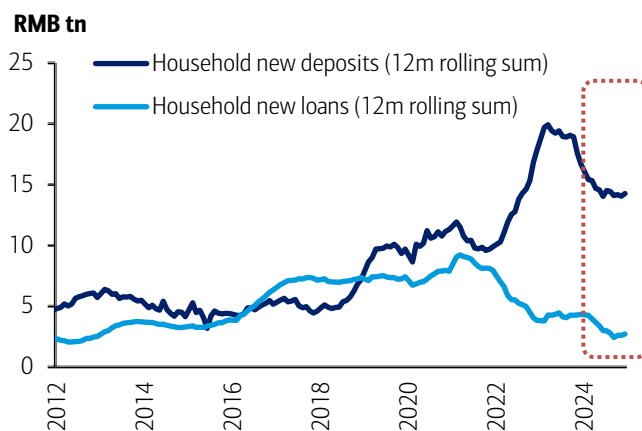


Source: BofA Global Research, Wind

BofA GLOBAL RESEARCH

Exhibit 8: Household new deposits and loans

The gap between household new deposits and new loans has widened notably since 2022



Source: BofA Global Research, CEIC

BofA GLOBAL RESEARCH

A large portion of assets held by WMPs are debt instruments, mostly credit bonds, NCDs, and, to a lesser extent, rates bonds (Exhibit 10). Incremental inflows into WMPs from households have led to rising demand for bond investments. Despite the expansion in WMP's scale over the past few quarters, finding underlying assets that provide decent yields has become increasingly challenging. The weighted average return of WMPs has decreased from above 4% in 2019 to 2.65% in 2024.



Exhibit 9: Outstanding balance of Wealth Management Products

The outstanding balance increased by 3.15tn in 2024 to 30.00tn



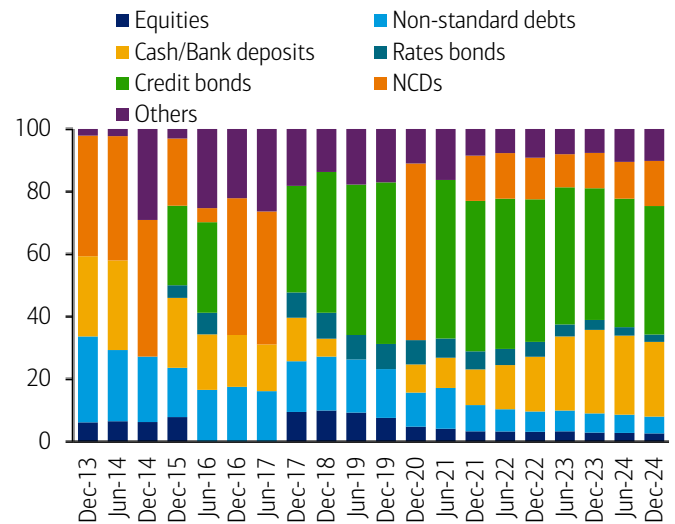
Source: Wind, BofA Global Research

Note: June 2020 data was not available and was extrapolated based on the previous and subsequent observations.

BofA GLOBAL RESEARCH

Exhibit 10: WMPs' investment allocation

The majority of funds are invested in debt instruments



Source: CCDC, Wind, BofA Global Research

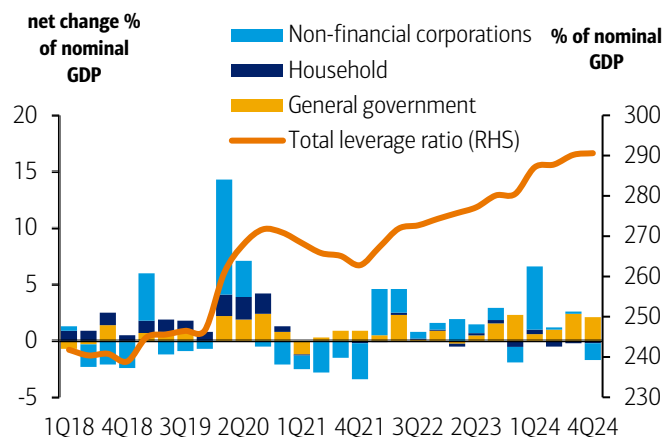
BofA GLOBAL RESEARCH

Developers' downfall and cyclical capex weakness**Low corporate earnings curbed credit expansion for corporates**

Within the corporate sector, the slower credit growth is likely due to the cautious outlook for investment opportunities amid disinflation/deflation concerns (Exhibit 11). Industrial prices (PPI) have fallen into negative territory since 4Q22, while the growth in industrial enterprises' profits experienced an even longer contraction period (Exhibit 12). The weakened fundamentals undoubtedly curbed corporate's enthusiasm in borrowing money and expanding investment, which intensified the asset scarcity problem for domestic financial institutions.

Exhibit 11: China macro leverage by sector

The government has taken the lead in leveraging up since 2H23, while corporate and households have lagged

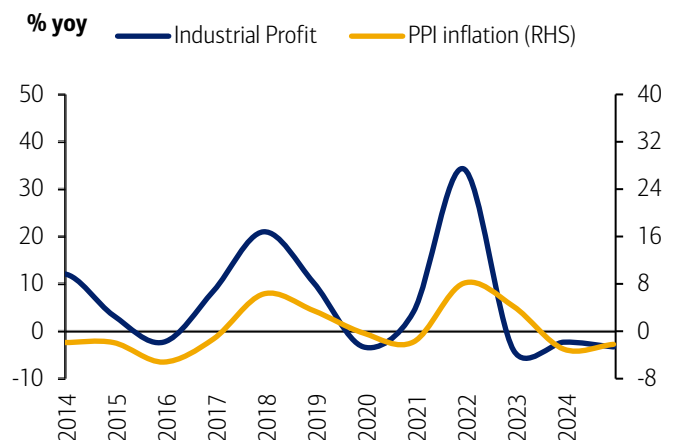


Source: National Balance Sheet, CEIC, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 12: Industrial profit growth and PPI inflation

Both Industrial profit growth and PPI inflation have remained in the contraction zone over the past quarters



Source: Wind, BofA Global Research

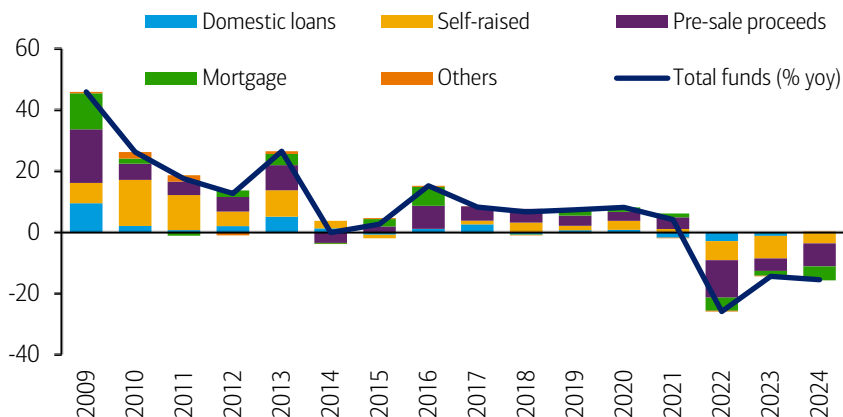
BofA GLOBAL RESEARCH

Property market downturn also led to decline in various funding channels

The sluggish property market also contributed to the asset scarcity on the supply side. Looking at developers' financing, the property market downcycle has not only weighed on mortgages and pre-sale proceeds but also on self-raised funds, which accounted for 35% of the total sources of funds in 2024 (Exhibit 13). By definition, self-raised funds include fundings via corporates' own equity, credit bonds, trusts, etc. With the notable decline from RMB6.5tn in 2021 to only RMB3.8tn last year, it created a shortfall in high-yielding assets for investors that can hardly be fulfilled by alternatives.

Exhibit 13: Property investment (source of fund)

The decline in self-raised funds has continued to contribute to less-incremental property investment during 2022-24



Source: Wind

BofA GLOBAL RESEARCH

Govt sector: LGFV de-risking and more official borrowings

LGFV sector de-risking

Local government financing vehicles (LGFV) have played a crucial role in financing infrastructure investments on behalf of local governments. In 2023, against the backdrop of fiscal revenue shortfalls due to weak land sales and tax revenue, there were growing concerns on potential defaults of LGFVs. In response, policy makers have taken a series of actions to defuse such debts since Oct 2023, including 1) debt swap, 2) debt restructuring, and 3) limiting new debt issuances.

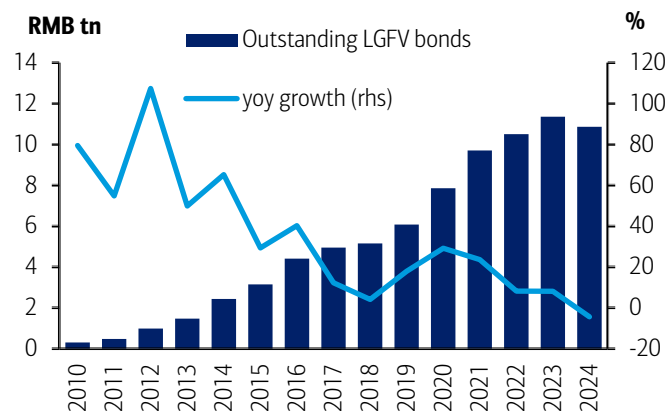
A year later, at the National People's Congress (NPC) standing committee meeting in Nov 2024, policy makers announced a large-scale program to swap off-balance-sheet "hidden" local government debts with on-balance-sheet debts. More specifically, they raised the ceiling on outstanding local government special-purpose bonds by RMB6tn to swap the hidden debts over three years, and permitted the usage of RMB800bn within the existing local government special purpose bonds (LGSB) quotas each year to swap hidden debts in 2024-28 (more details in report [China Watch: NPC focused on local govt debt swap without other fiscal stimulus](#)).

Under this de-risking backdrop, the outstanding balance of LGFV bonds declined in 2024 for the first time (Exhibit 14). While the debt-swap program improves transparency of local government liabilities and reduces debt risks, for bond market investors, their higher yielding LGFV bonds would become scarcer and partially be replaced by lower yielding local government bonds. Banks' Wealth Management subsidiaries and insurers that were major buyers of LGFV bonds continue to struggle with their 'search for yield'.



Exhibit 14: LGFV bonds

The outstanding balance of LGFV bonds declined in 2024 for the first time

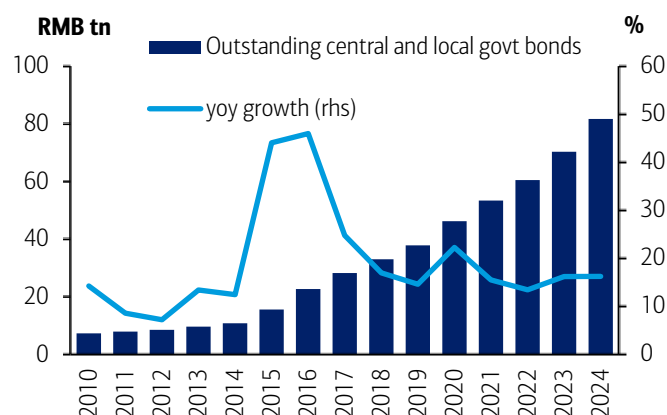


Source: Wind, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 15: Central and local government bonds

The outstanding amount of government bonds has been rising steadily and reached 81.6tn as of end-2024



Source: Wind, BofA Global Research

BofA GLOBAL RESEARCH

Government sector: rising issuances, but uneven pace across months

On the other hand, the outstanding amount of on-balance sheet borrowing by the central and local governments has been rising steadily and reached RMB81.6tn as of end-2024, which is equivalent to c.62% of China's GDP (Exhibit 15). However, in recent years, government bond issuances were backloaded, which periodically exacerbated the asset scarcity problem.

From 2021 to 2024, only 16% of net government bond supply was made in 1Q on average, comparing with 31% in 4Q (Exhibit 16). In contrast, domestic real money investors tend to frontload bond investment needs so that they can start earning interest incomes earlier in the year. Such tendency was likely reinforced in a declining yield environment.

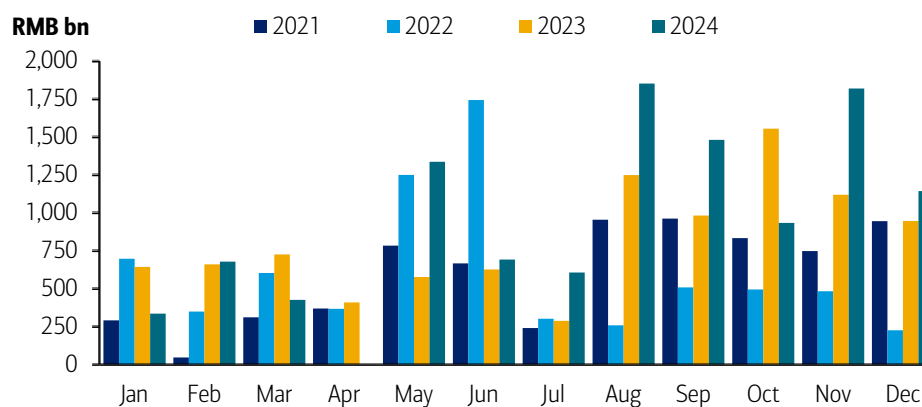
As a consequence of seasonal demand-supply mismatch, bond yields may move more than what's justified by economic fundamentals. From late-Nov last year to early January this year, China rates rallied sharply, driven by market's anticipating favourable demand-supply dynamics in 1Q and further monetary easing (Exhibit 17).

The PBoC was attentive to this issue, and therefore it announced to temporarily suspend bond purchase in mid-Jan to avoid exacerbating the imbalance (see more details in report [China rates & FX chartbook – Feeling the Squeeze](#)). Besides, the PBoC has kept interbank funding on the tighter side, potentially to meet the policy priority of maintaining FX stability amid high external uncertainties as well as to contain further decline in yields.

Bond market participants will closely watch the fiscal package announced in the NPC, as well as the bond issuances schedule. The issuance pace of LGSB and special treasury bonds is particularly important, given those have much higher average duration compared with regular China government bonds.

Exhibit 16: Net supply of government bonds (local & central)

Muted supply during the first 3-4 months of recent years



Source: Wind, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 17: Monthly changes in 10-year CGB yield

China rates rallied sharply in Dec 2024 in anticipation of monetary easing and favorable demand-supply dynamics in 1Q

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	3	-9	-8	-12	-1	-14	1	9	4	-10	-15	-13
2019	-12	7	-10	32	-11	-5	-7	-10	8	15	-12	-3
2020	-14	-26	-15	-5	17	12	14	5	13	3	7	-11
2021	4	10	-9	-2	-12	3	-24	1	3	10	-15	-5
2022	-8	8	1	5	-10	8	-6	-13	14	-12	24	-5
2023	6	0	-5	-7	-9	-5	2	-10	12	2	-3	-11
2024	-12	-10	-5	1	-1	-9	-6	2	-2	0	-13	-35
Average	-5	-3	-7	2	-4	-1	-4	-2	7	1	-4	-12

Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH



Scenario analysis on future path of asset scarcity and rates

Janice Xue

Merrill Lynch (Hong Kong)
janice.xue@bofa.com

Claudio Piron

Merrill Lynch (Singapore)
claudio.piron@bofa.com

Scenario #1: Govt sector takes the lead in leveraging up to boost confidence

At a time when private sector is reluctant to expand its balance sheet, the government sector should take advantage of the low rates environment and lever up. It seems policymakers have been moving towards this direction. In late-Sep 2024, reacting to pro-growth, pro-capital market policy pivot in the Politburo meeting, 10y/30y yield rebounded by 15bp/24bp in the following days. However, the rebound was short-lived, due to the lack of concrete policy follow-through.

With unequivocal pro-growth tone in policy communications late last year, the market holds high expectations on the fiscal package that will be announced at the “two sessions” on March 05. As shown in Exhibit 18, our economists expect the budget deficit to be no less than 3.8%, complemented by special treasury issuances of RMB2.2tn (or about 1.6% of GDP). The quota for LGSB is also likely to be expanded to RMB4.5tn this year (more details in report - [NPC preview: Growth target set at c.5%](#)).

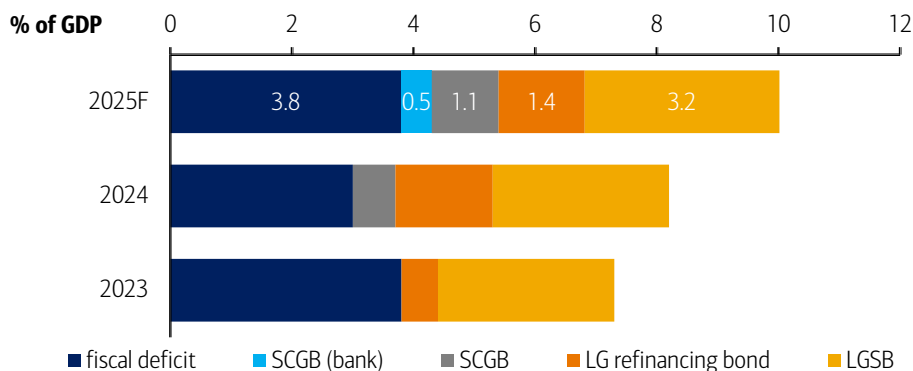
We believe both the scale and composition matter. Stronger efforts on stabilizing property market, boosting consumption, and supporting the labour market are likely to be more effective than traditional supply-side policy remedies, especially in light of the more adverse global trade environment.

Under a positive reflationary scenario, meaningful and effective fiscal stimulus would eventually kick off a virtuous cycle that entails household reducing precautionary savings and companies increasing capex. Better risk sentiment and higher returns from the real economy could also lead to funds re-allocation from cash and bonds to equities.

In this scenario, China rates will likely bottom out after a multi-year bull-market. Once reflation momentum takes hold, term premium is likely to rise, leading to a steeper CGB and swap rate curve.

Exhibit 18: Fiscal expansion by key fiscal tools as percentage of GDP

We expect the total fiscal expansion to reach to 10.0% of GDP this year, compared with about 8.2% and 7.3% in 2024 and 2023, respectively



Source: Wind, BofA Global Research estimates

BofA GLOBAL RESEARCH

Scenario #2: allowing domestic FIs to invest more overseas (low possibility)

Another remedy for the asset scarcity problem is to allow domestic financial institutions to invest more in the overseas market. Despite the strong appetite for higher yielding overseas bonds among mainland investors, the actual flows are constrained by limited eligibility and investment quotas. We discuss the QDII scheme and South Southbound Bond Connect in more detail below.

While further opening up of capital account would be in line with the policy goal of RMB internationalization, the major hurdle is more portfolio outflows would exert downward pressure on RMB. Based on recent USDCNY fixings among other PBoC actions, it does not seem like the central bank is ready to tolerate more RMB depreciation. Without any shift in its FX stance, we may have to wait until broader USD weakness to provide a more favorable environment for allowing more outbound portfolio investments.

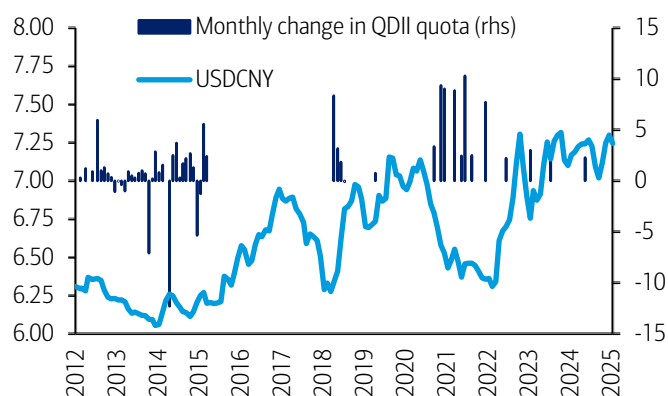
Qualified Domestic Financial Institutions (QDII)

Created in 2006, the QDII scheme allows eligible domestic institutions to invest in foreign securities markets. Currently, there are 189 QDIIs, including banks, securities, trusts, and insurance companies. Each of the QDII has a designated investment quota granted by the State Administration of Foreign Exchange of China (SAFE) that is subject to periodic review. Through buying QDII products offered by those designated financial institutions, domestic households and corporates can gain exposure to overseas assets.

As shown in Exhibit 19, the regulators tended to grant more new quotas when RMB is strong – such as during 2021 and early 2022. In recent years, with USDCNY trading above 7.0 for the most of time, the pace of quota expansion has slowed down meaningfully, and the aggregate quota has stayed flat at USD167.8bn since May 2024.

Exhibit 19: QDII quota and USDCNY exchange rate

Regulators tended to grant more new quotas when RMB is strong

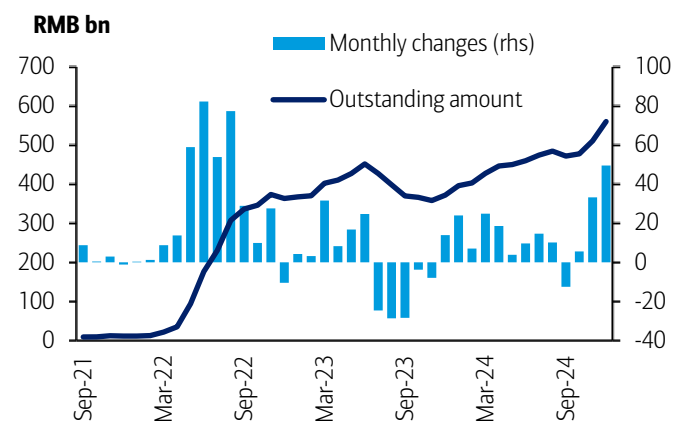


Source: Bloomberg, Wind, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 20: Bond holdings under Southbound Bond Connect scheme

The holding of offshore bonds rose sharply from mid-2022 to mid-2023



Source: Shanghai Clearing House, Wind, BofA Global Research

BofA GLOBAL RESEARCH

Southbound Bond Connect

Southbound Bond Connect (BC) is a part of the mutual access scheme that allows mainland investors to access the bond market in Hong Kong Special Administrative Region (SAR). At the launch in September 2021, the daily and annual quota limit was set at RMB20bn and RMB500bn, respectively. Both quota limits have remained unchanged since then. Primary dealers (PDs) of the PBoC's open market operations, QDIIs, and RMB QDIIs are eligible to participate in the Southbound BC.



According to bond depository data published by Shanghai Clearing House, the holding of offshore bonds through Southbound BC rose sharply from mid-2022 to mid-2023, a period when rapid Fed easing has led to a widening of yield gap between offshore and onshore (Exhibit 20). Anecdotal evidence suggests that besides quota limits, investment through this channel is also subject to window guidance from regulators – new flows could face tighter control when RMB depreciation pressure intensifies.

Scenario #3: sustained downward pressure on growth and inflation

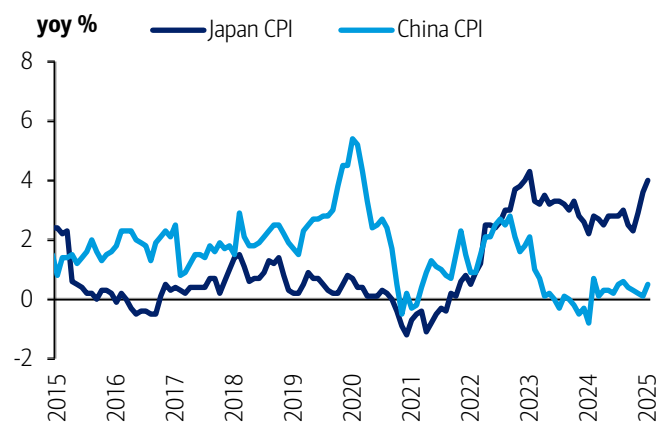
In the worst-case scenario, if the US further ramps up tariffs on China exports and China falls short in implementing sufficient demand-side stimulus, the downward pressure on price levels and confidence could get more severe. The PBoC will likely continue to roll out easing measures in a gradual manner, playing catch up to market rates.

Though the central bank has a clear preference for a relatively steep curve, in a world of close-to-zero inflation and front-end bond offering negative carry, investors probably would still feel comfortable extending duration. In this scenario, the path of least resistance would be a continuation of recent years' trend of falling rates, flattening curve, and narrowing credit spread.

Since last Nov, the 30y yield differential between CGB and JGB has turned negative for the first time in two decades. While it seems like Japan is successfully exiting the low inflation era, it remains to be seen whether policymakers in China will implement timely and sufficient policy support to reflate the economy and reignite confidence. Given it takes time to implement reflationary policies and revive confidence, we think the path of least resistance is still lower rates for the remainder of 2025.

Exhibit 21: CPI inflation

Japan seems to have successfully exited the low inflation era

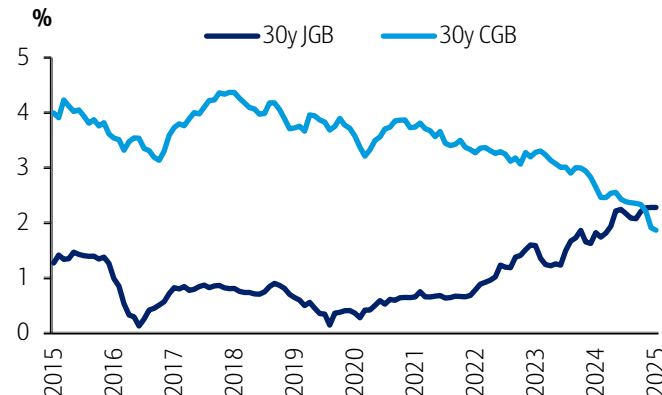


Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 22: 30-year government bond yield

30-year yield differential between CGB and JGB turned negative in Nov 2025



Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

Banks: trade-off between loans and bonds

Emma Xu >>

Merrill Lynch (Hong Kong)

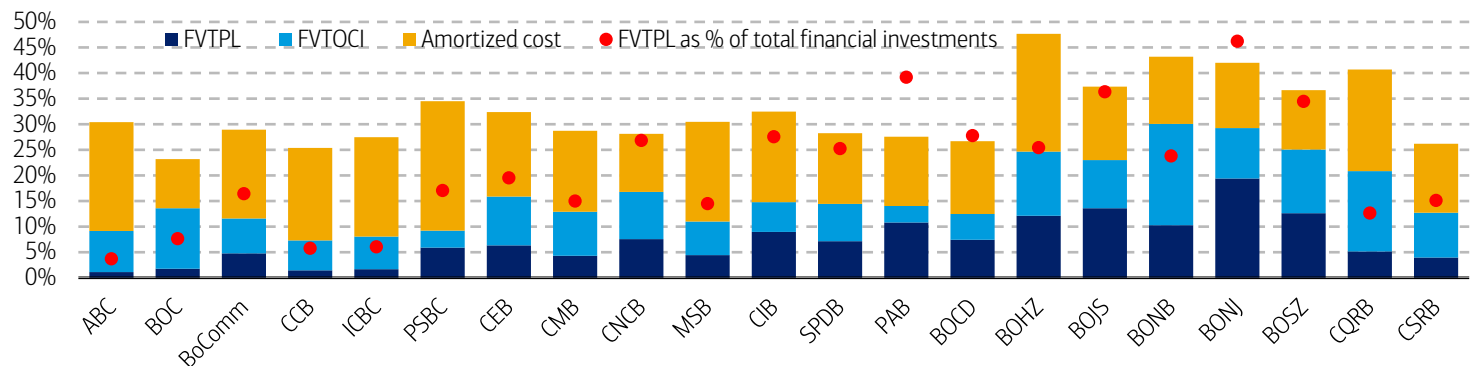
emma.xu@bofa.com

Differentiated financial investment strategies

Financial investment is an important part of banks' asset allocation. By 3Q24, financial investments (mostly bonds) made up 29% of total assets on average for the 21 banks under our coverage: regional banks have a higher mix of financial investments in total assets (40%), while state banks and joint-stock banks (JSBs) have a lower mix (28-30%).

Exhibit 23: Financial investments as % of total assets (3Q24)

Financial investments accounted for 23-48% of total assets across different banks by 3Q24



Source: Company reports

BofA GLOBAL RESEARCH

Balance sheet classification of financial investments by banks:

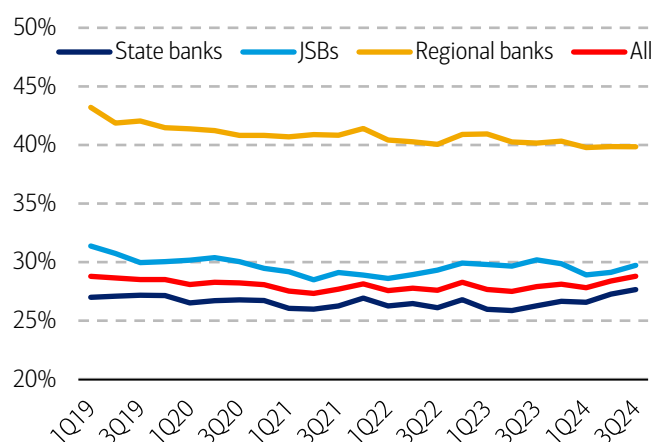
- 1) Financial assets at amortized cost (AC):** bonds under AC account are held for the purpose of collecting interest payments. The fair value change of AC assets will impact neither P&L nor book value. Illiquid assets such as local government bonds are typically held in the AC account.
- 2) Financial assets at fair value through other comprehensive income (FVTOCI):** bonds are held for the dual objectives of collecting interest payments, as well as generating capital gains. The fair value change of FVTOCI assets will impact book value, but not P&L.
- 3) Financial assets at fair value through profit or loss (FVTPL):** bonds are acquired principally for the purpose of generating capital gains from active short-term trading. The fair value change of FVTPL assets will impact both P&L and book value.

State banks booked most of their financial investments under amortized cost account (66% by 3Q24). JSBs' booking of financial investments is more evenly distributed between amortized cost, and FVTPL and FVTOCI. By contrast, regional banks booked most of their financial investments under FVTPL and FVTOCI (61% together by 3Q24), and the percentage has been increasing since 2021.



Exhibit 24: Financial investments as % of total assets

Regional banks allocated 40% of total assets to financial investments by 3Q24, much higher than that of state banks (28%) and JSBs (30%)

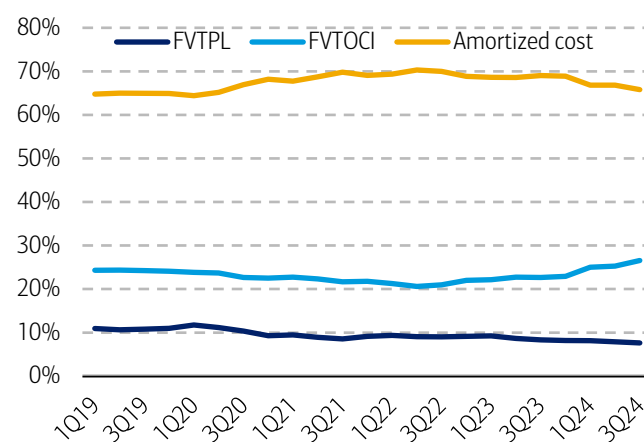


Source: Company reports

BofA GLOBAL RESEARCH

Exhibit 25: State banks: financial investments by account

State banks booked most of their financial investments under amortized cost account (66% by 3Q24)

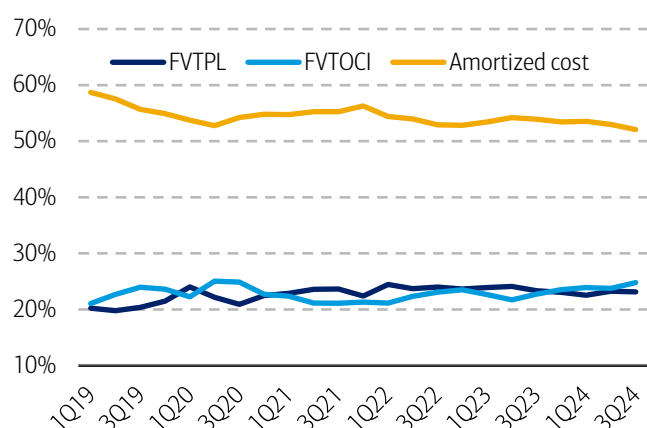


Source: Company reports

BofA GLOBAL RESEARCH

Exhibit 26: Joint-stock banks: Financial investments by account

Joint-stock banks' booking of financial investments is more evenly distributed among amortized cost, and FVTPL and FVTOCI accounts

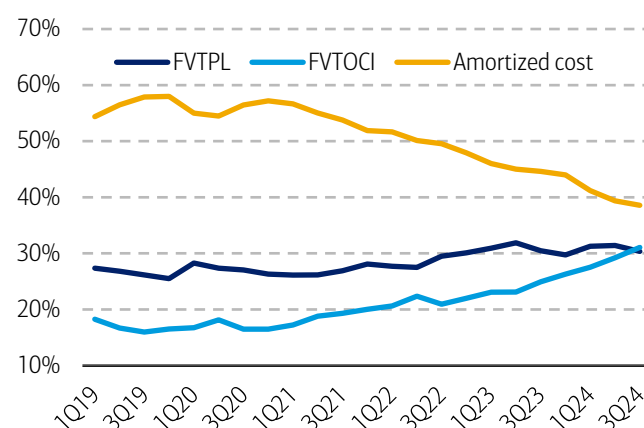


Source: Company reports

BofA GLOBAL RESEARCH

Exhibit 27: Regional banks: financial investments by account

Regional banks booked most of their financial investments under FVTPL and FVTOCI accounts (together accounting for 61% by 3Q24)



Source: Company reports

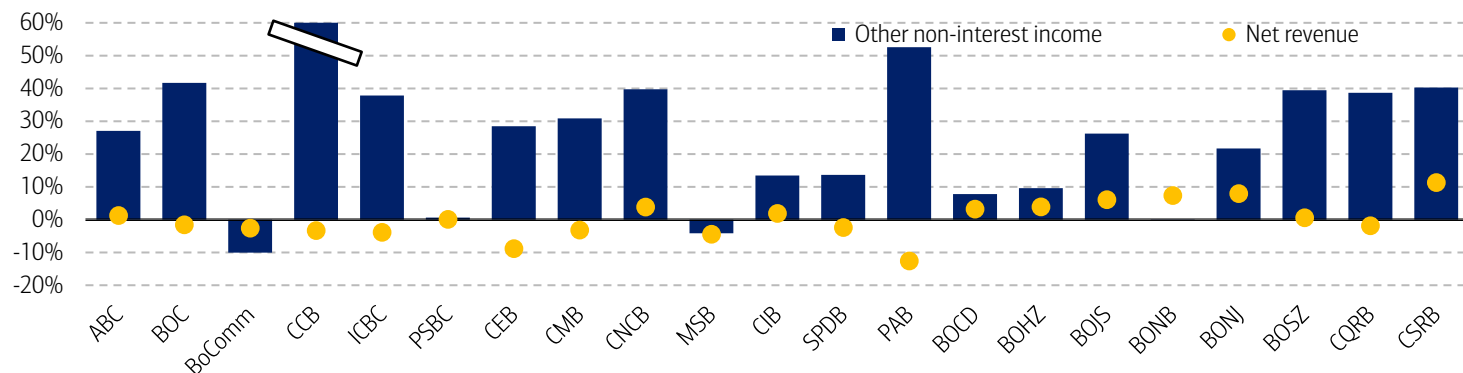
BofA GLOBAL RESEARCH

Rising contribution from investment income

Other non-interest income had been a key support to banks' revenue in 9M24, of which, a vast majority was from net investment income and fair value gains of their financial investments. Listed banks' aggregated net revenue (defined as total revenue - other business cost, under China GAAP) declined 2% YoY in 9M24, while their other non-interest income (net revenue - net interest income - net fee income) grew 27% YoY. Aggregated other non-interest income's contribution to revenue rose from 7.7%/8.4% in 9M22/9M23 to 10.8% in 9M24.

Exhibit 28: YoY growth of other non-interest income and net revenue (9M24)

Other non-interest income increased significantly at most banks in 9M24, which helped support revenue growth

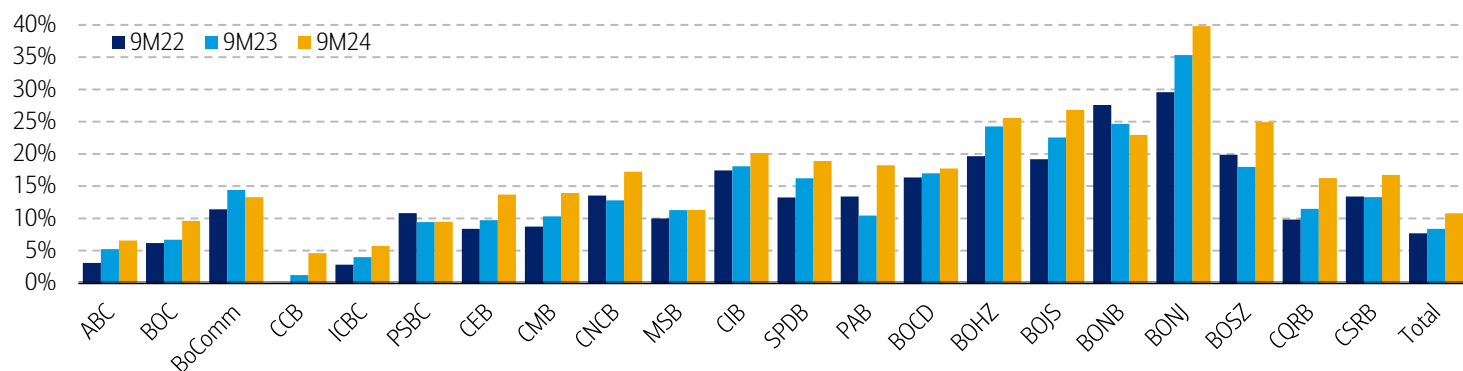


Source: Wind, using China GAAP

BofA GLOBAL RESEARCH

Exhibit 29: Other non-interest incomes' contribution to net revenues

Other non-interest income was contributing a larger share of net revenue at most banks over the past two years



Source: Wind, using China GAAP

BofA GLOBAL RESEARCH

Banks' other non-interest income is mainly composed of the following.

1) Net investment income is the largest component, accounting for 60-140% of total in 9M24, which is mostly generated from disposals of financial investments. Net investment income was higher when bond yields declined or were at relatively low levels (e.g., 1Q20, 3Q21-2Q22, 2Q23-3Q24), and lower when bond yields increased or were at relatively high levels (e.g., 2Q19-4Q19, 2Q20-2Q21, 3Q22-1Q23) – see Exhibit 25.

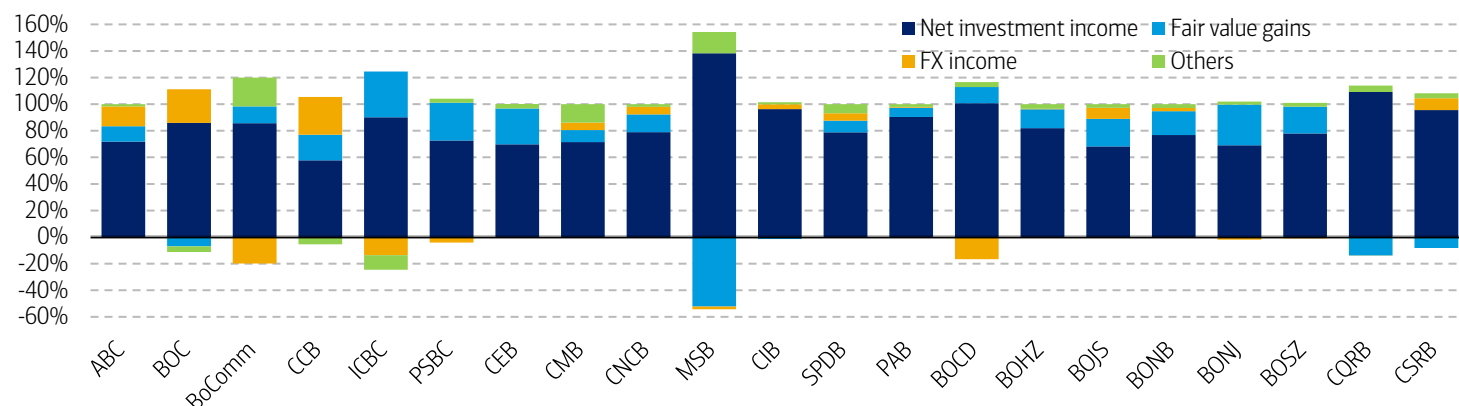
2) Fair value gains are impacted by bond market performance (declining bond yields usually led to larger fair value gains and vice versa), and stock market performance (banks may hold equity assets due to debt-equity-swap, legacy WMPs brought back to balance sheet and subsidiaries' equity investments).

3) FX income depends on banks' exposure and hedging strategies etc. - aggregate FX income tends to perform better during RMB appreciation periods (Exhibit 26).

4) Others include insurance business income, leasing business income, and income from subsidiaries, etc.

Exhibit 30: Component of other non-interest income (9M24)

Net investment income is the largest component to other non-interest income

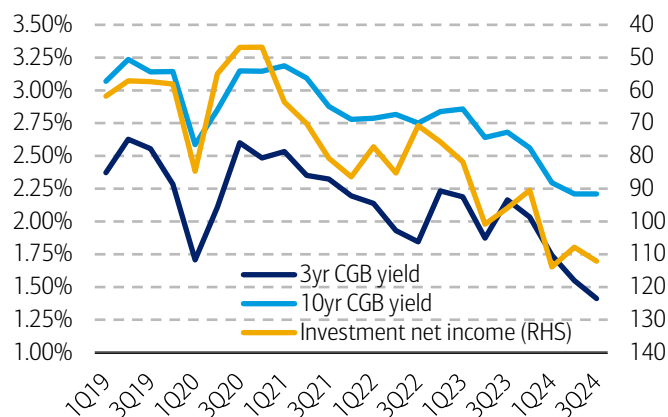


Source: Wind, using China GAAP

BofA GLOBAL RESEARCH

Exhibit 31: Covered banks: investment income (RMB bn) vs CGB yield

Investment income tended to be higher with declining CGB yield

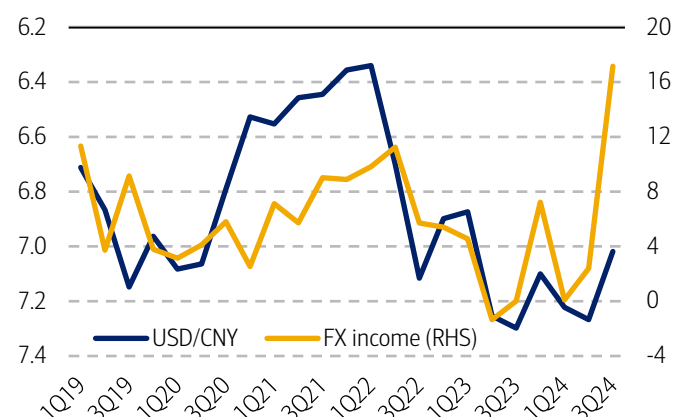


Source: Wind, using China GAAP

BofA GLOBAL RESEARCH

Exhibit 32: Covered banks: FX income (RMB bn) vs USD/CNY

FX income tended to be higher with RMB appreciation



Source: Wind, using China GAAP

BofA GLOBAL RESEARCH

Banks loans vs bonds investments**Bond investment – alternative to quality loans**

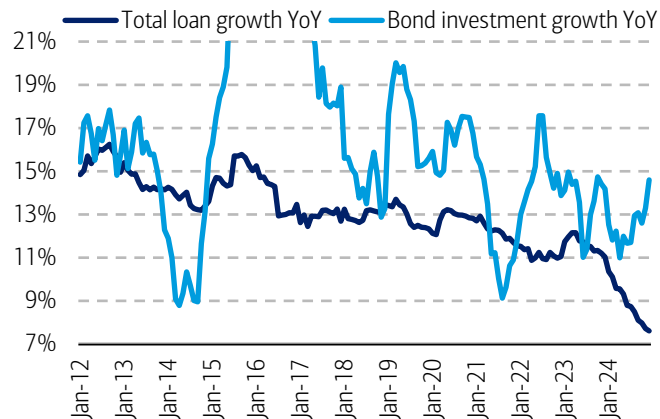
China banking sector's new loans declined from RMB20tn p.a. in 2020-21 to RMB18tn in 2024, while new bond investments increased from RMB5-6tn p.a. to RMB10tn during the same period.

As discussed in the earlier section, household sectors' deleveraging, developers' downfall and cyclical capex weakness, and LGFV de-risking have led to a reduction of effective loan demand and rising loan risk, but liquidity remains ample and thus driving banks to invest more in bonds. Total Social Financing (TSF) data in Jan 2025 was a "record high", although the improvement was mainly driven by government bonds. Loan demand remained weak, with YoY growth of loans to the real economy (excluding discounted bills) declining further from 10.7% in Jan 2024 or 6.7% in Dec 2024 to 6.5% in Jan 2025.

Asset scarcity is problematic for banks as it exacerbates the declining trend of net interest margin (NIM) and return on equity (ROE), and impairs their capability to generate capital organically, which in turn could affect the soundness of the banking system.

Exhibit 33: Banking financial institutions' loan vs bond growth

Bond investment growth accelerated to 15.0% while loan growth decelerated notably to 7.6% in 2024

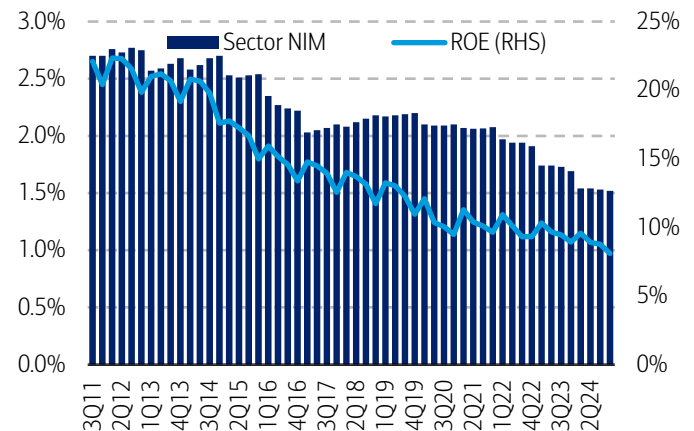


Source: PBoC

BofA GLOBAL RESEARCH

Exhibit 34: Banking sector's NIM vs ROE

Banking sector's NIM dropped significantly since 2022 and ROE continued to decline



Source: NFRA

BofA GLOBAL RESEARCH

Relative value comparison across loans and bonds

The 1-10yr CGB yields have declined sharply from late-Nov to early Jan to the level of 1.0-1.6%, before rebounding to 1.5-1.8% in recent weeks. In comparison to loans, bond investments do not look particularly attractive, before considering investment/trading gains, as shown in Exhibit 30. That said, in reality, there are other considerations, like the lack of quality loan demand and rising credit risk, which could constrain banks' ability and willingness to allocate more funds to loans.

Upside risks to bond demand include weak loan demand, further decline in new loan yield, rising credit cost, and deteriorated loan mix that consumes more capital, while downside risks to bond demand include recovery of loan demand, resilient/rebounding new loan yield, declining credit cost, and loan mix optimization that leads to lower capital consumption. According to our channel checks with major banks, they still expect bond investment mix in total assets to remain stable this year, which means bond investments will likely grow in line with bank asset growth.

Exhibit 35: Relative value comparison between loans and bonds

1-10yr CGB yields at 1.5-1.8% do not look particularly attractive vs loans', without considering investment/trading gains

	Loans Bull case	Loans Base case	Loans Bear case	CGBs (1-10yr)	Comment
Yield	3.45%	3.35%	3.10%	1.5-1.8%	Weighted average new loan yield was 3.67% in Sep-2024, but should have declined after the 25bp LPR cut and mortgage back-book repricing in 4Q24
Value added tax	6%	6%	6%	0%	
Credit cost	0.60%	0.70%	0.85%	0%	
Income tax	25%	25%	25%	0%	
Risk weight (RW)	75%	80%	85%	0%	75-100% for most corporate loans, 20-50% for mortgage loans, 45-100% for other retail loans
CET1 ratio	10.9%	10.9%	10.9%	10.9%	Minimum requirement: 7.5-9%, sector average at 10.86% by 3Q24
ROE	9.0%	9.0%	9.0%	9.0%	Sector average at ~9% in 9M24
Cost of capital (RW*CET1 ratio*ROE)	0.73%	0.78%	0.83%	0%	
Yield after tax, credit cost and capital cost	1.98%	1.84%	1.55%	1.5-1.8%	

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH



Insurers: lack of alternatives

Michael Li >>
Merrill Lynch (Hong Kong)
m.li@bofa.com

Susie Liu, CFA >>
Merrill Lynch (Hong Kong)
susie.liu@bofa.com

Bonds, mainly government bonds, are a must-buy for insurers. Although we expect the mix of equity investment in insurers' investment portfolio will slightly increase, due to the search for higher return in the low-interest rate environment, bonds will remain the major investment asset for insurers and annual inflow size will rise.

Bonds: cornerstone of insurers' investment

The sustainable operation of insurance business requires sustainable investment in products with low risk, long duration, and low capital consumption. Higher investment return is important but, compared with risks, duration and capital (especially when faced with limited options of higher yielding assets), investment return is not the priority.

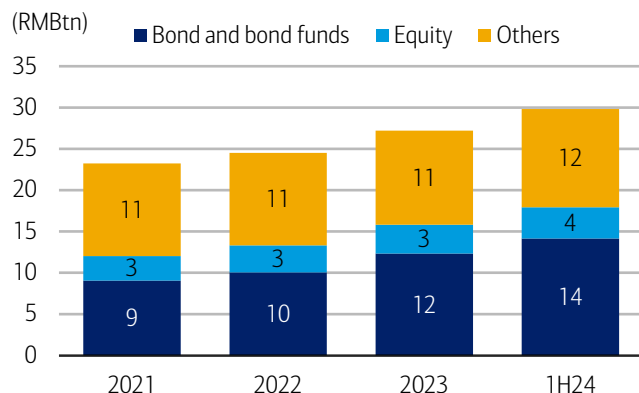
Compared with stocks, most government bonds are lower in risks and volatility. Insurers may choose to hold their bonds to maturity, but fair-value changes can still impact their P&L and net assets. Therefore, less-volatile government bonds can improve the stability of insurers' investment return and earnings.

Duration match is also one of the priorities of insurers. As the liabilities' duration, i.e., insurance products' duration, tend to be long – 20-30yrs or even longer – insurers need to match their liabilities with longer assets duration. In China, only government bonds' duration could meet the demand of insurers.

One of the simple rules of capital management is to invest more in assets with lower capital weighting. Even stocks with the lowest capital weighting consume much more capital than government bonds. The capital weighting limits the capability of equity investment and encourages bond investment.

Exhibit 36: China insurance sector: major asset allocation

Bond accounted for 47% of the sector's investment portfolio at end-1H24, while fixed income at 60-70%

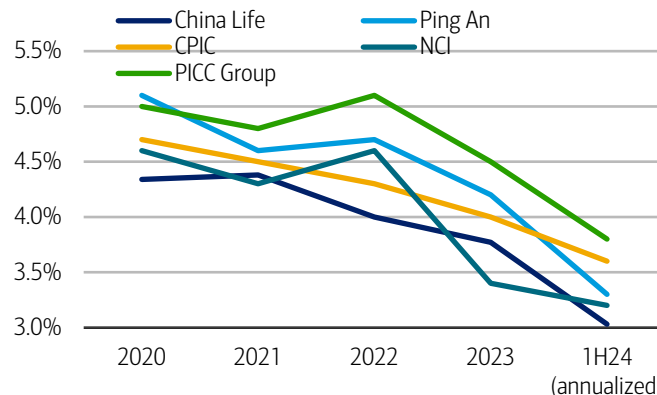


Source: NFRA, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 37: Major China insurers: net investment yield comparison

Net investment yield, driven mainly by bond interest and dividend income, dropped across insurers since 2022



Source: Company reports

BofA GLOBAL RESEARCH

Bond investment by insurers in China

In China, major insurers have 60-70% of their investment in fixed-income products, including different types of bonds, and only 10-12% in stocks and funds (Exhibit 36). Though China regulators encourage insurers to invest more in equities, the likelihood of seeing significant change in mix is still low.

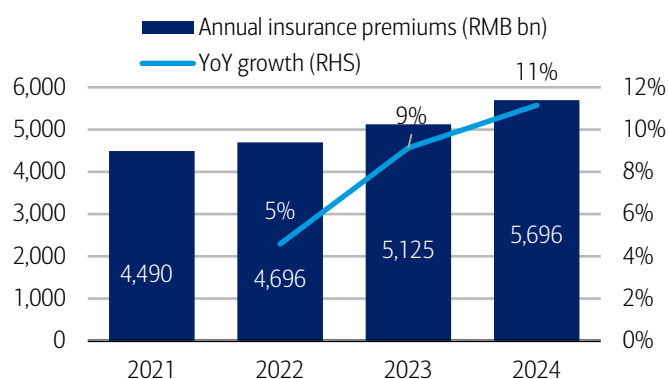
As long as the growth of insurance business is positive, i.e., insurers keep growing their in-force portfolio, they would need to use the premium they receive to invest in some assets to generate returns. Over the past three years, large insurers' investment portfolio increased by 10% YoY on average. We expect the insurers we cover to report flattish growth of new business in 2025, indicating that the total new investment size this year would be similar to that in 2024.

Over the past three years, the total GWP of China insurers (lifers and P&C insurers) received, including both renewal premium and new premium, amounted to RMB4.7-5.7tn, up 5-11% YoY. As long as renewal premium payment remains stable, 5% growth is the base case investors could expect.

The newly increased investment amounted to RMB1.3-2.7tn per year during the past three years. In 2023 and 2024, the size was ~50% of the total GWP at RMB2.7tn/year.

Exhibit 38: China insurance sector: Annual Gross Written Premiums

Annual GWP growth accelerated in recent years

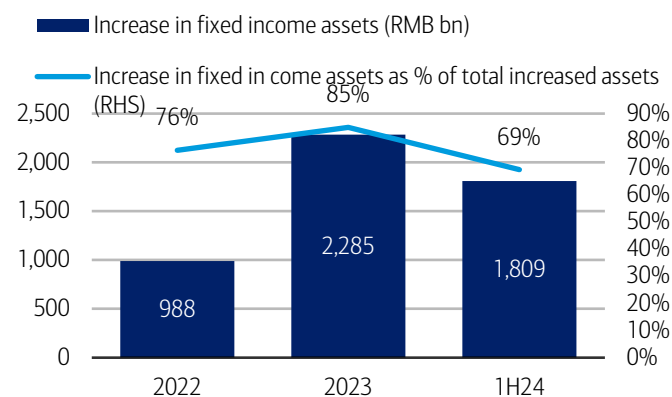


Source: NFRA, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 39: China insurance sector: increase in fixed income assets

Increase in fixed-income assets outpaced growth in overall investment assets



Source: NFRA, BofA Global Research

BofA GLOBAL RESEARCH

Asset diversification much needed amid declining yields

Asset scarcity and lower yields in recent years have made it challenging for insurers to maintain a positive interest spread in recent years. Unlike other financial institutions with liability costs largely marked to market, insurance companies have fixed liability cost for in-force policies due to guaranteed interest rate upon policy signing.

Despite declining investment yield, insurers are still obliged to pay policyholders at the guaranteed rate of 3.500-4.025% for those underwritten in 2013-19. To avoid negative interest spread that have made Taiwan, Japan, and Korea insurers suffer in the past, the insurance regulators have made two rounds of cuts to the traditional life product guarantee rate, from 3.5% to 3.0% in mid-2023, and further cut to 2.5% in late-2024.

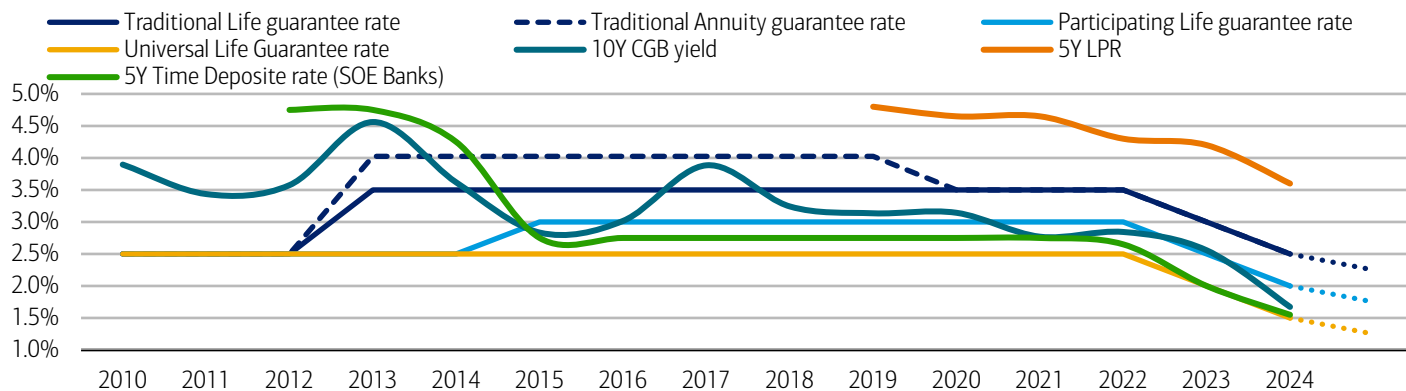


To contain the negative interest spread risk, the regulators have announced a dynamic guarantee rate adjustment scheme starting from Jan 2025. The current reference guarantee rate stands at 2.34%, calculated from weighted average of 10yr CGB yield, 5yr LPR (Loan Prime Rate), and 5yr benchmark time deposit rate at SOE banks. Large insurers reported their liabilities cost is at around 3.0% (Ping An's lower at ~2.5%), only slightly below their net investment yield at 3.0-3.6%, but not enough to be covered by new money yield at 2.5-3.0%.

On the asset side, the regulators have been gradually loosening on investment in more asset classes, such as gold, discussions around insurers' inclusion in ETF/Bond Connect, and potentially higher QDII quota.

Exhibit 40: Life insurance guarantee rate changes vs. key reference rate movement

Current reference guarantee rate is at 2.34% in Jan 2025



Acronyms

B/S: Balance sheet

BC: Bond Connect

CGB: China government bond

ETF: Exchange-traded fund

FI: Financial institution

GAAP: Generally accepted accounting principles

GDP: Gross Domestic Product

GWP: Gross written premium

JGB: Japan government bond

LGfV: Local government financing vehicle

LGsB: Local government special purpose bond

MTN: Medium-term note

NCD: Negotiable certificate of deposit

NIM: Net interest margin

NPC: National People's Congress

NPL: Nonperforming loan

p.a.: per annum

P&C: Property and casualty

P&L: Profit and Loss

PBoC: People's Bank of China

QDII: Qualified Domestic Financial Institutions

ROE: Return on Equity

SOE: State-owned enterprise

WMP: Wealth Management Products



Company abbreviations

ABC: Agricultural Bank of China

BOC: Bank of China

BOCD: Bank of Chengdu

BoComm: Bank of Communications

BOHZ: Bank of Hangzhou

BOJS: Bank of Jiangsu

BONB: Bank of Ningbo

BONJ: Bank of Nanjing

BOSZ: Bank of Suzhou

CCB: China Construction Bank

CEB: China Everbright Bank

CIB: China Industrial Bank

CMB: China Merchants Bank

CNCB: China CITIC Bank

CQRB: Chongqing Rural Commercial Bank

CSRB: Changshu Rural Commercial Bank

ICBC: Industrial and Commercial Bank of China

MSB: China Minsheng Bank

PAB: Ping An Bank

PSBC: Postal Savings Bank of China

SPDB: Shanghai Pudong Development Bank

Special Disclosures

Some of the securities discussed herein should only be considered for inclusion in accounts qualified for high risk investment.



Disclosures

Important Disclosures

Due to the nature of strategic analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

BofA Securities fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets.

Other Important Disclosures

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

This report may refer to fixed income securities or other financial instruments that may not be offered or sold in one or more states or jurisdictions, or to certain categories of investors, including retail investors. Readers of this report are advised that any discussion, recommendation or other mention of such instruments is not a solicitation or offer to transact in such instruments. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor for information relating to such instruments.

Rule 144A securities may be offered or sold only to persons in the U.S. who are Qualified Institutional Buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended. SECURITIES OR OTHER FINANCIAL INSTRUMENTS DISCUSSED HEREIN MAY BE RATED BELOW INVESTMENT GRADE AND SHOULD THEREFORE ONLY BE CONSIDERED FOR INCLUSION IN ACCOUNTS QUALIFIED FOR SPECULATIVE INVESTMENT.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

The securities or other financial instruments discussed in this report may be traded over-the-counter. Retail sales and/or distribution of this report may be made only in states where these instruments are exempt from registration or have been qualified for sale.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

This report, and the securities or other financial instruments discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors, including retail investors.

Refer to [BofA Global Research policies relating to conflicts of interest](#).

"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.

Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofam.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; BofAS Japan: BofA Securities Japan Co. Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority. This information has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your



jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

Futures and options are not appropriate for all investors. Such financial instruments may expire worthless. Before investing in futures or options, clients must receive the appropriate risk disclosure documents. Investment strategies explained in this report may not be appropriate at all times. Costs of such strategies do not include commission or margin expenses.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

This report may contain a trading idea or recommendation which highlights a specific identified near-term catalyst or event impacting a security, issuer, industry sector or the market generally that presents a transaction opportunity, but does not have any impact on the analyst's particular "Overweight" or "Underweight" rating (which is based on a three month trade horizon). Trading ideas and recommendations may differ directionally from the analyst's rating on a security or issuer because they reflect the impact of a near-term catalyst or event.

Certain investment strategies and financial instruments discussed herein may only be appropriate for consideration in accounts qualified for high risk investment.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Copyright 2025 Bank of America Corporation. All rights reserved. iQDatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. This document and its content is provided solely for informational purposes and cannot be used for training or developing artificial intelligence (AI) models or as an input in any AI application (collectively, an AI tool). Any attempt to utilize this document or any of its content in connection with an AI tool without explicit written permission from BofA Global Research is strictly prohibited. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to sustainability in this material is limited as discussed herein and is not intended to provide a comprehensive view on any sustainability claim with respect to any issuer or security.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet

periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.



Research Analysts

Janice Xue
Emerging Asia FI/FX Strategist
Merrill Lynch (Hong Kong)
janice.xue@bofa.com

Emma Xu >>
Research Analyst
Merrill Lynch (Hong Kong)
emma.xu@bofa.com

Benson Wu
China & Korea Economist
Merrill Lynch (Hong Kong)
benson.wu@bofa.com

Michael Li >>
Research Analyst
Merrill Lynch (Hong Kong)
m.li@bofa.com

Susie Liu, CFA >>
Research Analyst
Merrill Lynch (Hong Kong)
susie.liu@bofa.com

Claudio Piron
Emerging Asia FI/FX Strategist
Merrill Lynch (Singapore)
claudio.piron@bofa.com

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules. Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

