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Steady Progress Drives Substantial Achievements
Chinese Banking Sector 2023 Review and 2024 Outlook

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Contents

Foreword

Annual reports encapsulate the previous year's achievements and project the new year.

We are in a time of significant changes. "An extraordinary year" has been repeatedly applied in our annual review and outlook report on China's banking sector. We still cannot find a more appropriate word than "extraordinary" to summarize 2023. In 2023, the main socio-economic development goals have been achieved, seeing substantive high-quality growth. However, with insufficient external and domestic demands and intertwined cyclical and structural problems, the foundation for a sustained economic recovery in China remained to be cemented.

Finance and the real economy depend on and reinforce each other. The banking sector's high-quality development relies on the robust growth of the real economy. Despite the complex international environment and arduous tasks of reform, development and stability at home, China's banking sector saw stable progress.

From the perspective of "stability", the Chinese government remained committed to the general principle of pursuing progress while ensuring stability, implementing flexible, appropriate, accurate and effective monetary policies. As the ballast stone of the economy and finance, China's banking sector continued to support the real economy, increase credit supply and optimize the credit structure. Large banks' assets expanded rapidly, driving the banking sector's assets to grow by 9.9%; their deposits also increased, showing a stable overall asset-liability structure. With expanded assets and liabilities, the banking sector generally maintained healthy operation. The nonperforming loan (NPL) ratio stood at 1.62%; the provision coverage dropped slightly to 205.1%; the liquidity was kept ample and stable, with the liquidity coverage rising 4.2 percentage points year-on-year to 151.6%. China's banking sector boasts robust fundamentals and strong risk resistance capacity, although it is confronted with challenges in capital replenishment, profitability, real estate loans, and mitigating risks of debts to local governments.

From the perspective of "progress", the objectives, priorities, and paths for building China into a world leader in finance are increasingly clear, revealing the strategic blueprint in the five major areas of Technology Finance, Green Finance, Inclusive Finance, Pension Finance, and Digital Finance. The financial regulation mechanism and efficiency have progressively improved after going through significant changes, creating a conducive institutional environment for the high-quality development of financial institutions. China's banking sector persistently allocated credit resources to the key areas and weak links of the real economy to foster new quality productive forces and accelerate the construction of modern industrial systems. In 2023, the Chinese banking sector's green and inclusive loan balances grew by 36.5% and 23.5% year-on-year. The growth rate of loans to high-tech manufacturing and sci-tech SMEs reached 34% and 21.9%, respectively. Large banks' elderly care lending also increased by more than 20%. The banking sector continued to increase Fintech investment. Digital technologies and data elements enhanced the quality and effectiveness of financial services. Advanced digital technologies empowered intelligent service, operation and risk control, enhancing the service quality, operational efficiency and risk management ability of China's banking sector.

While heralding 2023's results, the banking sector should be alert to the hidden troubles. Although assets maintained steady growth, the uncertain economic recovery prospects brought challenges to banks' credit supply and risk management. In 2023, interest margins continued to narrow; the scale of wealth management products shrank due to the volatile capital market; the slow recovery of the consumer market led to weaker-than-expected growth of traditional intermediate business income; consequently, the banking sector recorded negative revenue growth for the first time over the past three years, with key profitability indicators' growth rate down notably. The risk-weighted assets growth rate remained high. The capital adequacy indicator faced downward pressure. With insufficient endogenous capital supplement, expanding exogenous supplement channels was urgent. The nonperforming ratio of real estate loans rose continually. The growth of individual housing loans slowed. The impact of lowered interest rates of existing individual housing loan on banks' revenue and profits was not clear. Although deposit interest rates have been cut several times, fixed-term deposits increased steadily, posing significant challenges for banks to control capital costs and implement effective asset and liability management.

In 2024, China's banking sector will face unprecedented challenges and opportunities. With the implementation of the strategic plan for building a leading financial country, improvement of financial regulation systems and mechanisms, and an increasingly stable capital market, China's banking sector will embrace more favorable policies, market and regulatory environment for high-quality development. China is vigorously developing new quality productive forces, modern industrial systems, digital economy, advanced manufacturing, strategic emerging and future-oriented industries. Therefore, China's banking sector is expected to achieve business growth, structural improvement, and asset quality enhancement as it supports the real economy's high-quality development. With stable economic recovery, effective unleashing of consumer demand, gradual clearing of real estate investment risks and the mitigation of local government debt risks, China's banking sector is likely to resolve risks from the source, thoroughly rectify and improve the balance sheets, and achieve an optimal balance of benefits, liquidity and safety.

In this report, the Deloitte China FSI research team reviews economic and financial developments, analyzes the performance and business operation of Chinese listed banks in 2023, covers a host of hot topics, and provides an outlook of the macro economy and banking sector in 2024. Taking 10 representative commercial banks in China as a sample, the report also provides an overview of the Chinese banking sector's achievements in 2023 and identifies key development trends based on a systematic analysis of the profitability, assets, liabilities, and capital positions of listed banks. It also gives an overview of business development, operating models, and regulatory changes in the sector. To help China's financial institutions position themselves properly on the international stage and draw on the best practical experience of their international peers, the report also analyzes six foreign Global Systemically Important Banks (all ranking among *The Banker*'s top 20 in 2023).

In addition, the report will take a deep dive into a host of industry hot topics, including the application of foundation model technology in banking businesses, intelligent compliance control, recognition of data assets in the balance sheet, application of fiscal policies for inclusive finance, quality and efficiency improvement in related party transaction management, human capital effectiveness in the digital era, money laundering risk management mechanism, unhealthy market analysis, AI model risk management, and "shadow IT" governance models. We believe this report will provide valuable reference for domestic commercial banks to contribute to in-depth institutional reforms, control and resolve risks, and enhance value creation and sustainable development capabilities, highlighting the new-era financial blueprint with Chinese characteristics drawn by the Central Financial Work Conference.

16 domestic and foreign banks:

Table 1: 10 domestic commercial banks (hereinafter referred to as the "domestic banks")

Industrial and Commercial Bank of China (ICBC)
China Construction Bank (CCB)
Agricultural Bank of China (ABC)
Bank of China (BOC)
Postal Savings Bank of China (PSBC)
Bank of Communications (BOCOM)
China Merchants Bank (CMB)
Industrial Bank (IB)
China CITIC Bank (CITIC Bank)
Ping An Bank (PAB)

Table 2: 6 foreign systematically important banks (hereinafter referred to as the "foreign banks")

J.P. Morgan Chase & Co (JPM)
Bank of America (BAC)
Wells Fargo (WFC)
Citigroup (Citi)
HSBC
BNP Paribas (BNP)

The data in this report, unless otherwise indicated, are from the annual reports published by the above banks. The balance sheet data of the foreign banks are converted at the respective year-end exchange rate, and the income statement data are converted at the average exchange rate of each year. Unless otherwise specified, the average indexes listed in this report are all arithmetic average indexes of the examples.

2023

Economic and Financial Sector Review

Global growth varied with declined inflation

In 2023, global economic growth was resilient, but the recovery varied in major economies. The U.S. economy remained stable generally, with a growth rate of 2.5% and the real GDP increasing at an annual rate of 3.2% in the fourth quarter, indicating a higher probability of an economic soft landing. Europe's economy was sluggish, and the eurozone recorded zero growth QoQ (seasonally adjusted) in the fourth quarter. Japan's growth also slowed, with GDP up only 0.1% QoQ in the fourth quarter. In addition, manufacturing PMIs of the U.S., Europe, Japan and other developed economies generally shrank. Their service industry PMIs strengthened relatively; The U.S. and Japan stayed above the PMI threshold, while the eurozone fell below the threshold from August.

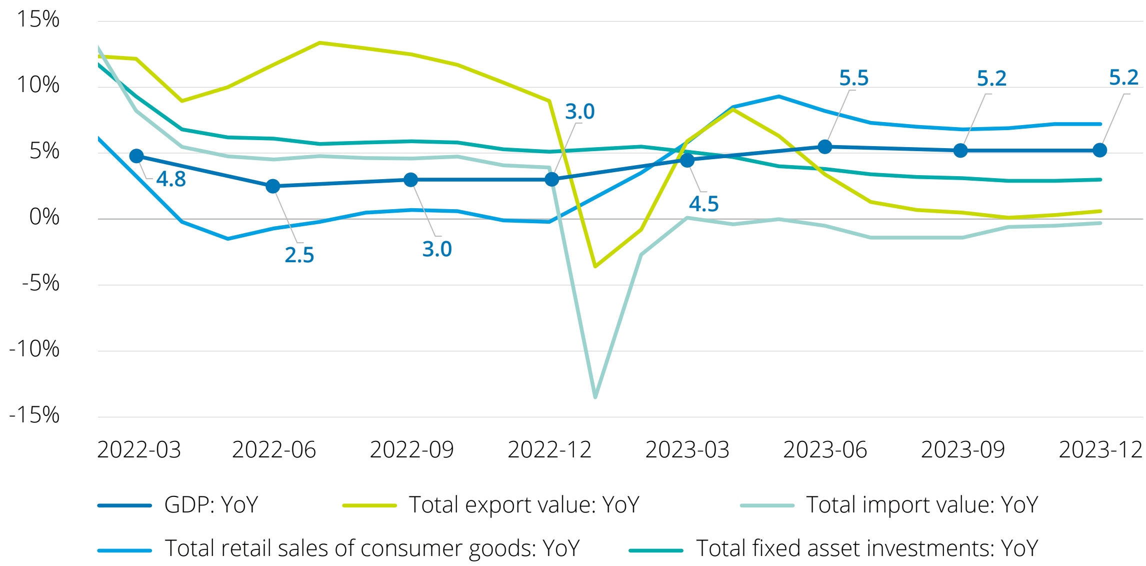
Meanwhile, global inflationary pressure subsided, with inflation in Europe and the U.S. dropping significantly from more than 9% to about 3%. The rate hike cycles in major developed economies approaching to an end. In 2023, the Federal Reserve raised interest rates four times by 100 basis points, with the federal funds rate up to 5.25%-5.5%, and suspended three interest rate hikes from September to the end of the year. The European Central Bank raised interest rates six times by 200 basis points in 2023 and halted two rate hikes in the fourth quarter.

China's economy improved

2023 was the first year after easing of epidemic control measures. China's economy trended up generally in the year, with GDP growing 5.2%, showing rapid consumption recovery, continuous investment expansion, and stable foreign trade. The total retail sales of consumer goods grew 7.2% year-on-year. Specifically, service consumption recovered rapidly, with the retail sales of transportation, accommodation and catering recording an increase of 20%. Fixed asset investments grew by 3.0%, with manufacturing and infrastructure investments increasing 6.5% and 5.9% respectively and high-tech investments up 10.3%. In contrast, investments in real estate development decreased 9.6%. Exports grew by 0.6%, while imports declined 0.3% (in RMB). Considering a high base effect from 2021 and 2022, the export data also reflected China's foreign trade resilience and international competitiveness.

Overall, in 2023, China's economic recovery faced various challenges, including weak social expectations, the gloomy real estate, and rising external uncertainties. Nonetheless, the economy generally improved thanks to policy adjustment, enhanced consumer confidence, and active innovations.

Figure 1: China's Economic Growth



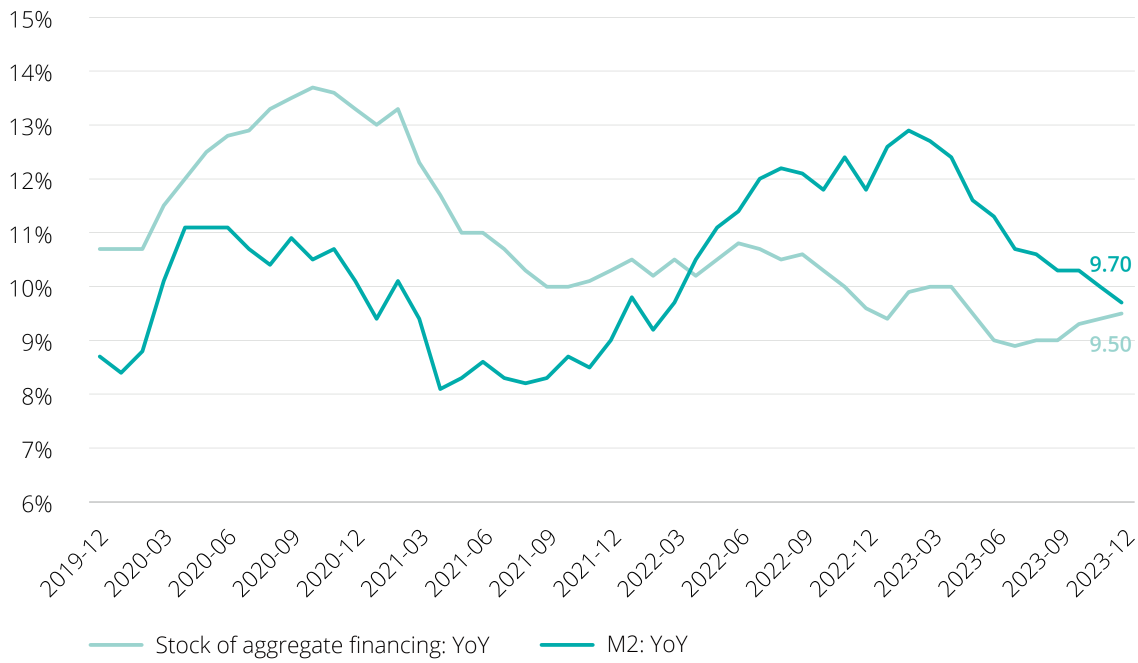
Source: National Bureau of Statistics

The "scissors difference" between M2 and aggregate financing contracted; domestic demand recovery accelerated

In 2023, endogenous impetus was weak. Businesses and residents were less confident to invest and consume. Banks' loans grew slowly. The growth rate of aggregate financing fell to 8.9% in July, reaching a record low. Benefiting from supportive policies such as interest rate cuts and increased government and corporate bonds,aggregate financing grew rapidly afterwards, growing 9.5% year-on-year at the end of December.

In 2023, monetary easing moderated. The M2 balance rose 9.7% year-on-year, down 2.1 percentage points. The "scissors difference" between M2 and aggregate financing growth rates narrowed from 3.2% to 0.2%, the lowest since April 2022, indicating a substantial demand improvement.

Figure 2: "Scissors Difference" between M2 and Aggregate Financing Narrowed in 2023



Source: People's Bank of China, Wind

Comprehensive financing costs continued to fall and loan rates remained low

In 2023, loan interest rates continued to decline, with major loan interest rates falling below 4.0%. The weighted average interest rate of newly issued loans was 3.83%, down 0.31 percentage points year-on-year. The interest rates of general, corporate and individual housing loans were 4.35%, 3.75% and 3.97%, respectively, down 0.22, 0.22 and 0.29 percentage points year-on-year.

The banking system liquidity was kept reasonably ample throughout 2023. People's Bank of China cut the required reserve ratio (RRR) in March and September, respectively by 0.25 percentage points. The one-year and over-five-year LPR declined by 20 basis points and 10 basis points to 3.45% and 4.20% in December 2023. The money market interest rate (DR007) and yield to maturity on corporate bonds also trended down.

Figure 3: Loan Interest Rates Fell Below 4.0%

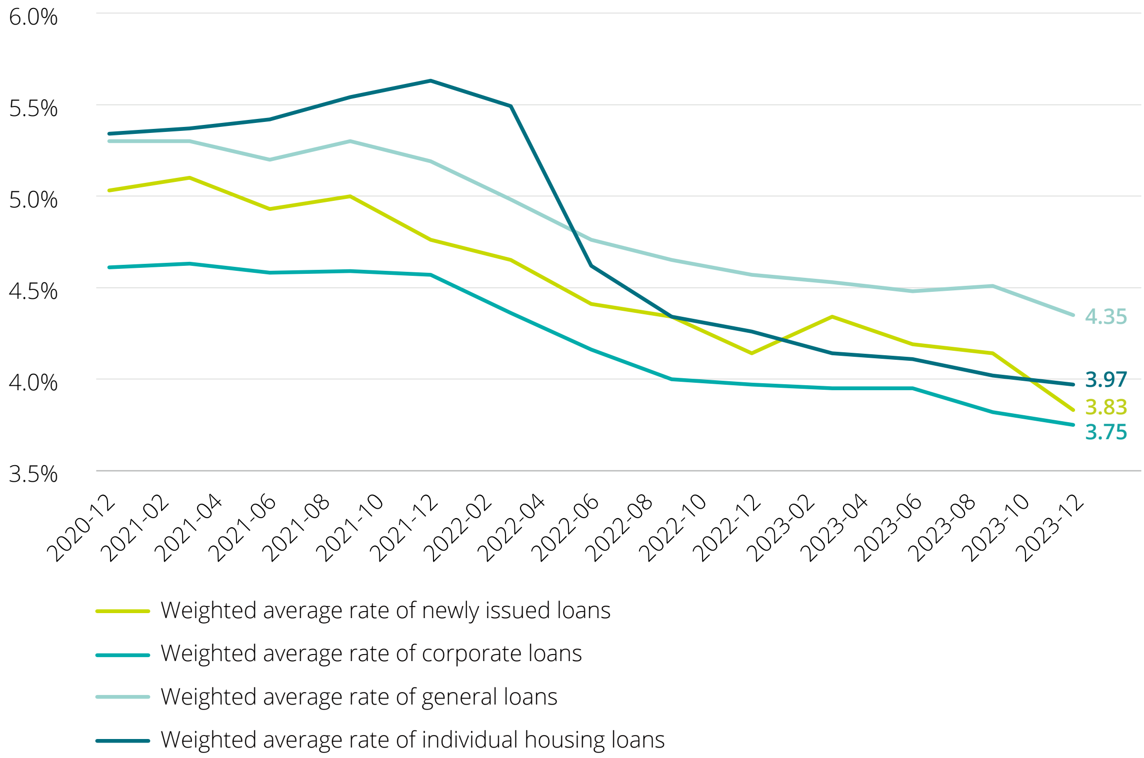
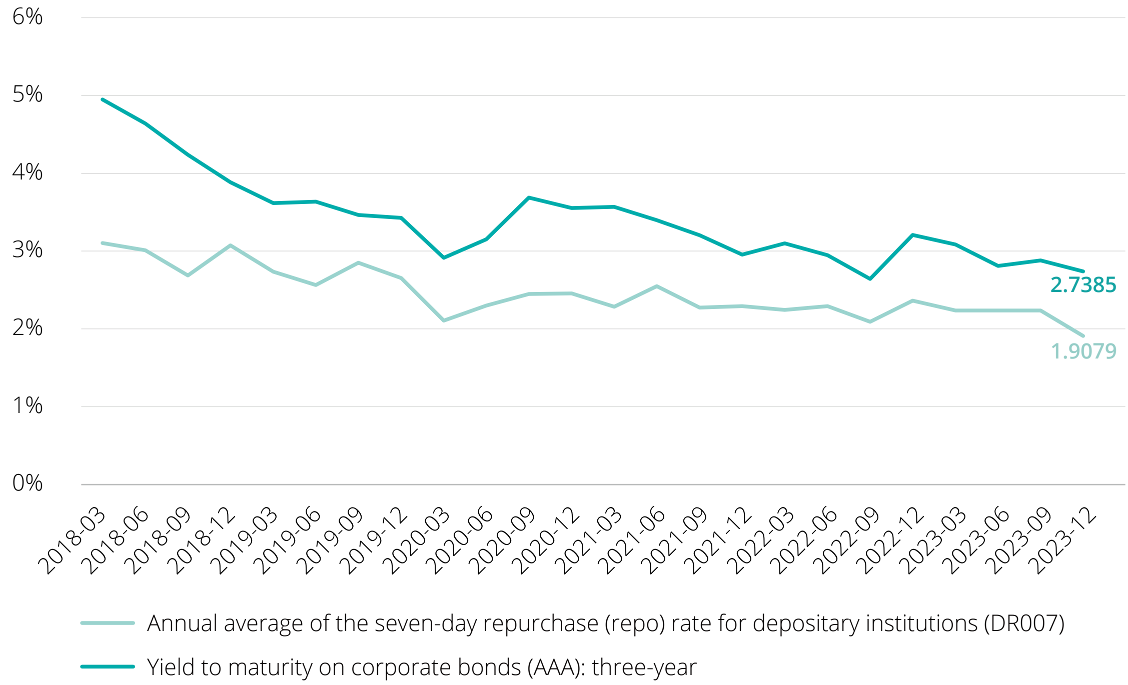


Figure 4: Money and Bond Market Interest Rates Continued to Fall



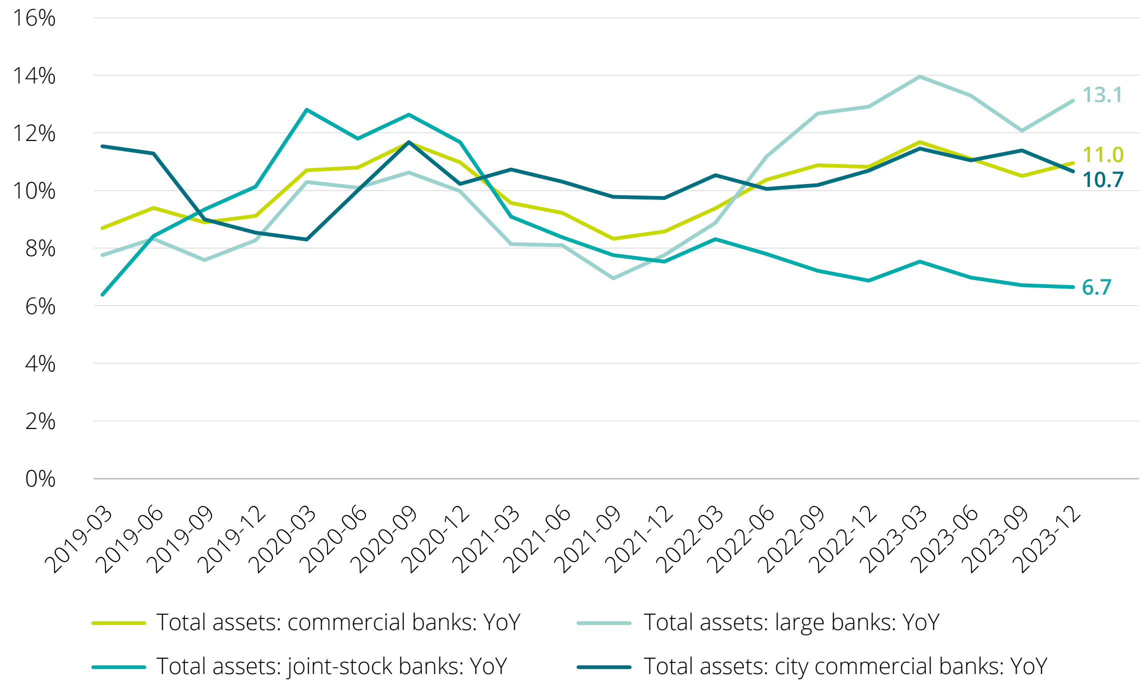
Source: People's Bank of China

Large banks drove banking assets to grow rapidly

The banking sector is the ballast stone of the economy. China's commercial banks continued to increase credit supply to support stable economic growth. At the end of 2023, the total assets of banking financial institutions reached RMB417.3 trillion, an increase of 9.9% year-on-year. Specifically, the total assets of commercial banks amounted to RMB354.8 trillion, accounting for 85.0% of the total, an increase of 11.0% year-on-year.

Large banks are the main force in serving the economy. Their assets totaled RMB176.76 trillion at the end of 2023, up 13.1% year-on-year, contributing significantly to the sector's stable asset growth. The banking sector's asset growth rate has stabilized at more than 10% since the second half of 2022 as large commercial banks increased credit supply continually. In 2023, joint-stock banks' assets grew slowly, recording a year-on-year increase of 6.7%, 0.2% lower than that of 2022. Their aggregate assets accounted for 17.0% of financial institutions' total assets, down 0.5% year-on-year. City commercial banks effectively supported the regional economy and maintained a high asset growth rate, with a year-on-year increase of 10.7%.

Figure 5: Large Banks Drove Banking Sector's Asset Growth to 11%



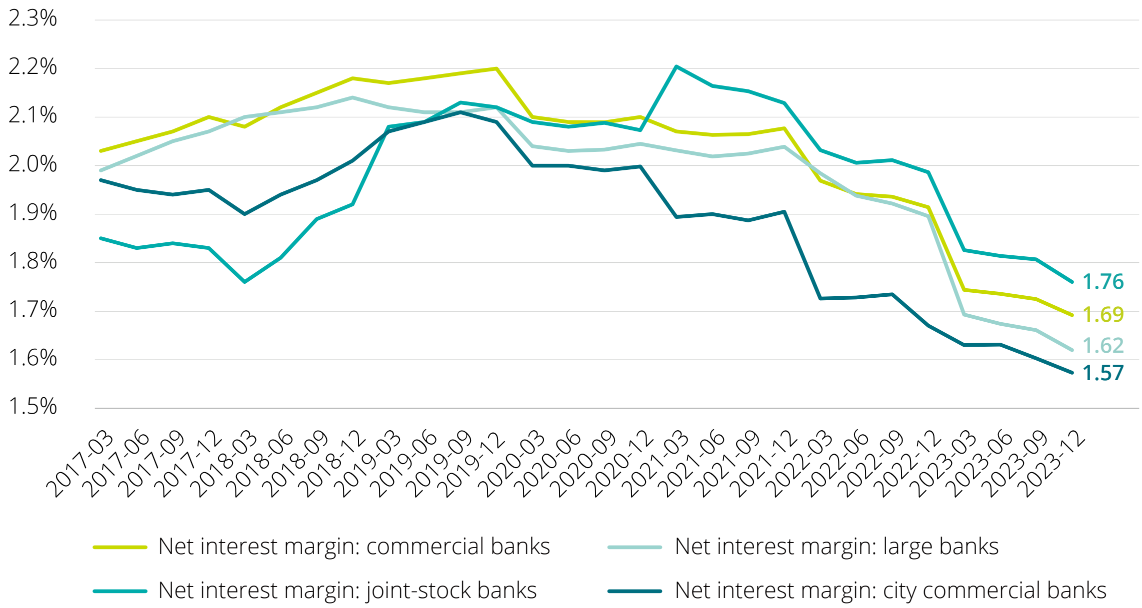
Source: National Financial Regulatory Administration

Interest margin remained at a record low

Commercial banks' net interest margins have continued to narrow since 2019. As the financial sector persistently supported the real economy, banks' interest margins remained low. In 2023, commercial banks' net profit grew 3.2% year-on-year, 2.2 percentage points lower than that of 2022. Their net interest margin fell to 1.69%, narrowing 22 basis points from the end of 2022, recording another record low.

Banks determine the market interest rates for deposits and loans under the rate self-discipline mechanism. In the second half of 2023, banks reduced deposit rates. However, despite interest rate cuts, weak domestic demand slowed banks' loan growth, consequently impacting their revenue. The banking sector must strive to maintain profitability while supporting the real economy, continually optimize their credit structure, and explore new business growth drivers.

Figure 6: Net Interest Margin Remained Low



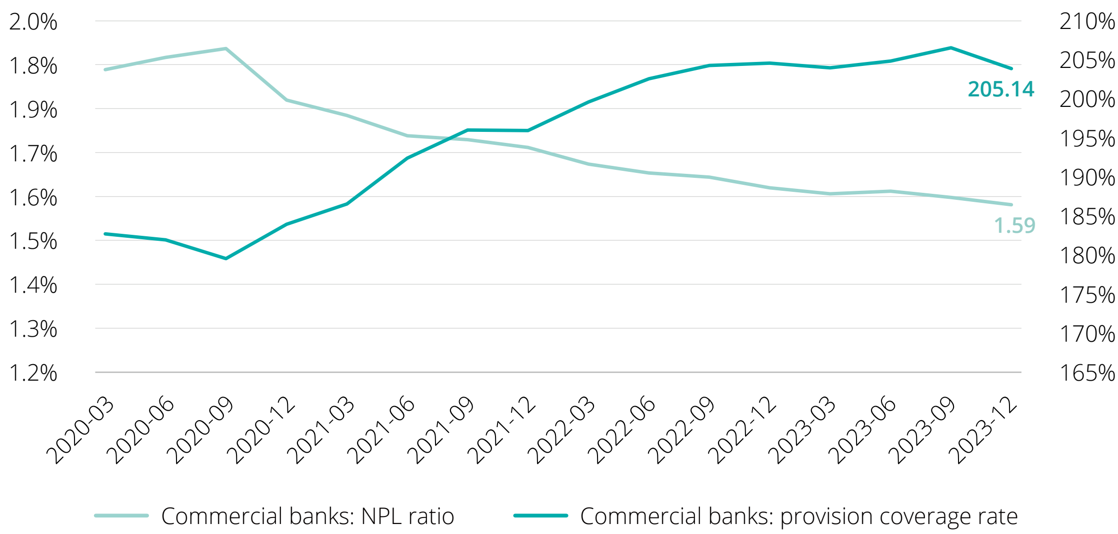
Source: National Financial Regulatory Administration

The banking sector operated robustly with improved nonperforming loan and provision ratios

The banking sector faced various operation and transformation challenges in addition to interest margin declines and deposit/loan interest rate cuts. However, the Chinese banking sector boasted a large asset scale and solid operation. At the end of 2023, commercial banks' nonperforming loan ratio decreased to 1.59%, with a provision coverage of 205.14%. Both indicators were in a healthy range, reflecting the Chinese banking sector's sound fundamentals and strong risk resistance capacity.

The banking sector must also participate in addressing local debts and ensuring timely delivery of presold homes, and in the meantime maintain their asset quality, thus challenging their operation and risk management abilities.

Figure 7: NPL and Provision Ratios Improved



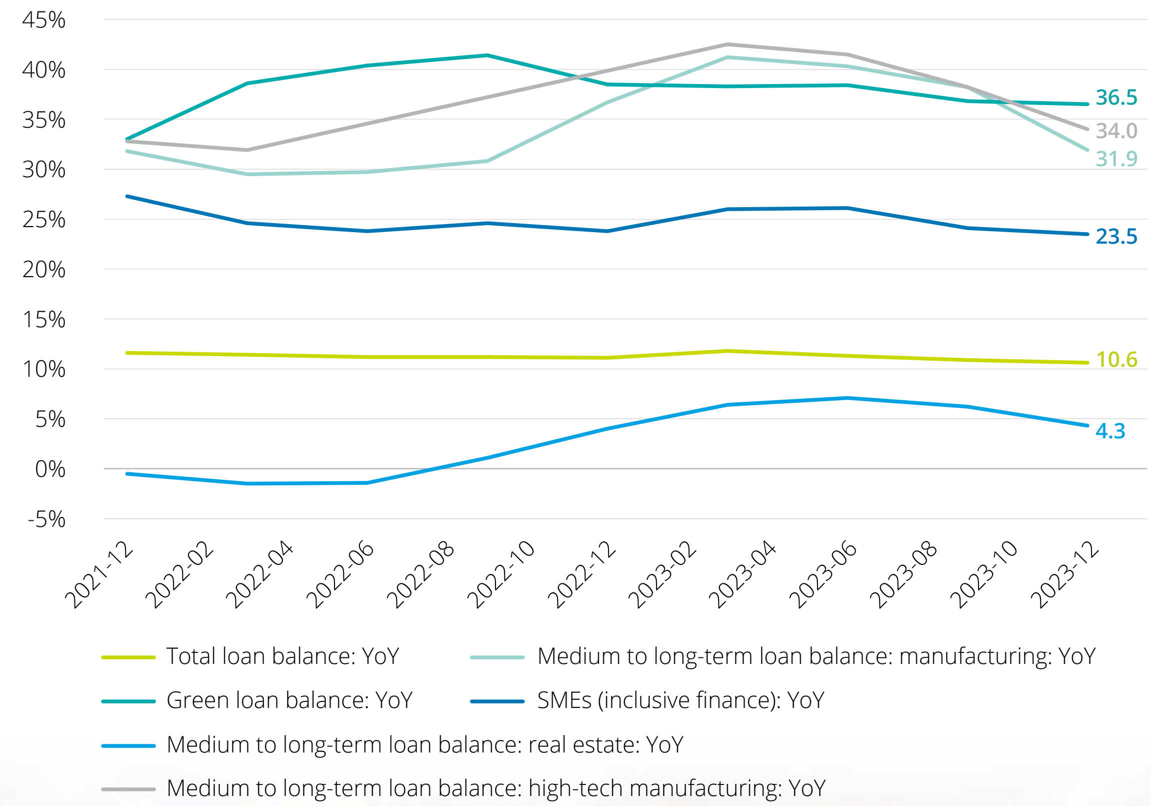
Source: National Financial Regulatory Administration

Credit resources continued to flow to the inclusive finance, green development and manufacturing areas

Amidst economic transformation, upgrading and high-quality development, financial resources continued to flow to key areas and weak links of the real economy, as the five major areas of Technology Finance, Green Finance, Inclusive Finance, Pension Finance, and Digital Finance proposed at the Central Financial Work Conference in late October 2023.

As real estate loan growth slowed, the five areas have become the focus of credit supply in recent years. In 2023, the relevant areas' loan growth exceeded the growth rate (10.6%) of financial institutions' total loans: 1) green and inclusive loan balances grew by 36.5% and 23.5% year-on-year; 2) the loan growth of high-tech manufacturing and sci-tech SMEs reached 34% and 21.9%; and 3) the elderly care loan balance of China Development Bank, Agricultural Development Bank of China, ICBC, ABC, BOC, CCB and BOCOM increased 26.4% year-on-year.

Figure 8: Credit Supply Primarily to Inclusive Finance, Green Development and High-tech Manufacturing



Source: People's Bank of China

Risk regulatory framework for the banking and insurance sectors improved

The overseas banking crises in March 2023 pressed the international financial market. China's regulatory system is different from that of the U.S. However, capital erosion and inadequate risk management continued to be common problems of China's small and medium-sized banks. Therefore, regulation is critically important.

In 2023, regulators continued to improve the risk regulatory framework for banking and insurance institutions, and introduced the *Rules on Capital Management of Commercial Banks, Measures for the Assessment of Systemically Important Insurers*, and *Measures for Operational Risk Management in Banking and Insurance Institutions*. These measures aim to strengthen monitoring and early warning of systemic financial risks, enhance financial institutions' comprehensive risk management ability, and consolidate the regulatory framework to ensure financial stability.

Table 1: Regulatory Policies for Banking and Insurance Institutions in 2023

Date	Measures	Content
October 2023	*Measures for the Assessment of Systemically Important Insurers*	Effective from 1 January 2024 Expand the scope for assessing systemically important financial institutions from banks to the insurance sector to strengthen supervision, prevent systemic financial risks, and maintain financial stability. Assess systemically important insurers every two years, using asset scale as the key indicator and applying the data of groups' consolidated statements (systemically important banks will not be considered in groups' assessment. E.g., Ping An Bank will not be included in Ping An Group's consolidated statements.)
November 2023	*Rules on Capital Management of Commercial Banks*	Effective from 1 January 2024, with a two-year transition period Divide banks into three groups; build a differentiated capital regulatory system and adjust the risk weighting of specific items in credit risk measurement to enhance the risk sensitivity of capital measurement and enhance banks' ability to withstand potential financial risks.
December 2023	*Measures for Operational Risk Management in Banking and Insurance Institutions*	Effective from 1 July 2024 Develop and refine the operational risk management systems, including risk identification, assessment, monitoring, and mitigation measures, arouse financial institutions' attention to internal controls and risk management, and reduce operational errors and frauds to protect consumers' rights and interests.

Source: People's Bank of China, National Financial Regulatory Administration

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Annual Performance Analysis of Listed Banks in 2023

2.1 Profitability

2.2 Assets

2.3 Liabilities

2.4 Capital Position

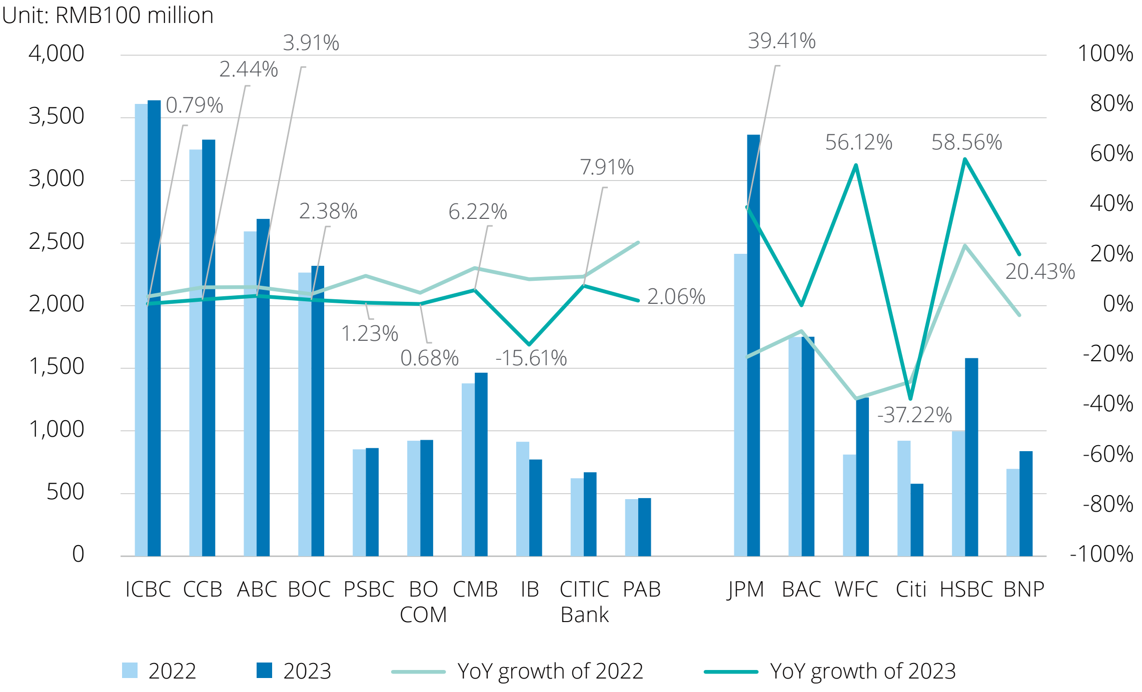
2.1 Profitability

Domestic banks' profit growth slowed, while foreign banks' profitability enhanced

In 2023, domestic banks' net profits attributable to shareholders of the parent companies totaled RMB1.71 trillion, an increase of RMB28.1 billion or 1.67% year-on-year. The growth rate was 5.93 percentage points lower than that of 2022, mainly due to the narrowed net interest margins and weakened intermediate business income. None of the domestic banks registered double-digit net profit growth, with only CMB's and CITIC Bank's exceeding 5%. IB's net profit fell by 15.61%.

As global interest rate hikes drove the growth of net interest income, foreign banks' net profits attributable to the shareholders of the parent companies reversed 2022's downward trend, totaling RMB938.3 billion, an increase of RMB179.2 billion, or 23.61% year-on-year. Citi's and BAC' net profits (in the original currency) decreased due to provision and employee expenses, while the rest foreign banks recorded net profit growth.

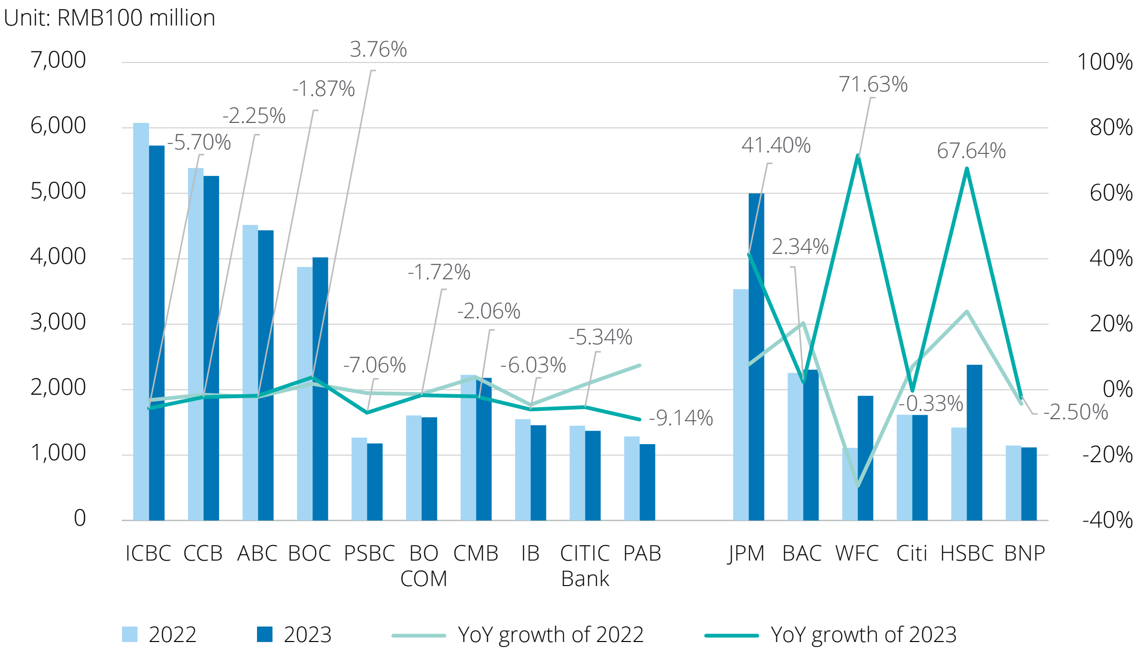
Figure 1: Net Profit Attributable to the Shareholders of the Parent Company



In 2023, domestic banks' pre-provision operating profit (PPOP) dropped generally, totaling RMB2.84 trillion, down RMB85.7 billion or 2.93% year-on-year. BOC's PPOP increased as its interest margin improved, driven by the foreign currency operations. The other nine domestic banks' PPOP declined. Specifically, ABC's PPOP decline narrowed from the previous year; CMB's, CITIC Bank's and PAB's 2022 growth trend was overturned. With relatively stable asset quality, domestic banks' provision increases shrank, thus their net profits maintained minor growth.

Foreign banks' PPOP totaled RMB1.43 trillion, an increase of RMB323.8 billion or 29.22% year over year. WFC and HSBC recorded an increase of more than 60% (in the original currency).

Figure 2: PPOP



Note: PPOP = pretax profits + asset impairment loss + credit impairment loss

Domestic banks' profitability moderated; foreign banks' yield indicators diverged

Domestic banks' profitability remained stable generally, with their yield indicators trending down

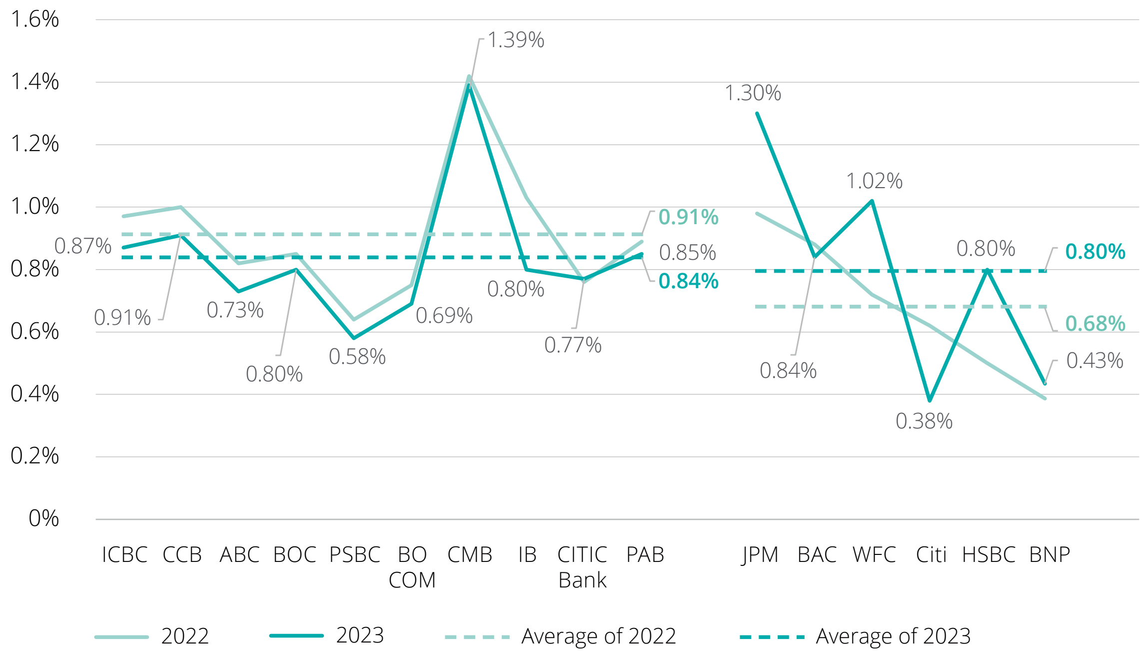
In 2023, domestic banks' main profitability indicators trended down generally, while foreign banks' indicators diverged. The main profitability indicators of BAC and Citi continued to fall, while other foreign banks' indicators rebounded.

Domestic banks' average return on total assets ("ROA") was 0.84%, down 0.07 percentage points year-on-year. CITIC Bank recorded ROA growth, while other domestic banks' ROA decreased. In 2023, the average ROAs of state-owned and joint-stock banks were 0.76% and 0.95%, respectively, down 0.08 percentage points year-on-year. The average ROA of foreign banks was 0.80%, up 0.12 percentage points year-on-year.

Domestic banks' average return on equity ("ROE") was 11.28%, down 0.93 percentage points year-on-year. CITIC Bank's ROE remained stable, but the rest of the domestic banks' ROEs dropped. In 2023, the average ROEs of state-owned and joint-stock banks were 10.63% and 12.26%, respectively, down 0.71 and 1.26 percentage points year-on-year. The average ROE of foreign banks was 10.91%, up 1.22 percentage points year-on-year.

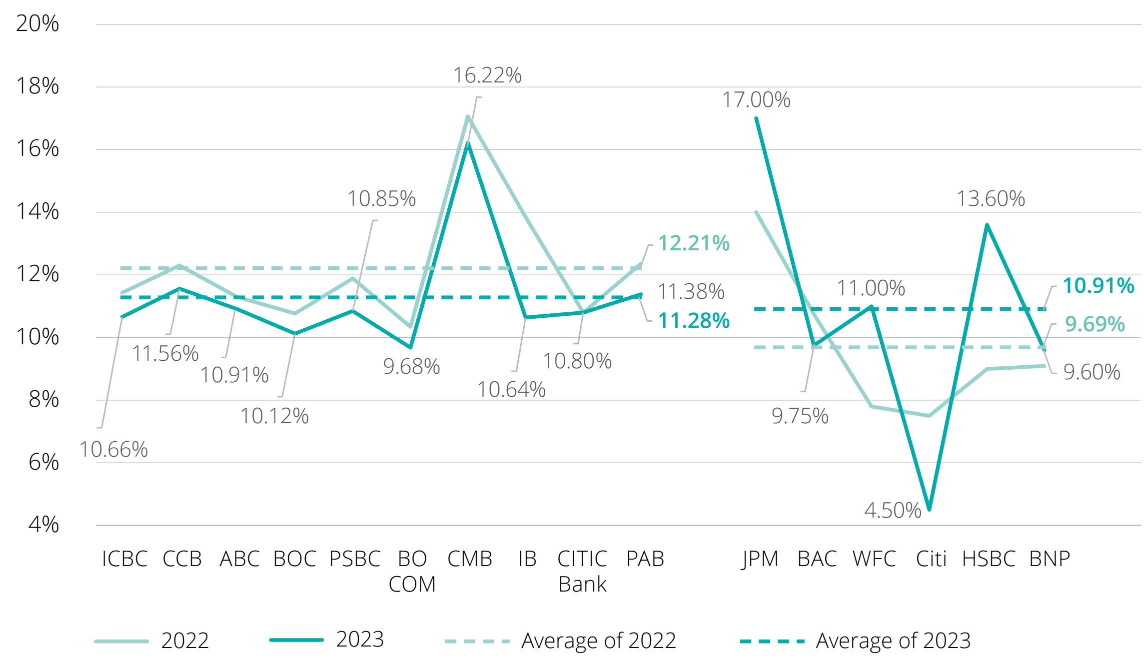
Overall, domestic banks registered further ROA and ROE declines, mainly due to the narrowed interest margins and lowered non-interest incomes. Foreign banks' ROAs and ROEs rose significantly but were still lower than those of domestic banks.

Figure 3: ROA



Note: BNP did not disclose its ROA, and the data was the result of net profit/average total assets.

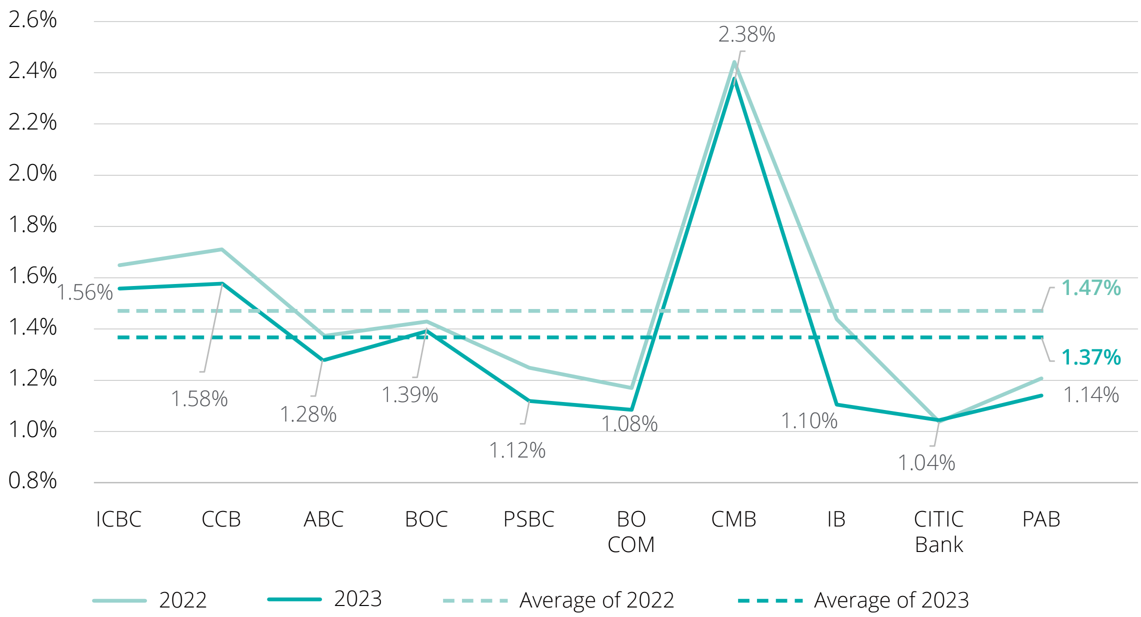
Figure 4: ROE



In 2023, affected by moderate net profit growth, domestic banks' average return on risk-weighted assets ("RORWA") was 1.37%, down 0.10 percentage points year-on-year. CITIC Bank recorded a slight increase in RORWA, while the rest of the domestic banks' RORWAs dropped. IB's RORWA decreased by 0.33 percentage points; CCB's and PSBC's decreased by 0.13 percentage points.

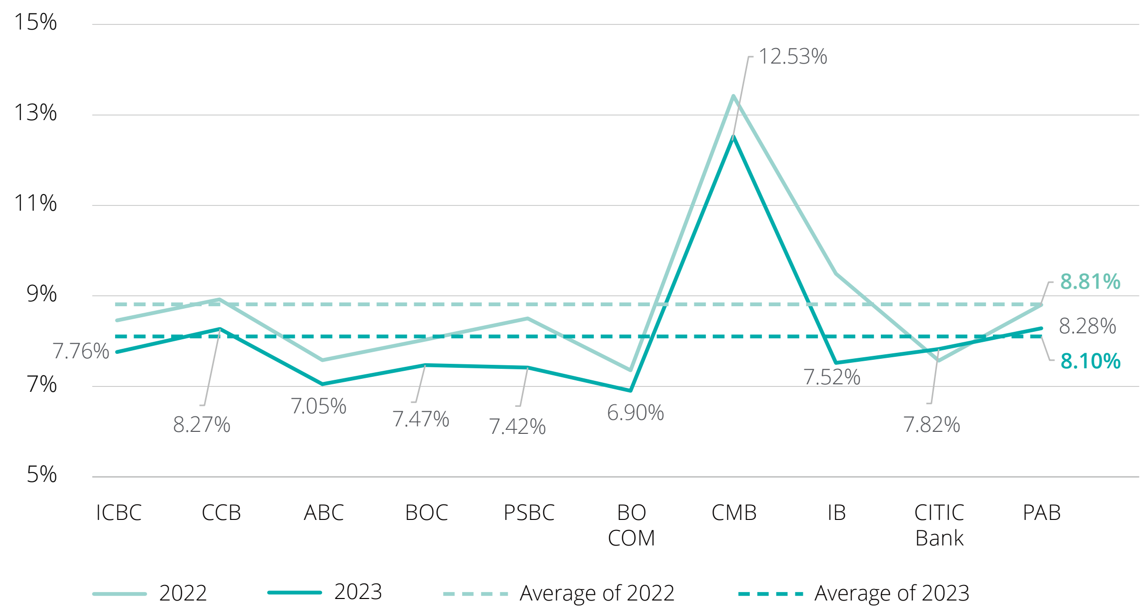
2023, domestic banks' average risk-adjusted return on capital ("RAROC") was 8.10%, down 0.71 percentage points year-on-year. CITIC Bank's RAROC increased slightly by 0.26 percentage points, while other domestic banks' RAROCs decreased. CMB gained an RAROC of 12.53% thanks to its advantage in capital-light businesses, which was 0.89 percentage points down from the previous year. CMB's RAROC was still significantly higher than the rest of the domestic banks.

Figure 5: RORWA



Note: RORWA = net profit/ average risk-weighted assets

Figure 6: RAROC



Note: RAROC = net profit/net capital

Cost reduction and efficiency improvement pressure still existed; per capita net profit stabilized

In 2023, domestic banks' average per capita net profit was RMB911,300, down 0.06%. Overall, domestic banks were still pressed to reduce costs and improve efficiency. Joint-stock banks' average per capita net profit was RMB1,132,900, much higher than large state-owned banks' RMB763,600. Among the joint-stock banks, CMB's per capita net profit reached RMB1,270,100, an increase of RMB37,400 or 3.04% over the previous year. Among the state-owned banks, PSBC's and ABC's per capita net profits were RMB438,400 and RMB598,300, respectively, lower than their peers due to their expansive outlets in towns and villages, a large number of employees, and business structures. ABC's, BOC's, and ICBC's per capita net profits increased by 4.52%, 3.82%, and 2.83%, respectively, indicating the effect of their measures to reduce costs and improve efficiency.

Figure 7: Per Capita Net Profit

Unit: RMB10,000

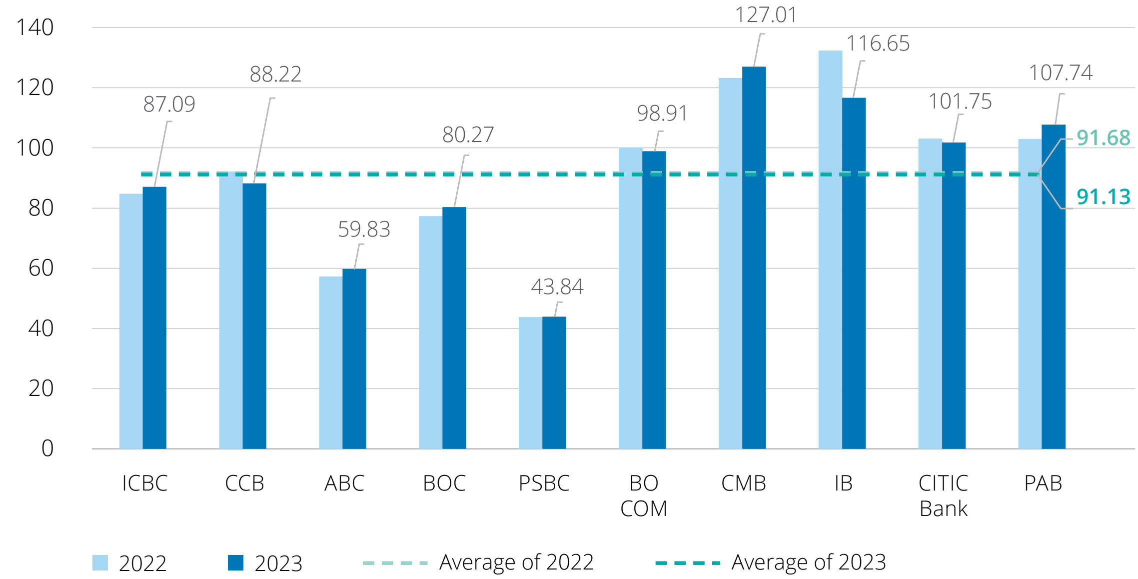


Table 1: Net Profit and Total Employees

Unit: RMB100 million/10,000 people

Item	ICBC	CCB	ABC	BOC	PSBC	BOCOM	CMB	IB	CITIC Bank	PAB
Net profit in 2023	3,651	3,325	2,698	2,464	864	933	1,480	777	681	465
Net profit in 2022	3,621	3,249	2,589	2,367	854	920	1,393	924	630	455
YoY variation	30	76	109	97	10	13	87	(147)	51	10
Employees at the end of 2023	41.93	37.69	45.10	30.69	19.71	9.43	11.65	6.66	6.69	4.31
Employees at the end of 2022	42.76	35.26	45.23	30.62	19.51	9.18	11.30	6.98	6.11	4.42
YoY variation	(0.83)	2.43	(0.13)	0.07	0.20	0.25	0.35	(0.32)	0.58	(0.11)

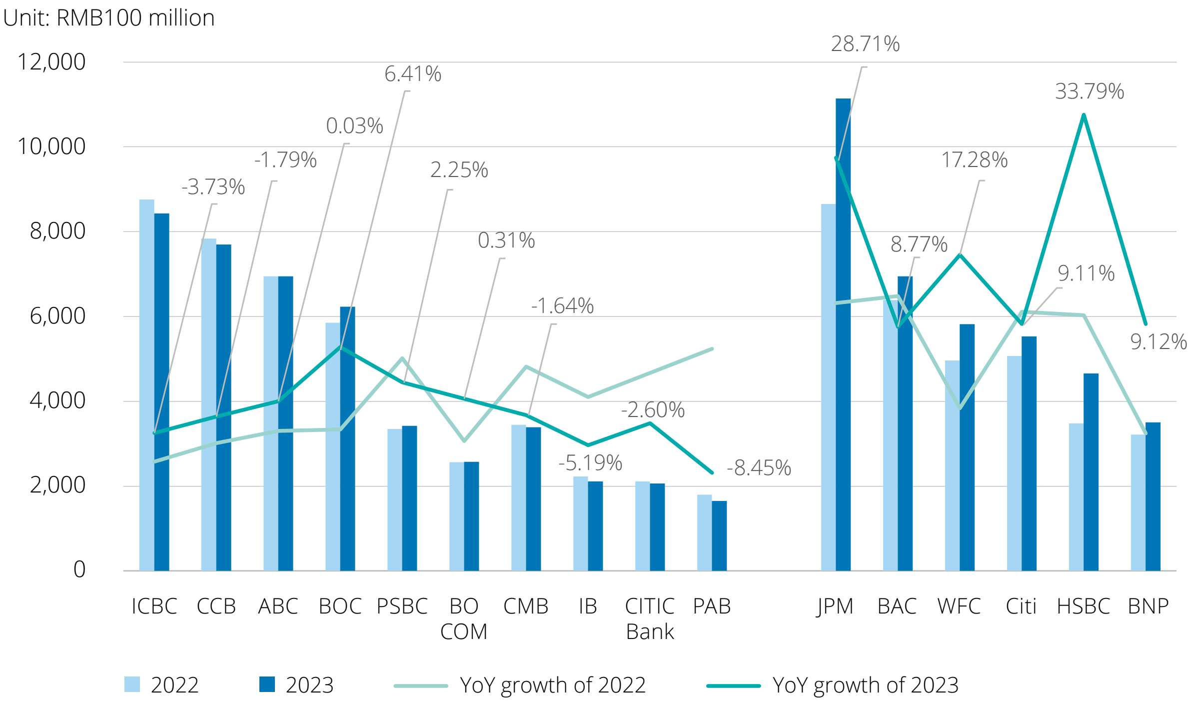
Domestic banks' total operating income registered negative growth; income structure remained stable

In 2023, domestic banks' total operating income was RMB4.45 trillion, a year-on-year decrease of RMB38.5 billion or 0.86%. State-owned banks' operating income totaled RMB3.53 trillion, representing an overall decline of 0.02%. Specifically, ICBC and CCB recorded a year-on-year operating income decline due to decreased interest income caused by a narrowing of interest margins. Other state-owned banks maintained positive growth. Joint-stock banks' operating income totaled RMB920.5 billion, representing an overall decline of 3.95%. Among them, IB and PAB recorded an operating income decrease of more than 5%.

Foreign banks' operating income totaled RMB3.76 trillion, an increase of RMB583.3 billion year-on-year or 18.36%. HSBC's operating income increased by more than 25% (in the original currency), mainly due to price fluctuations in the financial market and rising interest rates.

In conclusion, in 2023, the loan prime rates (LPR) trended down. The net interest margin decline dragged down banks' net interest income. Banks continued to make fee cuts and interest concessions to support the real economy. In the meantime, the capital market volatility intensified. These factors impacted banks' intermediate business income and other net non-interest incomes. Consequently, domestic banks' operating income recorded negative growth for the first time in the past three years. Foreign banks' operating income increased significantly, driven by the rise in net interest income due to interest rate hikes.

Figure 8: Operating Income



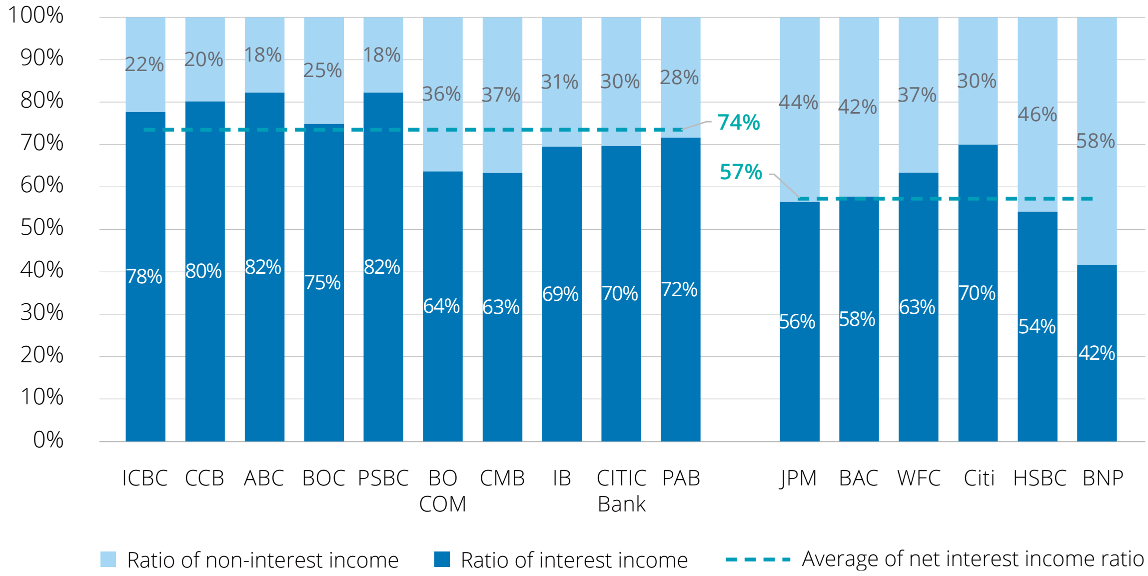
Note: the operating income of BAC, WFC, Citi and HSBC contained credit impairment loss.

Regarding the income structure, the average ratio of domestic banks' net interest income in their overall operating income ("net interest income ratio") was 74%, almost the same as the previous year. State-owned banks' average net interest income ratio was 77%, down 2 percentage points. Among them, ABC's and PSBC's ratios reached 82%; BOCOM's ratio was the lowest (63%), mainly because the bank leveraged its advantage of full licenses to significantly increase the income from the diversified intermediate businesses.

Joint-stock banks' average net interest income ratio was 69%, up one percentage point from the previous year.

Foreign banks' average net interest income ratio was 57%, significantly lower than domestic banks. Foreign banks' advantage was in non-interest businesses. BNP's net interest income ratio was only 42%, while its financial investment and insurance business incomes accounted for a relatively high ratio.

Figure 9: Operating Income Structure in 2023



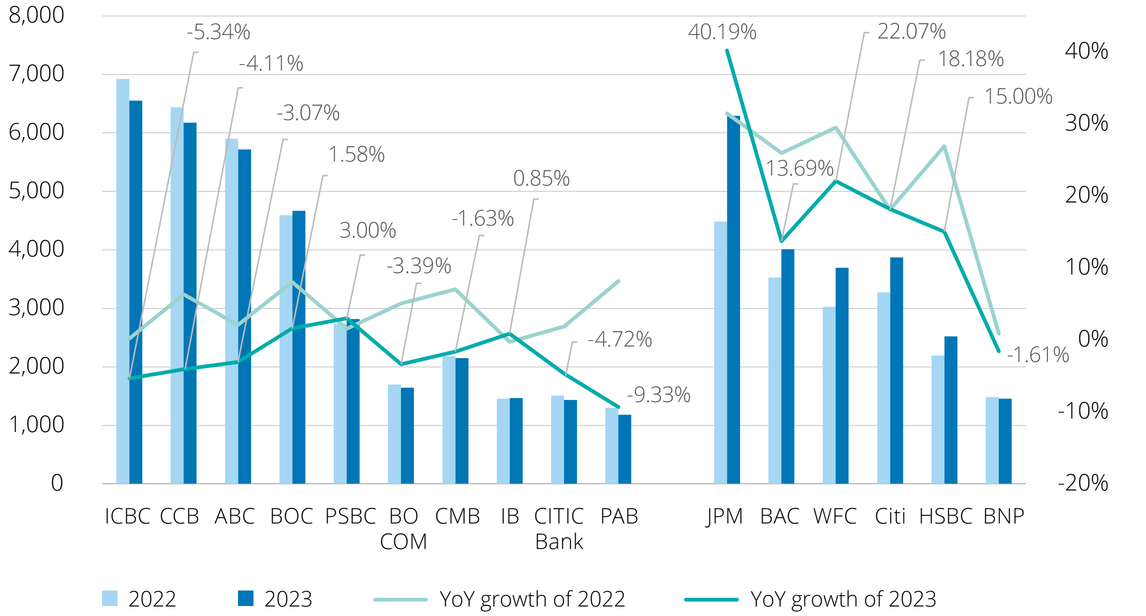
Loan interest rates remained at low levels; banks' net interest income pressure furthered

In 2023, domestic banks' net interest income totaled 3.38 trillion, a year-on-year decrease of RMB93.4 billion or 2.69%. Specifically, PSBC's, BOC's and IB's net interest incomes increased slightly by 3.00%, 1.58% and 0.85%, respectively, while the rest banks recorded negative growth. Domestic banks play a crucial role in the domestic financial system and supporting the recovery of the real economy. 2023 saw several LPR cuts and continuous loan interest rate declines, with main loan rates falling below 4.0%. Domestic banks' business strategy of increasing sales to compensate the losses from falling prices was less effective.

Foreign banks' net interest income totaled RMB2.18 trillion, an increase of RMB385.4 billion year-on-year, representing an average growth rate of 21.43%. JPM, WFC and Citi recorded remarkable double-digit growth (in the original currency).

Figure 10: Net Interest Income

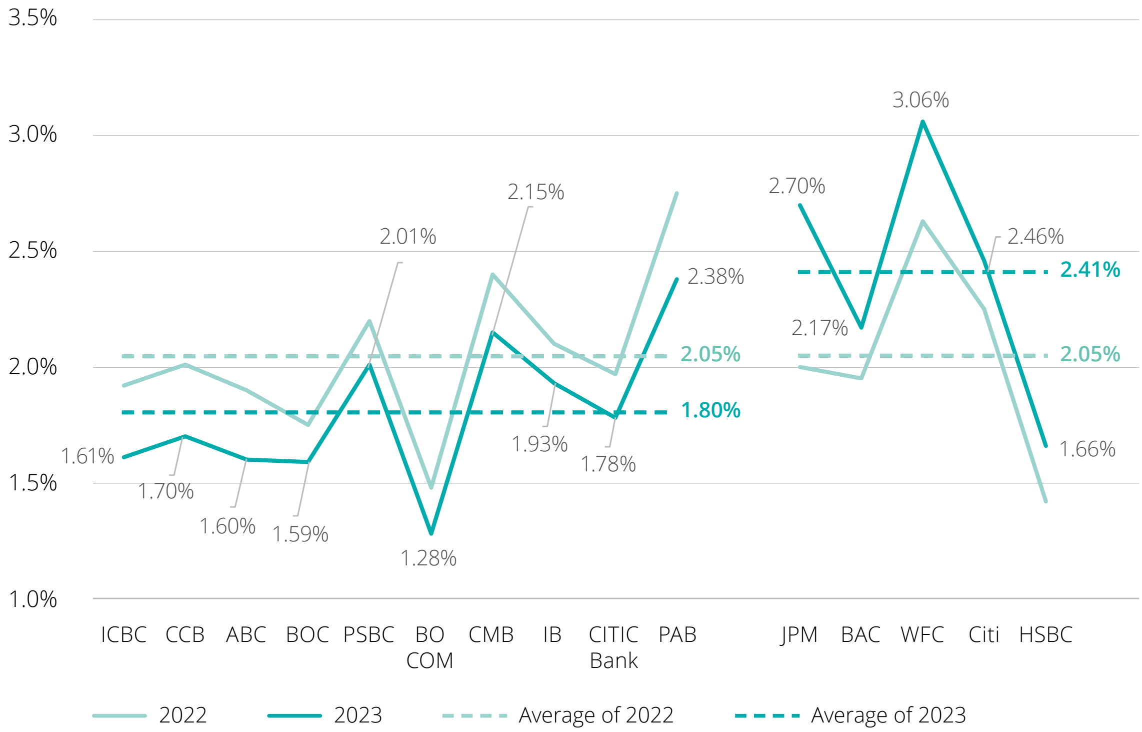
Unit: RMB100 million



In 2023, domestic banks' net interest margins shrank. Their average net interest margin was 1.80%, down 25 basis points year-on-year. State-owned banks' average net interest margin was 1.88%, down 25 basis points year-on-year. Among them, PSBC still recorded the highest net interest margin (2.01%), despite a year-on-year decline of 19 basis points. ICBC's, CCB's and ABC's net interest margins fell by 30 basis points. Joint-stock banks' average net interest margin stood at 2.31%, down 25 basis points year-on-year. PAB's net interest margin was the highest among the joint-stock banks, though it fell by 37 basis points.

Foreign banks' average net interest margin was 2.41%, up 36 basis points from 2022. JPM's net interest margin rose by 70 basis points. Generally, foreign banks' average net interest margin was 61 basis points higher than domestic banks.

Figure 11: Net Interest Margin



Note: BNP did not disclose its net interest margin.

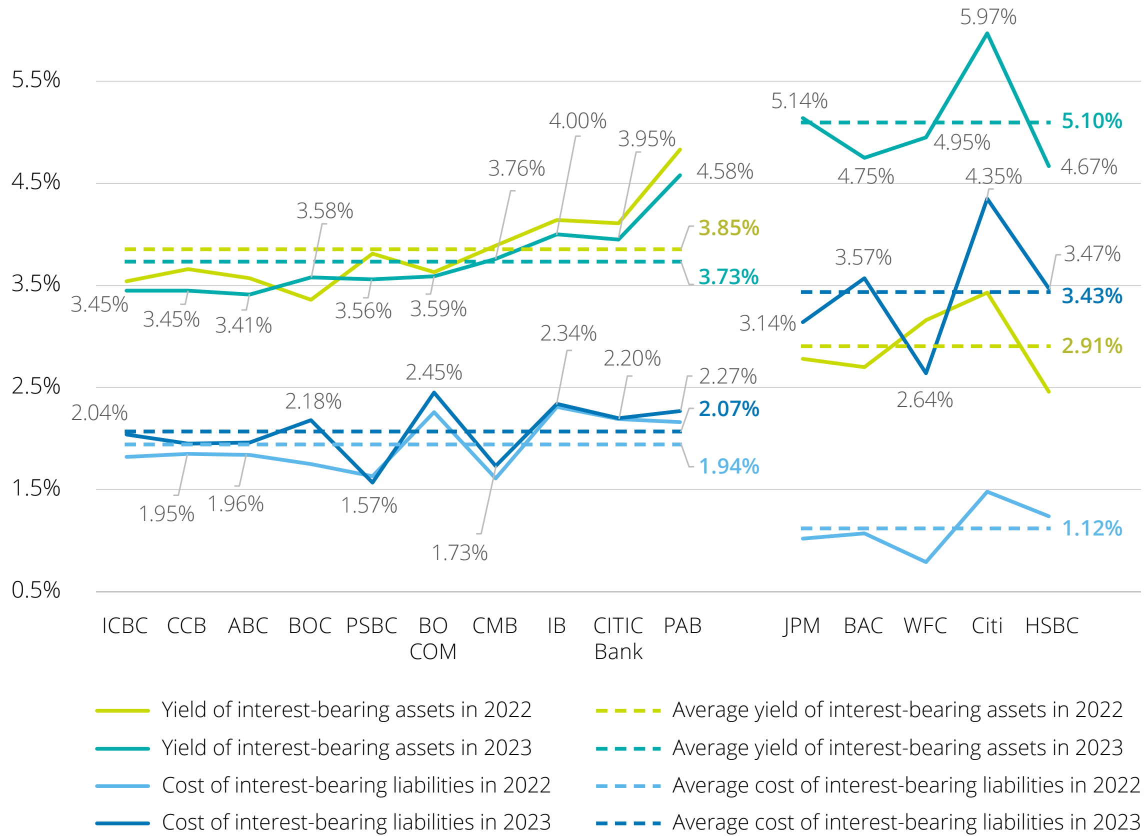
In 2023, domestic banks' average yield of interest-bearing assets was 3.73%, down 12 basis points year-on-year. Except for BOC, all other domestic banks' yields of interest-bearing assets dropped, mainly due to the cumulative effect of multiple LPR cuts and the impact of outstanding mortgage interest rate reduction in September. Domestic banks strengthened active management, optimized interest-bearing asset allocation, and adjusted their asset structures. All other banks' decreases of yields on interest-bearing assets were lower than the total one-year LPR declines (20 basis points) since the end of 2022, except for CCB, PSBC and PAB.

In 2023, domestic banks' average cost of interest-bearing liabilities was 2.07%, up 13 basis points year-on-year. Except for PSBC, all other domestic banks' costs of interest-bearing liabilities rose, mainly due to the slower-than-expected economic recovery and capital market volatility. As residents' precautionary saving willingness persisted, banks recorded a higher proportion of individual deposits and saw increasing fixed-term deposits. Although domestic banks have cut deposit rates thrice since June 2023 to ease the interest margin pressure, their deposit costs continue rising.

In 2024, as the mainstay of the financial sector, banks will unceasingly shoulder the responsibility of serving the real economy. Domestic banks' net interest margin may shrink in the low interest rate market environment. Therefore, banks must optimize their asset and liability structures and expand capital-light non-interest businesses while implementing the Central Financial Work Conference requirements and increasing credit supply to balance the national mission and their profits.

In 2023, foreign banks' average yield of interest-bearing assets and cost of interest-bearing liabilities increased significantly by 219 and 231 basis points year-on-year. This is mainly caused by the Federal Reserve's interest rate hikes, the developed economies' monetary tightening, and the increases in overseas market interest rates.

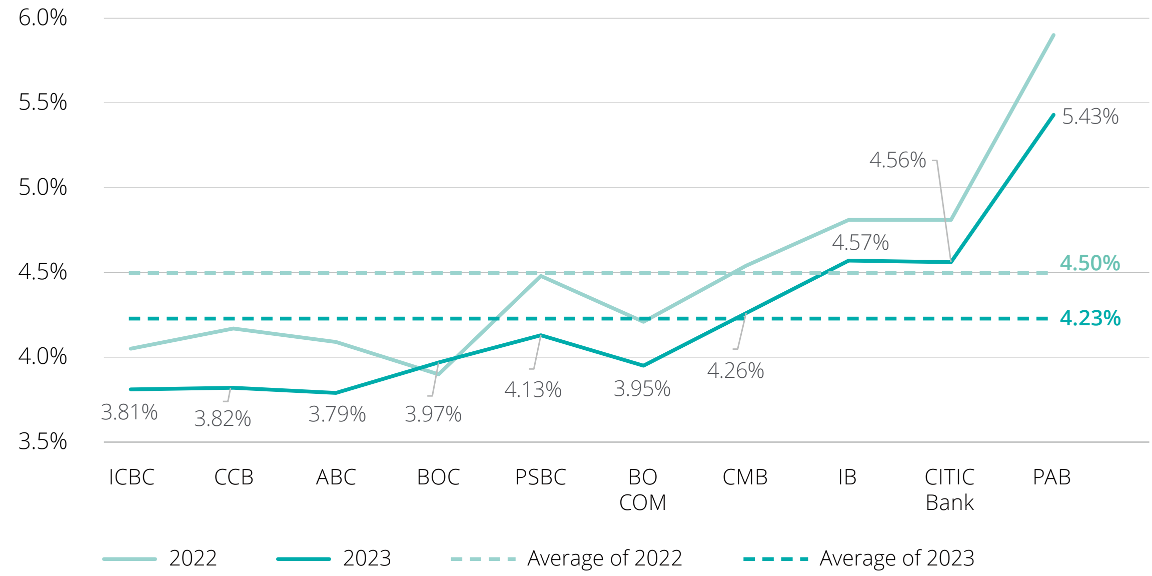
Figure 12: Yield of Interest-bearing Assets and Cost of Interest-bearing Liabilities



Note: BNP did not disclose its yield of interest-bearing assets and cost of interest-bearing liabilities.

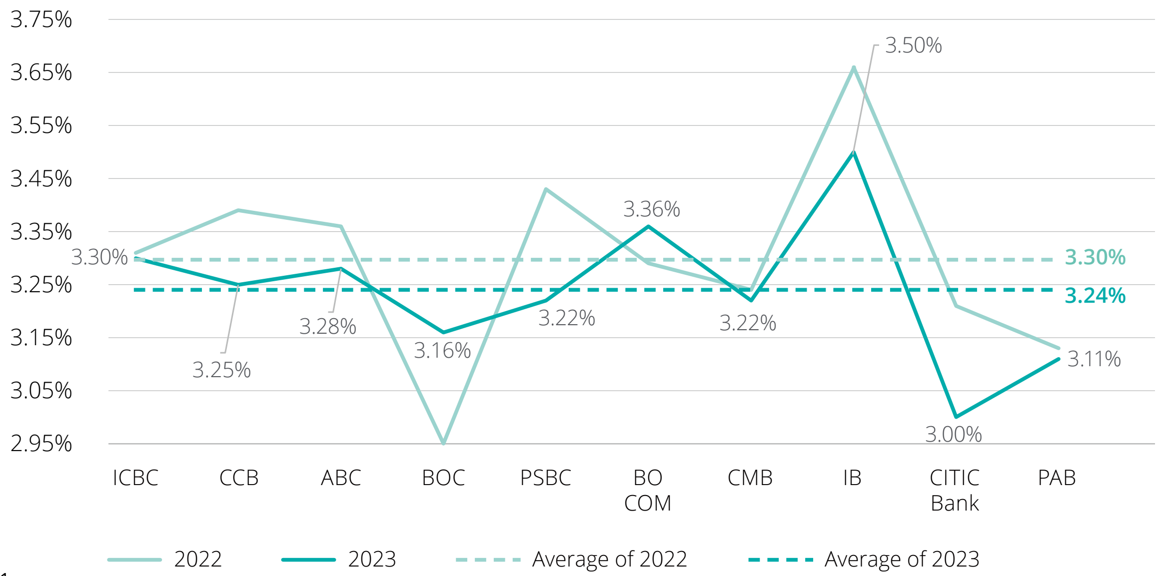
In 2023, domestic banks' average customer loan & advance yield was 4.23%, down 27 basis points year-on-year. State-owned banks' average customer loan & advance yield was 3.19%, down 24 basis points year-on-year. In addition to the impact of the LPR cuts, differentiated supporting policies in building strong agriculture, rural revitalization, and making fee cuts and interest concessions further drove PSBC's and ABC's customer loan & advance yields down by 35 and 30 basis points, respectively. Joint-stock banks' average customer loan & advance yield was 4.71%, down 31 basis points year-on-year. Among them, PAB's yield fell by 47 basis points due to the adjustment of loan structure and increase in collateral loans, but it is still the highest among its peers. Since long-term loan rates are generally repriced on January 1, the 2023's LPR reductions have not yet fully delivered their impacts. Domestic banks' loan yields are likely to drop further in 2024.

Figure 13: Customer Loan & Advance Yield



In 2023, domestic banks' average financial investment yield was 3.24%, down six basis points year-on-year, mainly due to the declines in market interest rates and bond yields. State-owned and joint-stock banks' average financial investment yields were 3.26% and 3.31%, respectively, down three and ten basis points year-on-year. IB recorded a financial investment yield of 3.50%, which is still higher than its peers, though down 16 basis points.

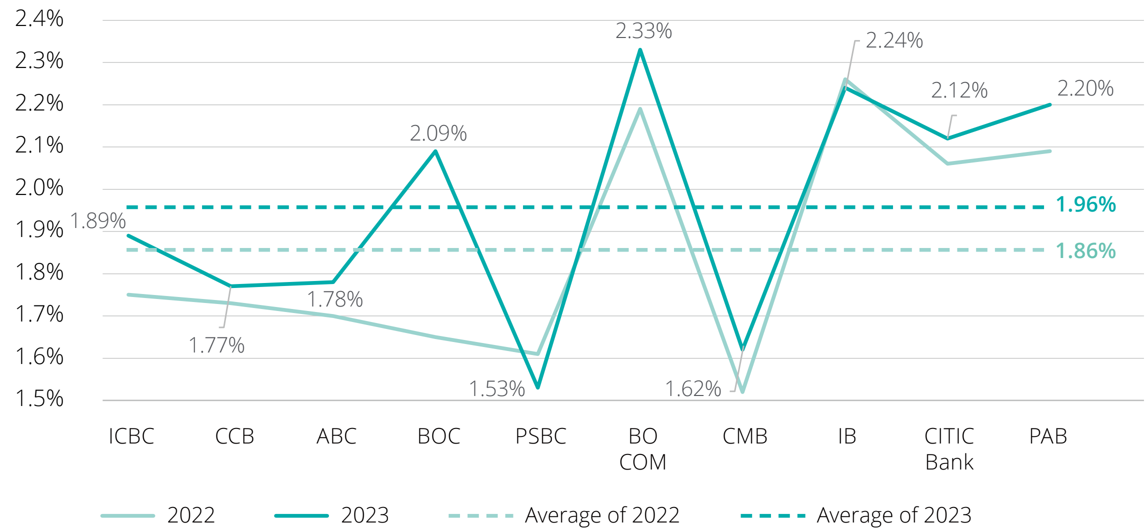
Figure 14: Financial Investment Yield



In 2023, domestic banks' average deposit cost ratio was 1.96%, an increase of ten basis points year-on-year. State-owned banks' average ratio was 1.90%, up 13 basis points year-on-year. Specifically, BOC's and ICBC's deposit cost ratios increased by 44 and 14 basis points due to the rising interest rates of foreign currency deposits and changes in deposit maturity structure. The significant increase in individual fixed-term deposits with high-cost ratios drove BOCOM's overall deposit cost ratio by 14 basis points. Joint-stock banks' average deposit cost ratio was 2.05%, up six basis points year-on-year. All other joint-stock banks' deposit cost ratios rose except for IB.

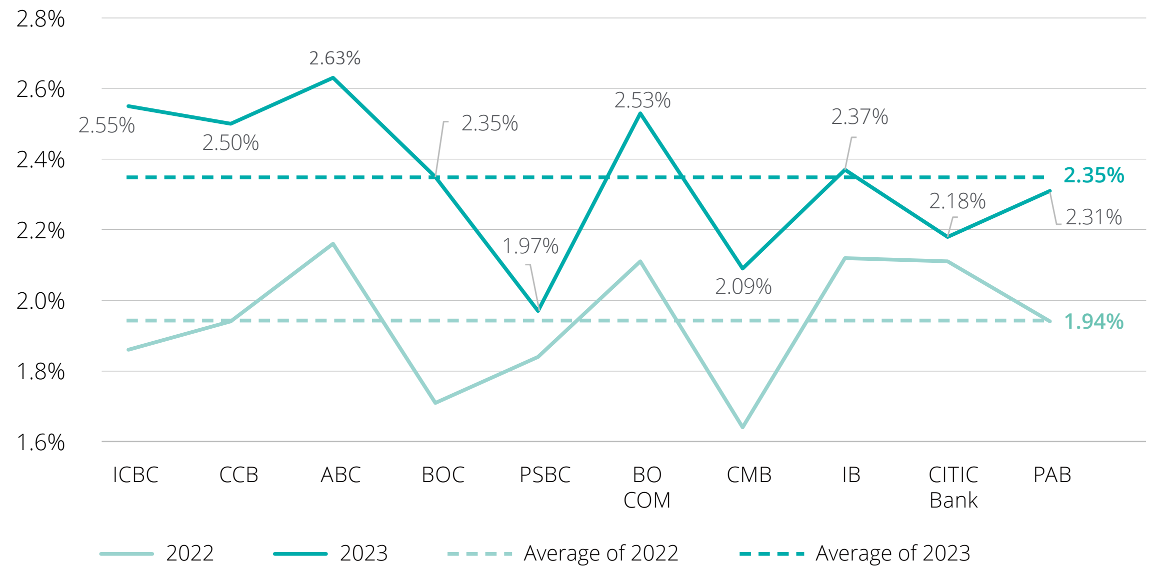
In 2023, domestic banks lowered deposit interest rates three times, respectively, in June, September, and December, to retard the narrowing of interest margins and reduce the overall costs of liabilities. The interest rates of long-term deposits were remarkably reduced. These rate cuts are expected to deliver effect in 2024.

Figure 15: Deposit Cost Ratio



In 2023, domestic banks' average cost ratio of interbank businesses was 2.35%, an increase of 41 basis points year-on-year. This is mainly due to inadequate market liquidity and rising equilibrium market interest rates caused by fiscal and credit easing and stable exchange rates.

Figure 16: Cost Ratio of Interbank Businesses



Note: Interbank businesses include interbank deposits and inter-financial institution deposits, loans from other banks and financial institutions, and financial assets sold for repurchase (for BOC, it also includes the liabilities to the People's Bank of China and other interest-bearing liabilities; for PAB, it also includes other interest-bearing liabilities.)

Income from intermediate businesses continued to be pressed; net income from commission charges trended down

In 2023, domestic banks' net income from commission charges totaled RMB639 billion, a year-on-year decrease of RMB42.5 billion or 6.24%, showing a continuous downward trend. This is primarily due to the slower-than-expected economic recovery and banks' continuous fee reductions and interest concessions. Although residents' consumption gradually improved, it has not yet recovered to the pre-pandemic levels. The income from bank card settlement (directly related to consumption) and new payment businesses slightly increased from 2022, mainly due to the low base in 2022. In addition, the capital market volatility and investors' heightened risk aversion led to declining incomes from insurance, funds, and other wealth management businesses. In August 2023, the National Financial Regulatory Administration ("NFRA") issued the *Notice on Regulating the Insurance Products from the Bank Agency Channel*, emphasizing that the commission charges of the bank insurance channel must ensure "reporting and practice consistency." It caused domestic banks' income from the agency insurance business to decline. Foreign banks' net income from commission charges totaled RMB774 billion, a year-on-year increase of RMB22.6 billion or 3.00%.

Regarding the proportion of net income from commission charges in the total operating income, the average proportion of domestic banks was 14.99%, down 1.21% from the previous year, and that of foreign banks was 21.32%, down 2.82%. In 2023, the average proportions of state-owned and joint-stock banks were 13.06% and 17.89%, respectively. Among the state-owned banks, CCB's 2022 and 2023 proportions were 14.81% and 15.04%, respectively, making it the only bank recording a rise in intermediate business income proportion. Among the joint-stock banks, PAB's intermediate business income accounted for 16.79% and 17.87% of its total operating income in 2022 and 2023, respectively, an increase of 1.08 percentage points, making it the only joint-stock bank with an increased intermediate business income proportion in 2023. CMB's commission charge proportions were the highest among joint-stock banks in 2022 (27.34%) and 2023 (24.80%).

Figure 17: Net Income from Commission Charges

Unit: RMB100 million

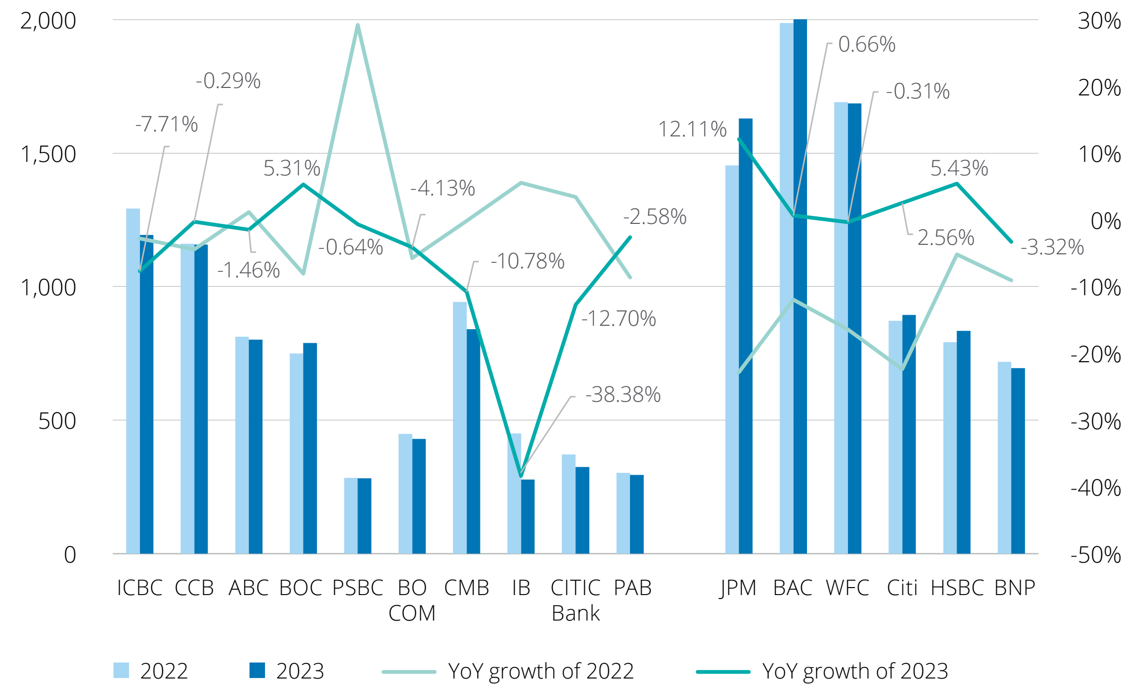
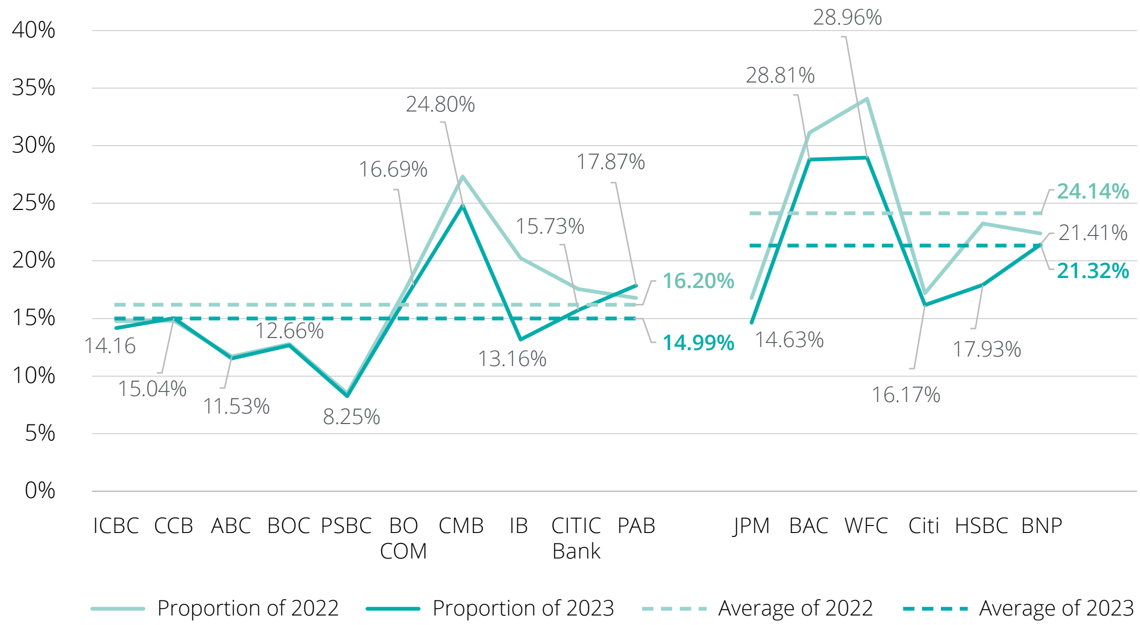


Figure 18: Proportion of Income from Commission Charges



With capital market fluctuations and enhanced banking supervision, residents' saving willingness strengthened and income from wealth management trended down

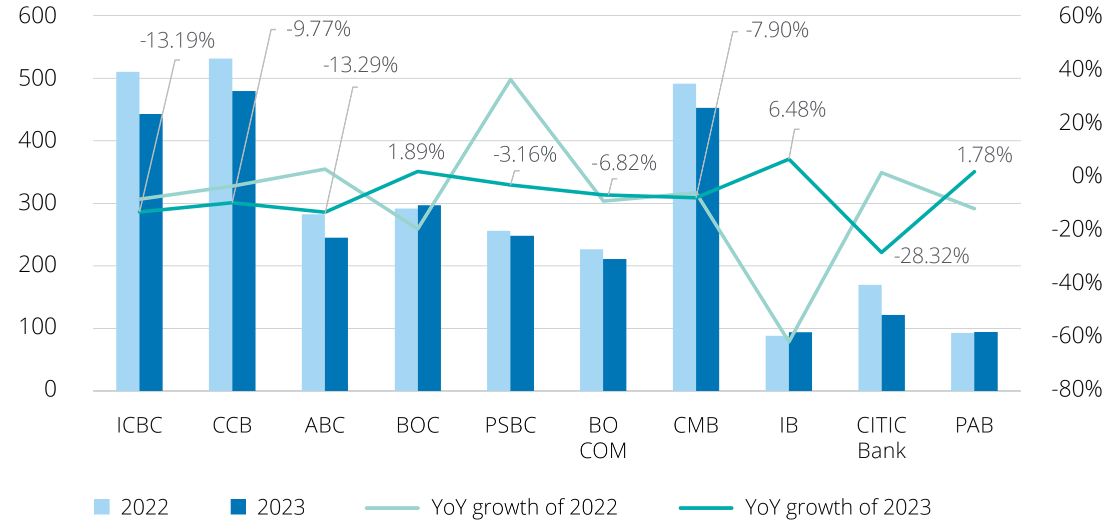
In 2023, China's per-capita disposable income stood at RMB39,218, an increase of 6.3% over the previous year. After deducting price factors, per capita disposable income rose 6.1% (higher than 2022's 2.9%). However, affected by the geopolitical conflicts, the Federal Reserve's interest rate hikes, upside-down interest rates of treasury bonds in China and the U.S., and volatile domestic business environment and industrial chains, residents' tendency toward precautionary savings enhanced. Therefore, the scales of wealth management and fund products shrank.

In 2023, domestic banks' income from commission charges of wealth management, agency and custody businesses totaled RMB268.6 billion, a year-on-year decrease of RMB25.4 billion or 8.65%. Specifically, CITIC Bank's, ABC's and ICBC's commission charge income from wealth management, agency and custody businesses decreased significantly from 2022, respectively by 28.32%, 13.29% and 13.19%. CITIC Bank's commission charge income from the custody business decreased RMB4.966 billion or 44.07% from the previous year.

ABC, ICBC and CCB recorded a remarkable decrease in commission charge income from the agency business. In 2023, bond yields decreased. Wealth management products' net value dropped with unstable yields. Consequently, investors' risk appetite altered. Their interest in wealth management products diminished. Banks' income from agency businesses decreased. In addition, in August 2023, the NFRA issued the *Notice on Regulating the Insurance Products from the Bank Agency Channel*, requiring insurance companies to report their fee structures and commission ceilings of the already-registered bank insurance products. The Notice also requires that insurance companies maintain consistency in the fees they pay and the fees in their filing materials. This policy promoted healthy competition in the insurance sector but affected banks' income from the insurance agency business.

Figure 19: Commission Charge Income from Wealth Management, Agency and Custody Businesses

Unit: RMB100 million



Note: PAB's and IB's commission charge incomes from wealth management businesses were not disclosed in their annual reports. They were included in other commission charge income. Therefore, the data in the figure does not include PAB's and IB's commission charge income from wealth management businesses.

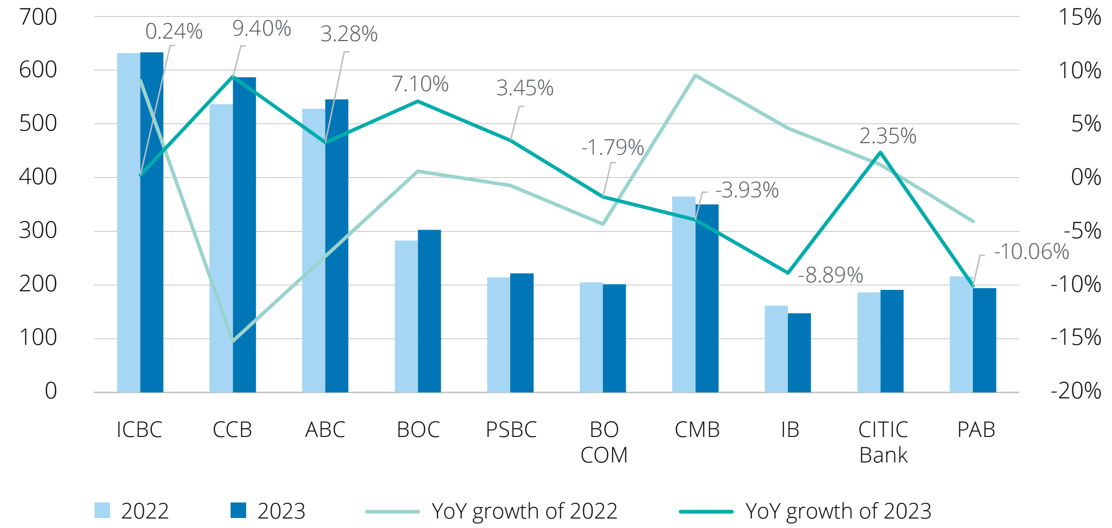
Consumer market recovered slowly; income from traditional intermediate businesses grew slightly

In 2023, domestic banks generated RMB337.4 billion from traditional intermediate businesses, such as bank card and settlement & clearing businesses, a year-on-year increase of 1.41%. CCB, BOC, PSBC and ABC recorded a relatively higher growth rate, respectively by 9.40%, 7.10%, 3.45% and 3.28%. PAB's, IB's, CMB's and BOCOM's traditional intermediate business income decreased by 10.06%, 8.89%, 3.93% and 1.79%. Other banks' changes were relatively mild.

In 2023, the economic recovery was slower than expected. The consumer market did not recover to the pre-epidemic levels. Offline trade and consumption rebounded, driving a slight increase in the overall income of bank card businesses. Electronic payment has become increasingly popular with the technical advancements and business expansion of payment platforms. Many banks vigorously developed electronic payment services in response to customers' financial needs and the mobile payment trend, expanding electronic payment transactions and increasing relevant income.

Figure 20: Income from Commission Charges of Bank Card and Settlement & Clearing Businesses

Unit: RMB100 million

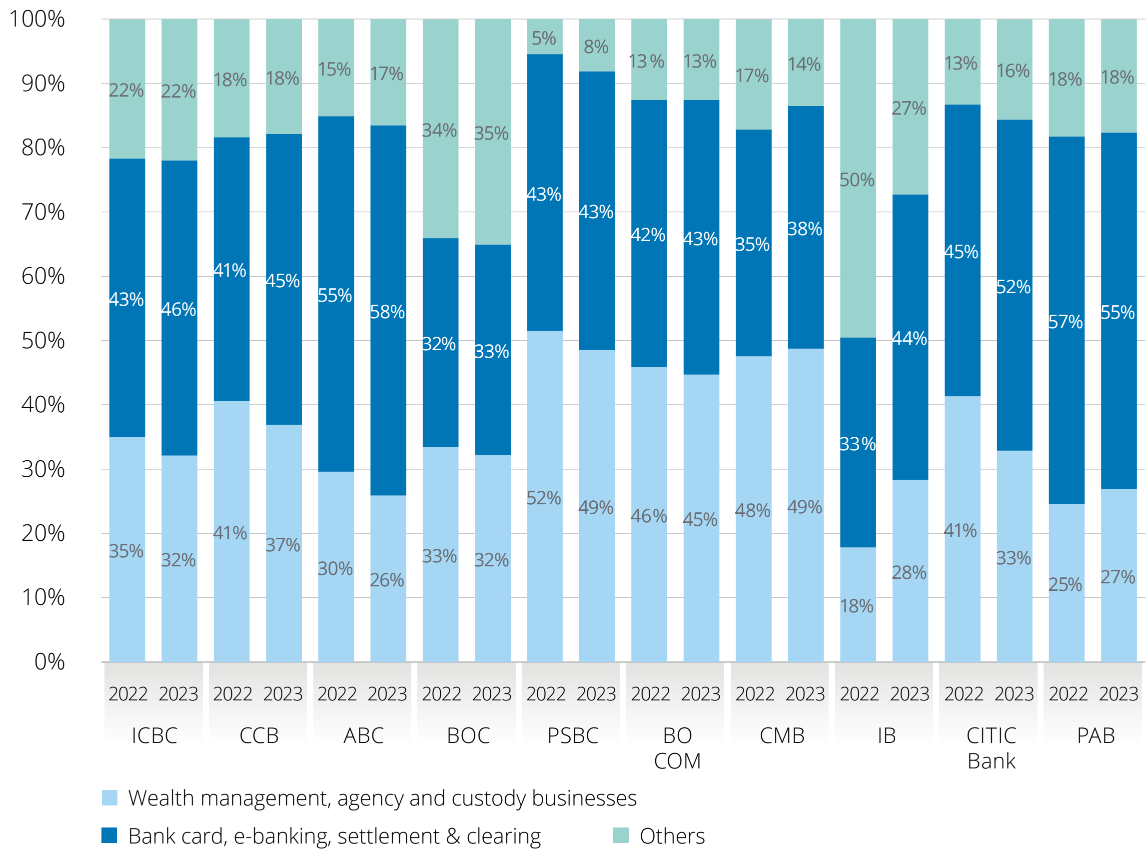


Income structure of intermediate businesses remained stable, with income mainly from traditional intermediate and agency businesses

Domestic banks' intermediate business income structure remained stable, mainly from bank cards, settlement & clearing, wealth management, agency, and custody businesses. In 2022 and 2023, domestic banks' wealth management, agency, and custody businesses, on average, accounted for 36.73% and 35.73% of their total commission charge income, down one percentage point. Their bank card and settlement & clearing businesses averagely accounted for 42.72% in 2022 and 45.67% in 2023, an increase of 2.95 percentage points. The proportions of other businesses were 20.55% and 18.61% for the two years, respectively.

In addition, in 2023, the impact of wealth management on the intermediate business income structure weakened due to the volatile and sluggish capital market. IB's old wealth management products were scaled down, so the relevant commission charge income decreased. Therefore, IB's proportion of "other commission charge income" fell to 27%, and the proportion of commission charge income from other traditional intermediate businesses increased accordingly. As the custody business income declined, CITIC Bank's income proportion of wealth management, agency and custody businesses (in the total commission charge income) dropped by more than eight percentage points. This proportion of other domestic banks fell or rose slightly.

Figure 21: Commission Income Structure



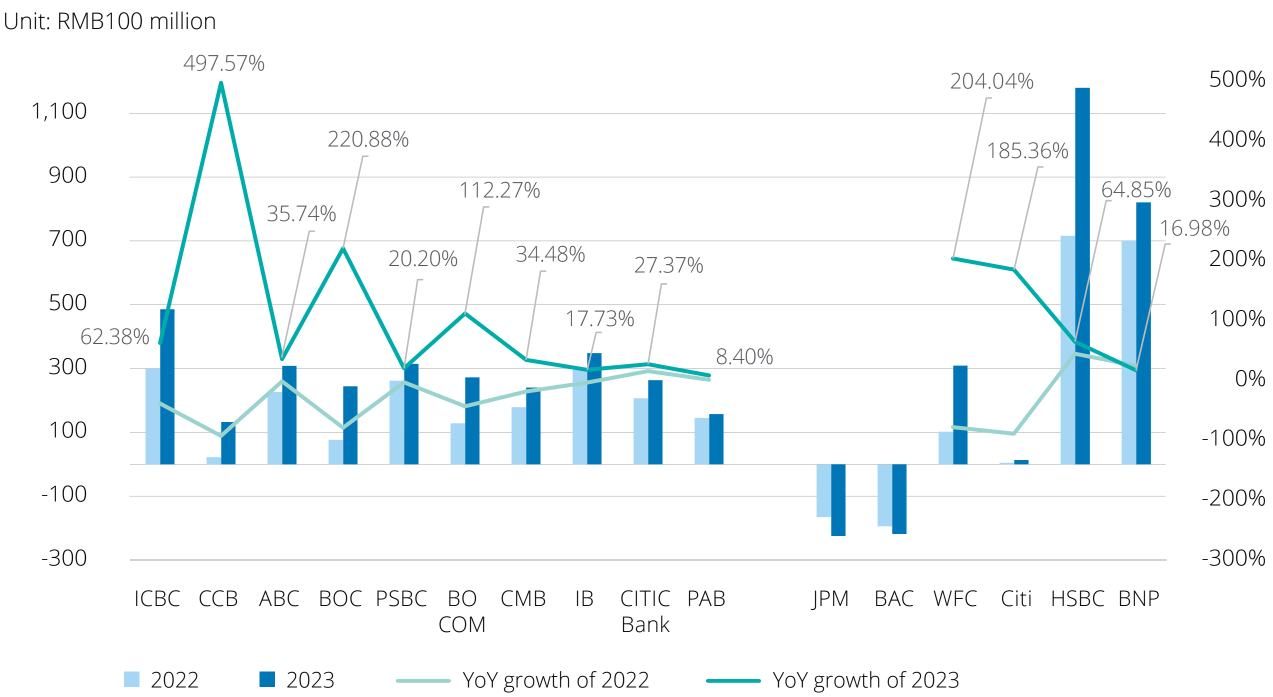
Domestic banks' investment capacity was highlighted; foreign banks' liquidity risks emerged

In 2023, domestic and foreign interest rate policies diverged, with the yield curve reversed continuously. Domestic and foreign banks' financial investment incomes generally increased except for JPM and BAC. Domestic banks' financial investment income totaled RMB276.7 billion, up RMB92.6 billion year-on-year, representing an average increase of 50.33%. Specifically, state-owned banks' total financial investment income reached RMB175.8 billion, an increase of 73.29%. State-owned banks had a higher proportion of standardized investments, such as rate bonds. The declining interest rates in the domestic market affected bond investment yields. For instance, the 10-year treasury bond yield dropped to the year-end's 2.56% from 2.82% at the beginning of 2023, down 26 basis points. In the meantime, some financial asset investments' yields climbed.

Joint-stock banks' financial investment income totaled RMB100.9 billion, an increase of 22.13%, mainly due to the relatively higher proportion of non-standardized and fund investments. As they implemented differentiated investment strategies, their investment income growth was lower than that of state-owned banks.

Foreign banks' financial investment income totaled RMB187.9 billion, an increase of 57.91%. JPM and BAC sold U.S. Treasury and other bonds, aggravating investment losses; affected by the Federal Reserve's continuous interest rate hikes, the US Treasury yield jumped. The other four banks readjusted their asset portfolios and strengthened the disposal of trading assets to adapt to market changes. Their investment income rose from RMB152.4 billion in 2022 to RMB232.3 billion in 2023. Generally, the U.S. Treasury yield curve is inverted; liquidity risks press overseas financial institutions due to mismatching assets and liabilities.

Figure 22: Income from Financial Asset Investment



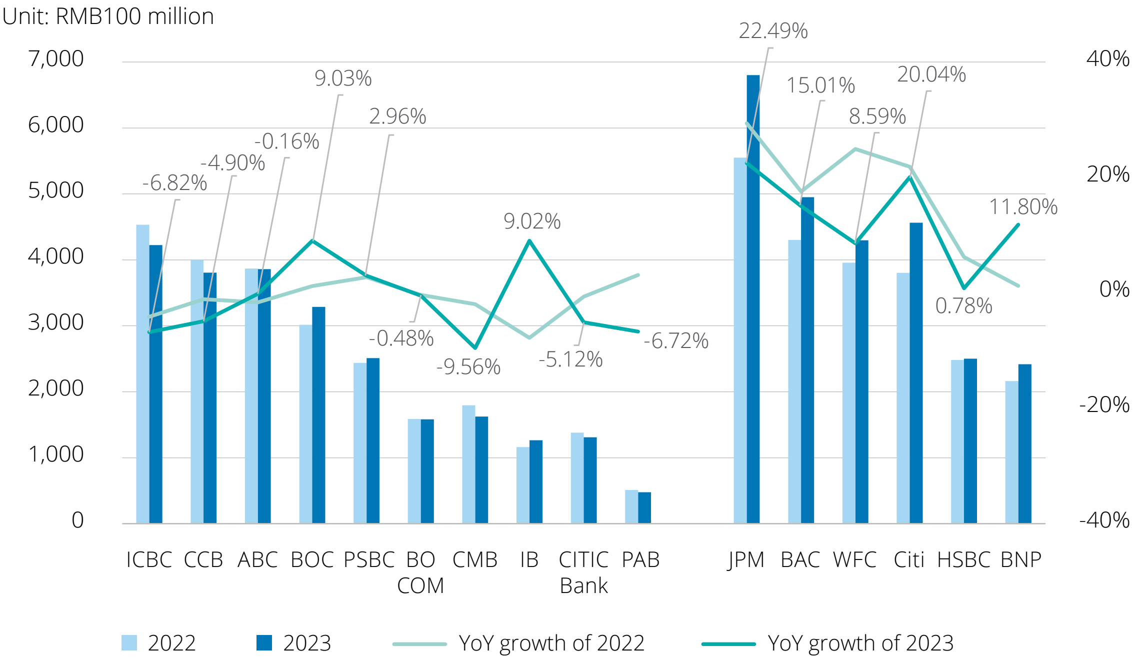
Note: JPM and BAC recorded financial asset investment losses in 2022 and 2023. Thus, their data were not shown in the figure above.

Domestic banks' operating expenses decreased, while foreign banks' continued to rise

In 2023, domestic banks' operating expenses totaled RMB2,394.7 billion, decreasing RMB34.7 billion or 1.43% (considering the prior-year impact of the changes to the *Accounting Standards for Business Enterprises No. 25 – Insurance Contracts*). Specifically, impairment losses amounted to RMB838.6 billion, down RMB94.9 billion or 10.16% year-on-year; business and administration expenses amounted to RMB1,436.5 billion, up RMB26.3 billion or 1.86%. Most of the domestic banks' operating expenses decreased. CMB and ICBC recorded a remarkable drop, respectively by 9.56% and 6.82%, mainly due to the decline in impairment losses.

In 2023, foreign banks' total operating expenses reached RMB2,552.8 billion, an increase of RMB327.1 billion or 14.70%. Specifically, impairment losses amounted to RMB370.9 billion, an increase of RMB98 billion or 35.89%; business and administration expenses amounted to RMB2,240.3 billion, an increase of RMB238.7 billion or 11.93%. The 2023 growth of foreign banks (except BNP) was significantly lower than that of 2022 (in the original currency).

Figure 23: Operating Expenses



Note: Impairment losses include credit impairment losses and other asset impairment losses.

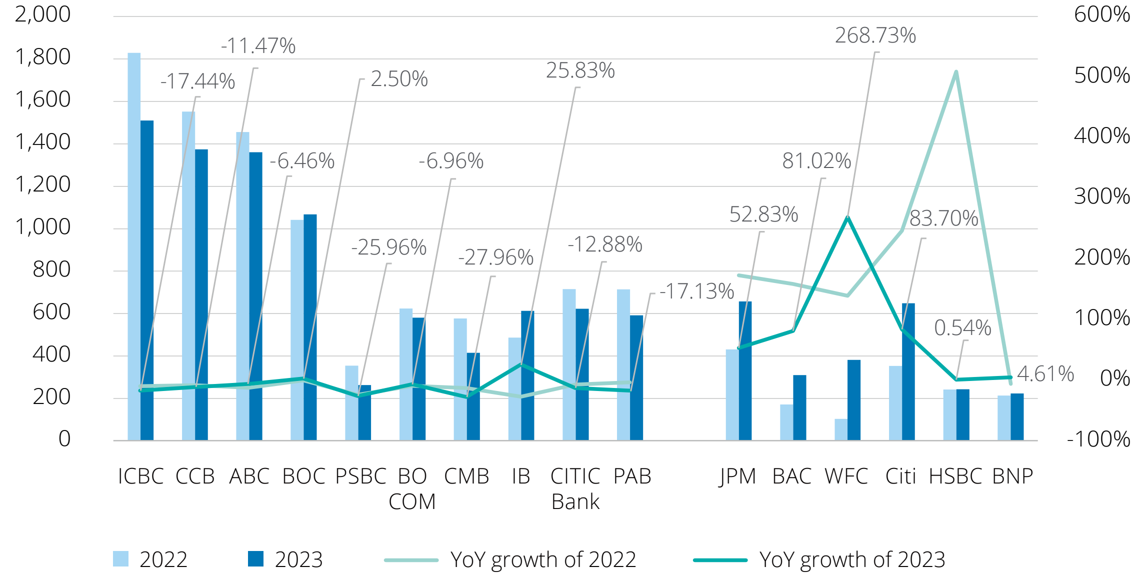
Domestic and foreign banks' impairment provision trends varied

In 2023, domestic banks' provisions for impairment losses totaled RMB838.6 billion, a year-on-year decrease of RMB94.9 billion or 10.16%, marking the third year of decline (3.90% and 10.34% in 2021 and 2022, respectively). All ten domestic banks' impairment provisions decreased in 2022. However, in 2023, eight banks' provisions decreased—ICBC's, CCB's, PSBC's, CMB's, CITIC Bank's and PAB's decrease exceeded 10%; BOC's and IB's impairment provisions increased—IB's increase exceeded 20%. In 2023, domestic banks comprehensively strengthened the disposal of nonperforming assets, enhanced asset quality management, and made reasonable provisions for impairment losses, maintaining good ability to offset risks.

Foreign banks' impairment losses totaled RMB245.9 billion in 2023, a year-on-year increase of RMB94.9 billion or 62.83%, marking a second-year provision increase. In 2023, as the U.S. economy slowed continuously, regional bank crises broke out frequently, and asset quality deteriorated. Thus, banks increased provisions for credit risks to withstand the economic downward pressure. The nonperforming ratio of European banks remained low, and their asset impairment losses differed inconsiderably from that of 2022. The provision growth of JPM, BAC and Citi narrowed slightly (in the original currency).

Figure 24: Impairment Losses

Unit: RMB100 million

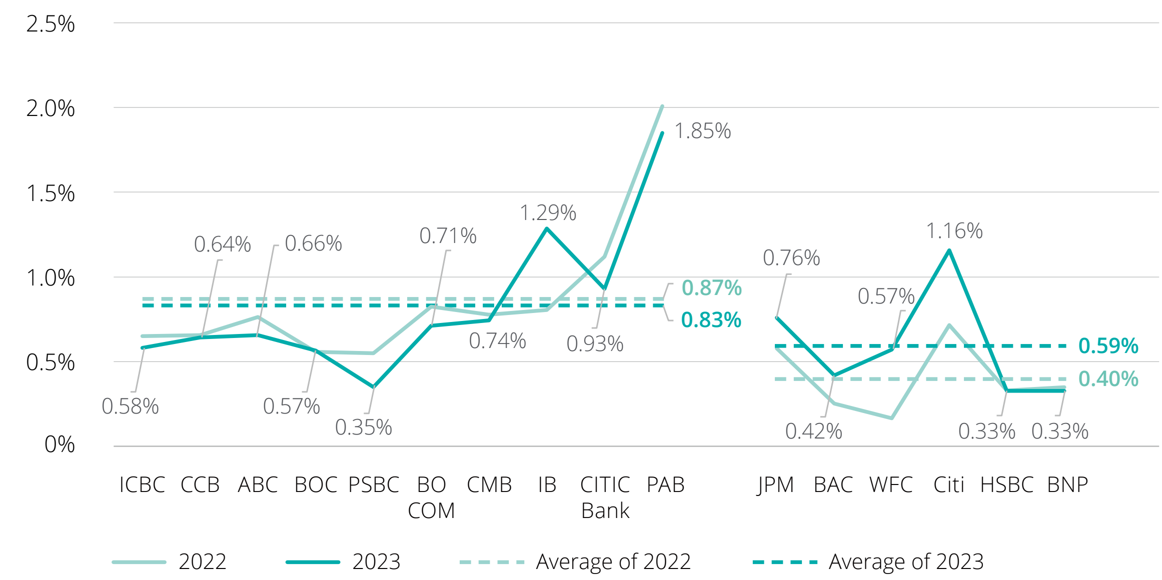


Note: The 2022 correlation data of CCB, BOC, ABC and BOCOM have been restated.

In 2023, with higher loan balances and lower impairment provisions, domestic banks' average credit cost ratio stood at 0.83%, down 0.04 percentage points year-on-year. PSBC's, CITIC Bank's, and PAB's credit cost ratios fell by 0.20, 0.19, and 0.16 percentage points, respectively. PAB's ratio (1.85%) was still the highest among domestic banks due to its risk appetite. IB's ratio rose 0.48 percentage points.

Foreign banks' average credit cost ratio was 0.59% in 2023, an increase of 0.19 percentage points year over year. Citi's credit cost ratio was the highest, 0.68 percentage points higher than the average of other foreign banks. The increase in foreign banks' credit costs was mainly caused by the significant rise in banks' provisions for loan impairment losses—WFC had the most remarkable provision increase.

Figure 25: Credit Cost Ratio



Note 1: Credit cost ratio=credit impairment losses on loans/average balance of loans at the beginning and end of the period
Note: The 2022 data of CCB, BOC, ABC and BOCOM have been restated.

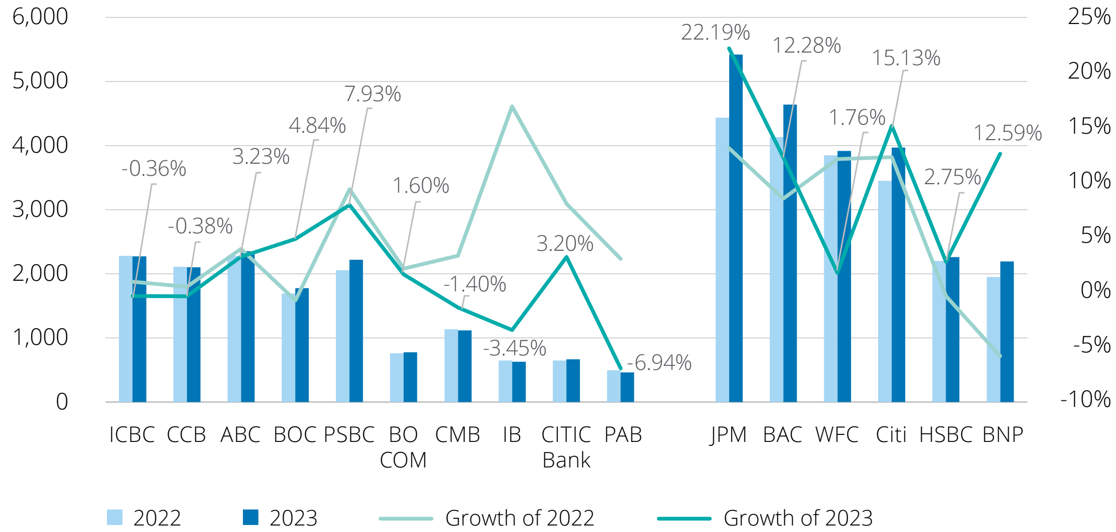
Business and administration expense growth slowed; cost control improved

In 2023, domestic banks' business and administration expenses totaled RMB1,436.5 billion, a year-on-year increase of RMB26.3 billion or 1.86%, slightly lower than 2022's growth rate (3.60%). The growth rates of PSBC, BOC, CITIC Bank and ABC were higher than the overall growth rate, with PSBC recording the highest rate of 7.93%. Except for BOC, the rest of the domestic banks' 2023 growth rates were lower than 2022. The business and administration expenses of PAB, IB, CMB, and CCB decreased compared with those of 2022.

Foreign banks' business and administration expenses totaled RMB2,240.3 billion, an increase of RMB238.7 billion or 11.93%. Foreign banks' growth rates were generally higher than that of domestic banks. JPM and Citi had relatively higher growth rates, exceeding 10 percentage points (in the original currency).

Figure 26: Business and Administration Expenses

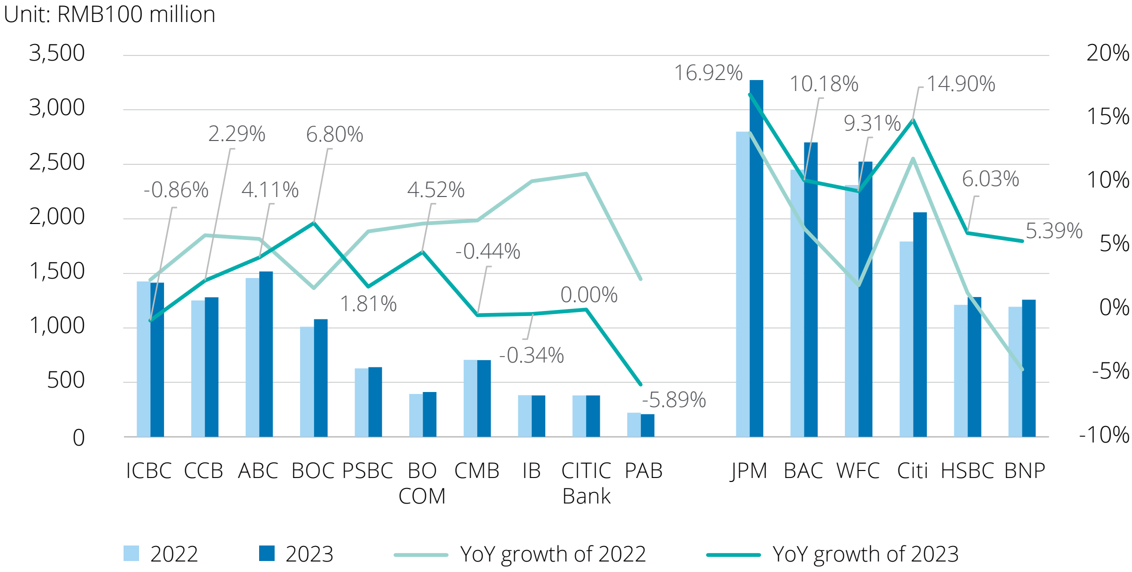
Unit: RMB100 million



In 2023, domestic banks' employee costs totaled RMB801.4 billion, a year-on-year increase of RMB15.7 billion or 1.99%. Specifically, BOC recorded the highest growth rate of 6.80%. The rest of the banks' growth rates were lower than 5%. Overall, except for BOC, the growth of the rest of the banks slowed compared with 2022. PAB's growth fell by 5.89%. Domestic banks have continued to optimize their income distribution structures in recent years and strived to reduce employee costs and improve efficiency.

Foreign banks' employee costs totaled RMB1,310.2 billion, an increase of RMB134.3 billion or 11.42%. JPM's growth rate was the highest because it acquired First Republic Bank and increased its employees this year. Foreign banks' employee costs were generally higher than domestic banks, with more remarkable growth rates. Domestic banks' employee structures were relatively stable.

Figure 27: Employee Compensation

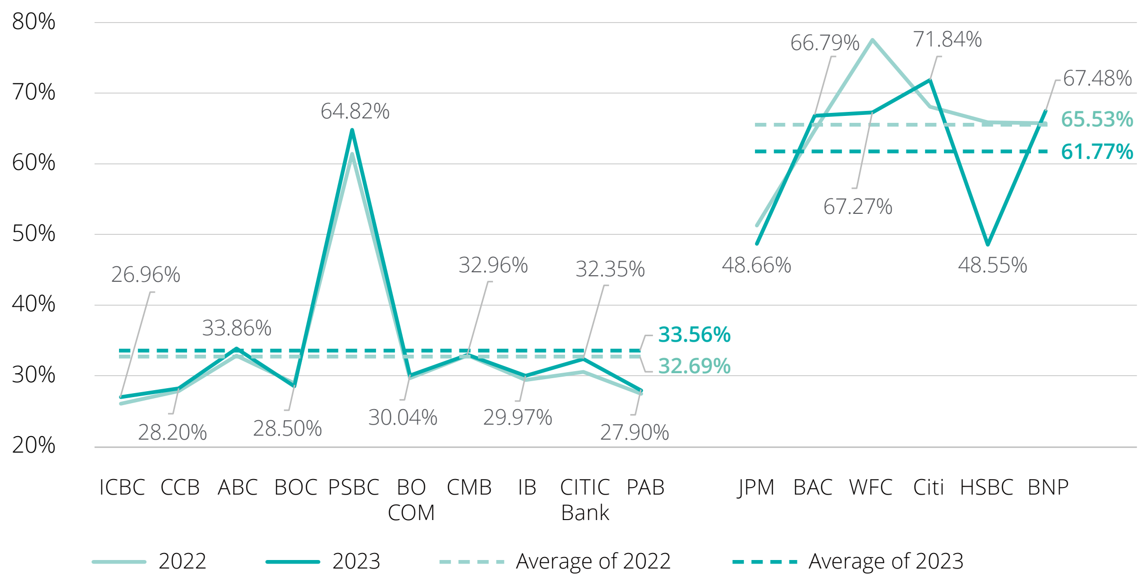


Cost-to-income ratio rose, requiring further efforts to reduce costs and improve efficiency

In 2023, domestic banks' average cost-to-income ratio was 33.56%, an increase of 0.87 percentage points year-on-year. PSBC had the highest cost-to-income ratio (64.82%) due to its special business model, followed by ABC (33.86%), CMB (32.96%), CITIC Bank (32.35%) and BOCOM (30.04%). Among the ten domestic banks, only BOC's increase was lower than that of 2022; PSBC, CITIC Bank and ABC recorded a cost-to-income ratio increase of 3.41%, 1.82% and 1.05%, respectively.

Foreign banks' cost-to-income ratios were generally higher than that of domestic banks, with an average ratio of 61.77%, a year-on-year decrease of 3.76%. Citi has the highest cost-to-income ratio (71.84%), followed by BNP (67.48%), WFC (67.27%) and BAC (66.79%).

Figure 28: Cost-to-Income Ratio



2.2

Assets

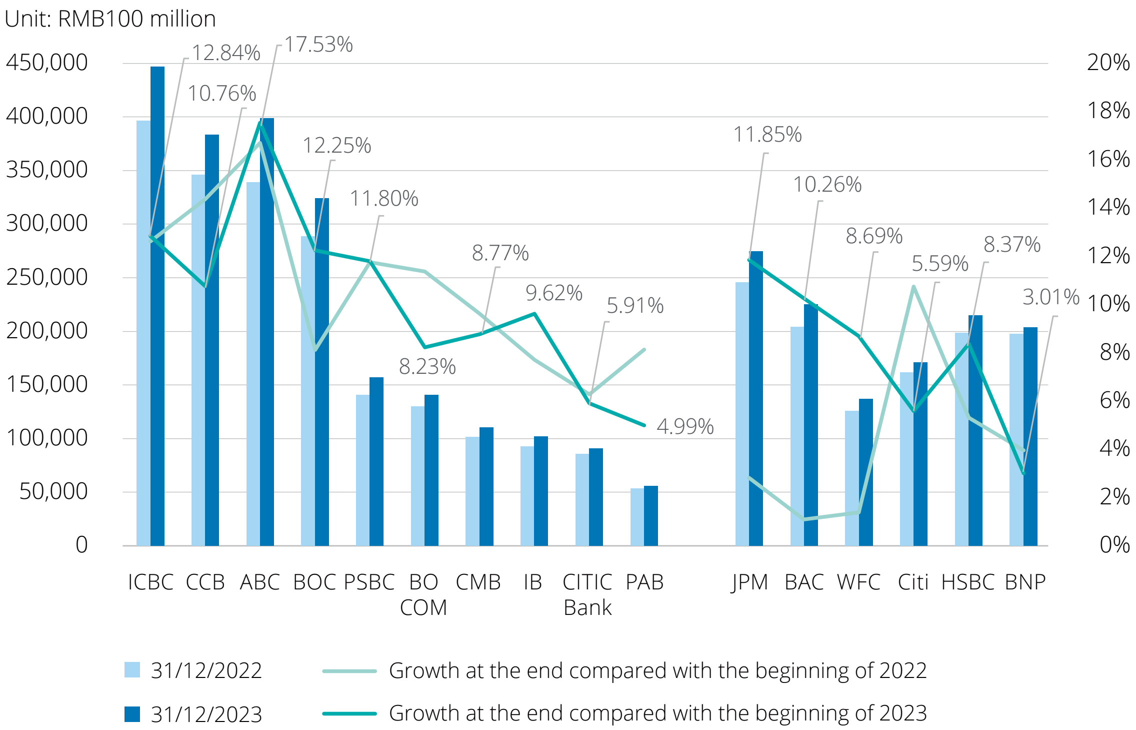
Asset structure remained stable amid steady asset expansion

At the end of 2023, the six state-owned banks' assets totaled RMB185.11 trillion, up RMB21.02 trillion or 12.81% (up 12.80% at the end of 2022) from the beginning of the year. ABC's asset growth reached 17.53%, the highest among the state-owned banks. The 2023 growth rates of ICBC, ABC, BOC and PSBC were higher than that of 2022. The total assets of the four joint-stock banks amounted to RMB35.83 trillion, up RMB2.56 trillion or 7.69% (down 0.27 percentage points from 2022's 7.96%). Among the joint-stock banks, only IB's growth rate was higher than that of 2022.

At the end of 2023, foreign banks' total assets reached RMB122.63 trillion. Foreign banks' asset scale remained stable, and their asset growth was lower than domestic banks. JPM and BAC had a relatively higher growth rate.

Overall, state-owned banks were still in a leading position in asset scale, and their asset growth was significantly higher than that of joint-stock and foreign banks.

Figure 1: Total Assets

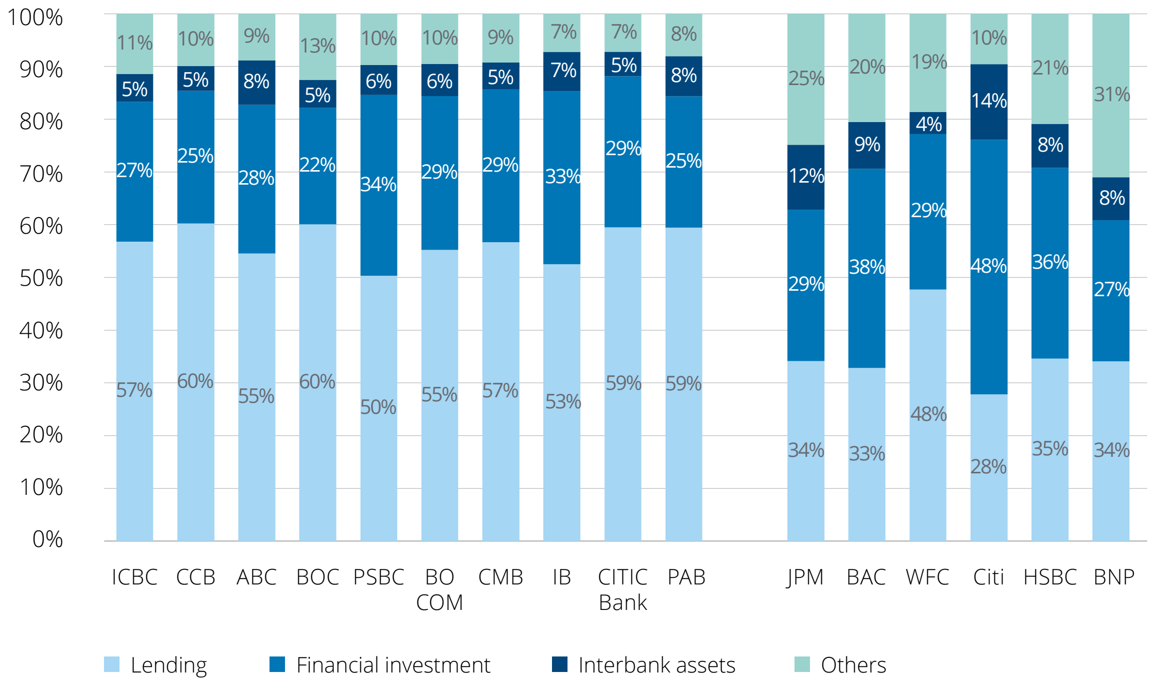


There was no significant difference in the asset composition of state-owned and joint-stock banks. The average proportions of domestic banks' lending, financial investment, and interbank assets were 56.53%, 28.06%, and 6.03%, down 0.04, 0.29, and 0.59 percentage points, respectively, from the beginning of the year.

As of the end of 2023, lending was still a significant component of domestic banks' assets. State-owned banks actively implemented counter-cyclical adjustment policies, vigorously supported the real economy, and increased loan supply. Their lending proportion rose 0.06 percentage points. Joint-stock banks faced relatively higher credit pressure, with their lending proportion falling 0.34 percentage points.

Foreign banks' average proportions of lending, financial investment and interbank assets were 35.19%, 34.50% and 9.35%, up 0.26, down 0.18 and up 0.02 percentage points, respectively, from the beginning of the year. The lending proportion of foreign banks was generally lower than domestic banks. Their asset allocation priorities were different.

Figure 2: Asset Composition at 31/12/2023



Loan growth slowed but loan scale expanded steadily

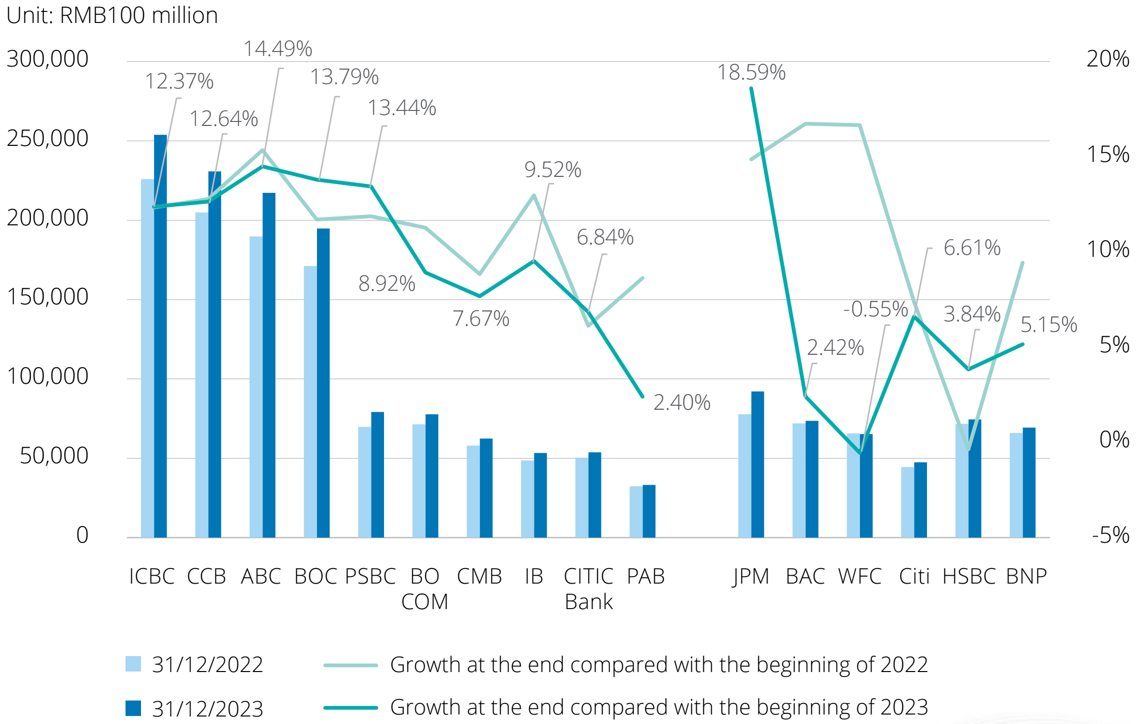
In 2023, domestic credit demand slowed during economic recovery. Various factors challenged credit supply. The People's Bank of China actively guided the steady growth of monetary credit, lowered the reserve ratio and interest rate twice, optimized the real estate financial policies, and guided financial institutions to invest resources in key areas and weak links and improve the quality and efficiency of financial services. 2023 saw reasonable growth in monetary credit and social financing. Banks' credit structures continued to improve, and their loan and advance increase reached a new high, maintaining a stable growth rate.

Specifically, the book value of domestic banks' loans and advances at the end of 2023 was RMB125.66 trillion, an increase of RMB13.40 trillion or 11.94% from the beginning of the year. The growth rate of loan supply decreased by 4.07 percentage points year-on-year. ICBC's, BOC's, PSBC's, and CITIC Bank's loan supply growth rates rose compared with 2022, while the rest of the domestic banks' growth rates dropped. BOC's loan supply growth rate rose 2.08 percentage points, while PAB's growth rate dropped 6.23 percentage points.

At the end of 2023, foreign banks' book value of loans and advances was RMB42.26 trillion, up RMB2.49 trillion from the beginning of the year, an average increase of 6.27%, and their loan supply growth rate dropped 4.37 percentage points year-on-year.

In 2023, domestic banks valued balancing credit supply and demand, optimizing funds supply, and maintaining loan expansion stability and sustainability while continually supporting the real economy. Affected by intensified geopolitical conflicts, tightened monetary policies in major economies, and other factors, the global economy recovered moderately. Against this background, foreign banks' credit assets were scaled up, but credit demand weakened.

Figure 3: Book Value of Loans and Advances

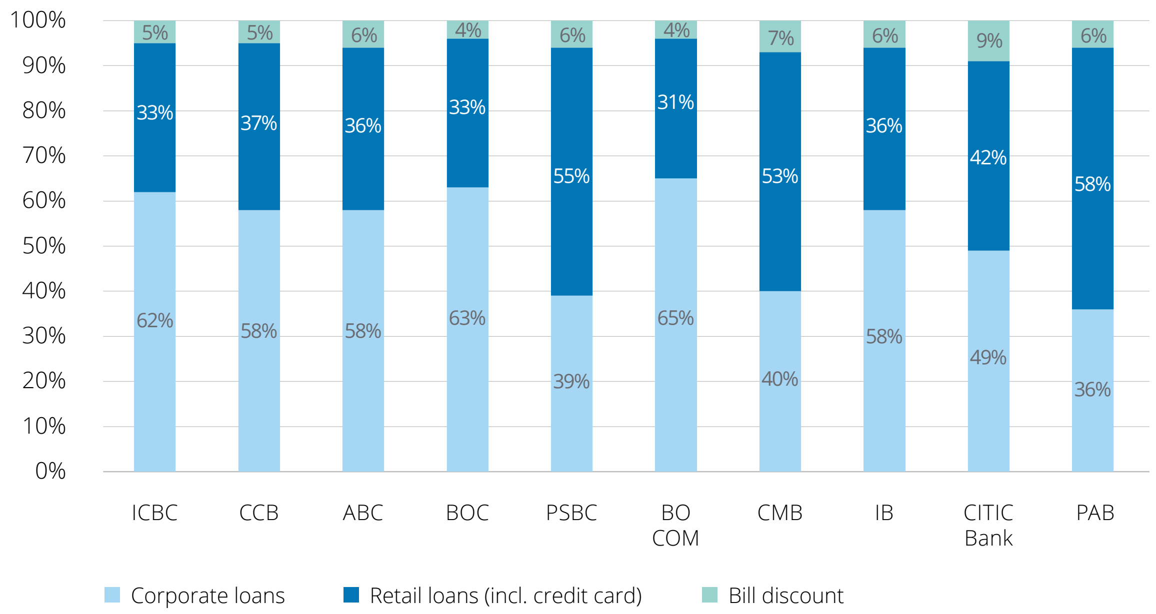


Banks focused on supporting key areas of the real economy and improved financial resource allocation efficiency

Regarding credit structure, facing the pressures of continuous loan rate declines and narrowing interest margins, domestic banks persistently served the real economy, satisfied enterprises' diversified financing demands, and continually increased corporate loan supply.

At the end of 2023, domestic banks' corporate loan, retail loan and bill discount balances, on average, accounted for 52.92%, 41.35% and 5.73%, up 2.21, down 1.93 and down 0.28 percentage points, respectively, from the beginning of the year. BOCOM recorded the highest proportion of corporate loans (65.09%); PAB had the highest proportion of retail loans (58.04%), followed by PSBC's 54.86%; CITIC Bank recorded the highest proportion of bill discount business (9.41%).

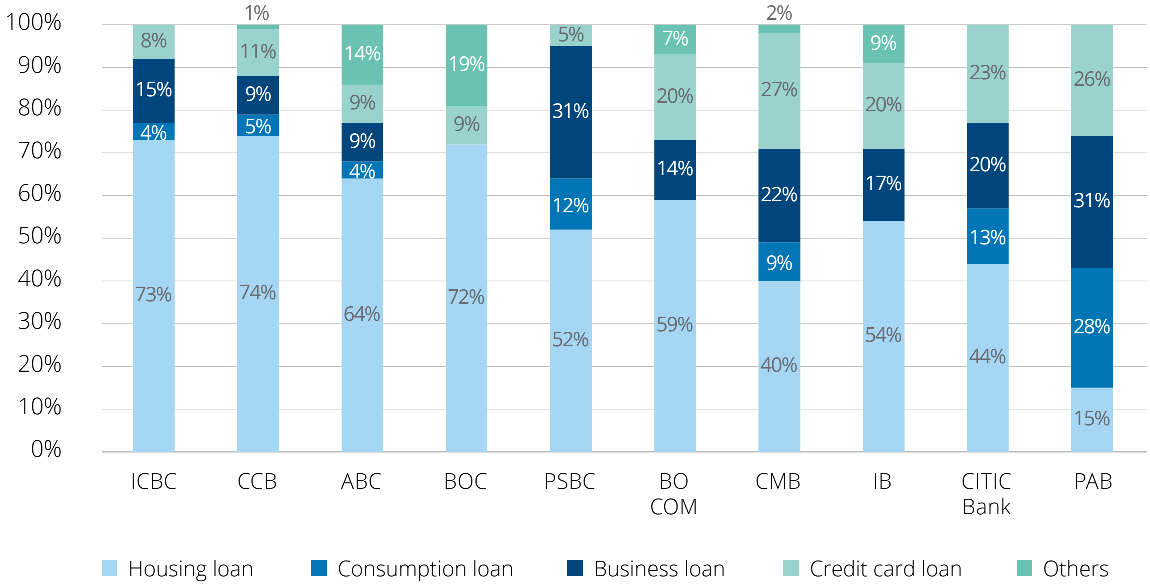
Figure 4: Credit Asset Composition at 31/12/2023



Regarding the composition of retail loans, the average proportion of domestic banks' housing loans at the end of 2023 was 54.70%, down 3.80 percentage points from the beginning of the year; the average proportion of individual business loans was 16.80%, up 2.50 percentage points; the average proportion of credit card loans was 15.80%, down 0.50 percentage points. In 2023, affected by the real estate market downturn and weak consumer sentiment, the average proportions of individual housing and credit card loans dropped, but individual business loans accounted for a higher proportion. That was because banks steadily promoted inclusive financial services to meet the differentiated credit demands of small and micro businesses, self-employed individuals and farmers.

In 2023, the real estate market adjustment and transformation led to feeble growth of individual housing loans. However, domestic banks actively responded to the supply-demand changes in the real estate market and implemented differentiated credit policies according to various cities' local conditions. Individual housing loans were still state-owned banks' most significant retail loan business, accounting for 65.67%, on average, down 5.16 percentage points from the beginning of the year. The average proportion of joint-stock banks' individual housing loans was 38.25%, down 1.75 percentage points.

Figure 5: Retail Loan Composition at 31/12/2023

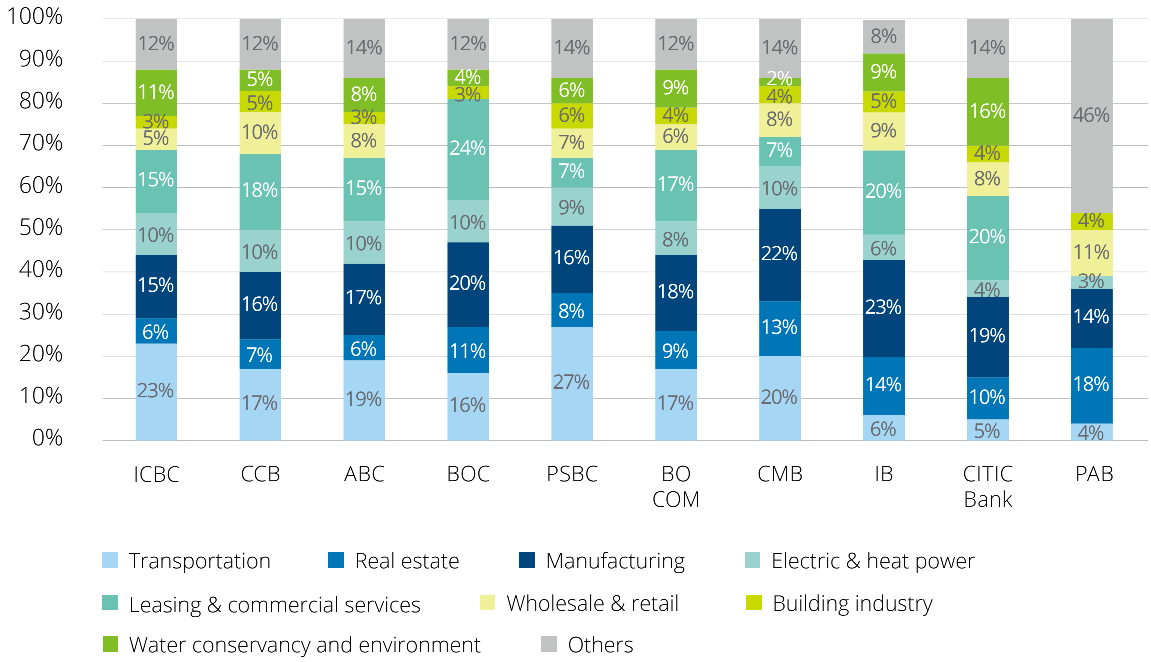


Note: BOC did not disclose the balances of consumption and business loans separately. BOCOM and IB did not separately disclose the balance of consumption loans. PAB optimized the classification of individual loans—products such as title deed-secured and automotive financial loans were classified into consumption and business loans according to their purposes of issuance; the comparative period the same standard adjusted data.

In 2023, domestic banks implemented major national strategies, continued to optimize the corporate loan structure, stepped up efforts to support the real economy, and invested more funds in strategic emerging industries and advanced manufacturing to adapt to the country's industrial structure adjustment. Credit supply for leasing & commercial services, manufacturing, electric and heat power increased significantly. Leasing & commercial service loans increased RMB2.44 trillion compared with the beginning of the year; manufacturing loans increased RMB2.19 trillion; loans for electric and heat power, gas, and water production and supply increased RMB1.49 trillion.

In 2023, the real estate supply-demand relationship changed considerably. Residents were reluctant to buy houses, and prices were projected to fall continually. The easing of real estate policy did not buoy up the market sentiment. Domestic banks' real estate loan growth rate continued to sink. Their real estate loans increased by RMB253.1 billion compared with the beginning of the year. The growth rate was only 4.12%, down 3.04 percentage points year-on-year, and was much lower than the average loan growth rate of 11.89%. At the end of 2023, the proportion of real estate loans was 8.39%, down 1.05 percentage points from the beginning of the year. Domestic banks' real estate loan proportions trended down generally.

Figure 6: Corporate Loan Composition at 31/12/2023



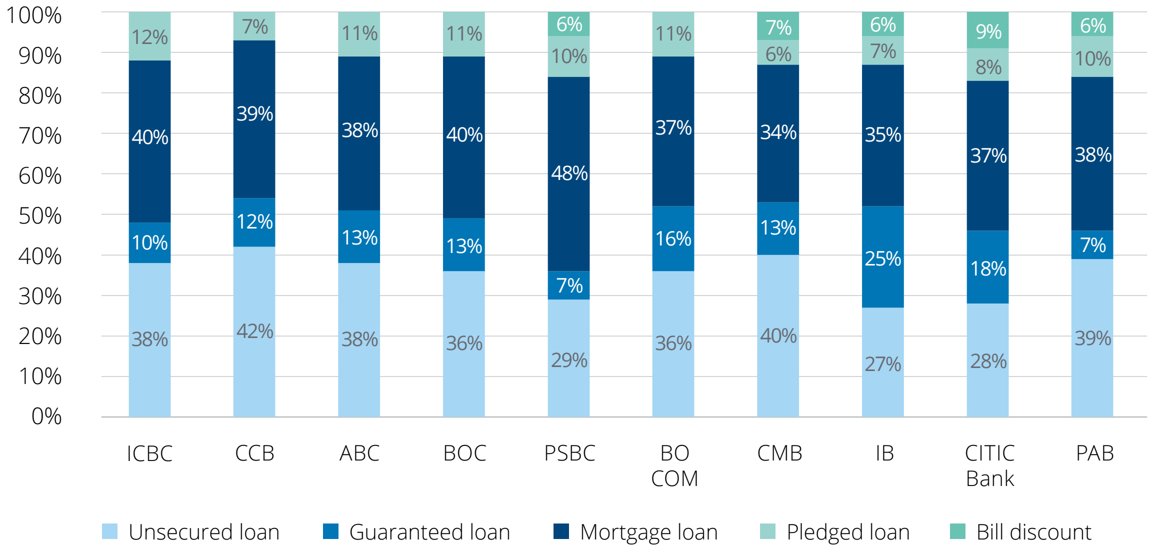
Note: BOC did not separately disclose loans to the wholesale & retail sector. PAB did not separately disclose loans to the leasing, commercial services, and water conservancy and environment sectors.

Domestic banks' credit structure continued to improve, with unsecured loans increasing significantly

The report to the 20th National Congress of the CPC proposed that China should be firmly committed to deepening reform and continue to focus on the real economy to pursue economic growth. In 2023, domestic banks vigorously promoted the financial sector's supply-side structural reform, refined the credit supply structure and access mechanism, and increased unsecured loans. At the end of 2023, the average proportions of domestic banks' unsecured loan, guaranteed loan, mortgage loan, pledged loan and bill discount balances were 37.03%, 12.72%, 39.08%, 9.63% and 1.54%, up 2.75, up 0.51, down 2.68, down 0.31 and down 0.27 percentage points, respectively, from the beginning of the year, indicating a tendency towards unsecured and guaranteed loans.

Domestic banks' proportions of unsecured loans rose, except for IB. CCB's proportion (41.90%) was the highest. At the end of 2023, state-owned banks' average proportion of unsecured loans stood at 36.55%, up 2.88 percentage points. Joint-stock banks' average proportion was 33.37%, up 0.85 percentage points.

Figure 7: Credit Assets at 31/12/2023



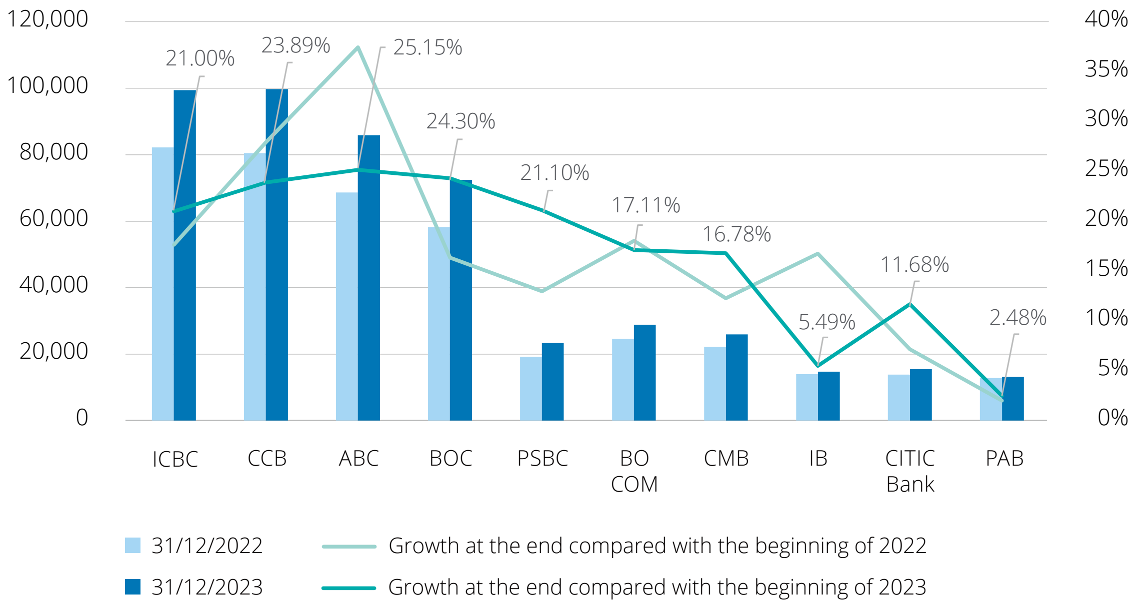
Note: ICBC, CCB, ABC, BOC, and BOCOM did not separately disclose their bill discount balances, which were included in their unsecured, guaranteed, mortgage and pledged loans.

Domestic banks' total balance of unsecured loans at the end of 2023 was RMB47.89 trillion, an increase of RMB8.26 trillion or 20.85% from the beginning of the year, marking the second year of rapid growth. The growth rates of ICBC, BOC, PSBC, CMB, CITIC Bank and PAB climbed, with PSBC recording the most remarkable rise of 8.14 percentage points. The rest of the domestic banks' growth rates fell, with ABC recording the most significant drop of 12.31 percentage points. However, ABC's growth rate (25.15%) remained the highest among domestic banks.

State-owned banks' average growth rates of unsecured loans in 2023 and 2022 were 22.09% and 21.72%, respectively, indicating an upward trend. Joint-stock banks' average growth rates in 2023 and 2022 decreased, respectively, at 9.11% and 9.55%. China's policies continually encouraged unsecured loans; state-owned banks had solid customer groups and responded more actively to the policies; joint-stock banks faced higher asset quality pressure, so their unsecured loan growth was relatively conservative.

Figure 8: Balance of Unsecured Loans

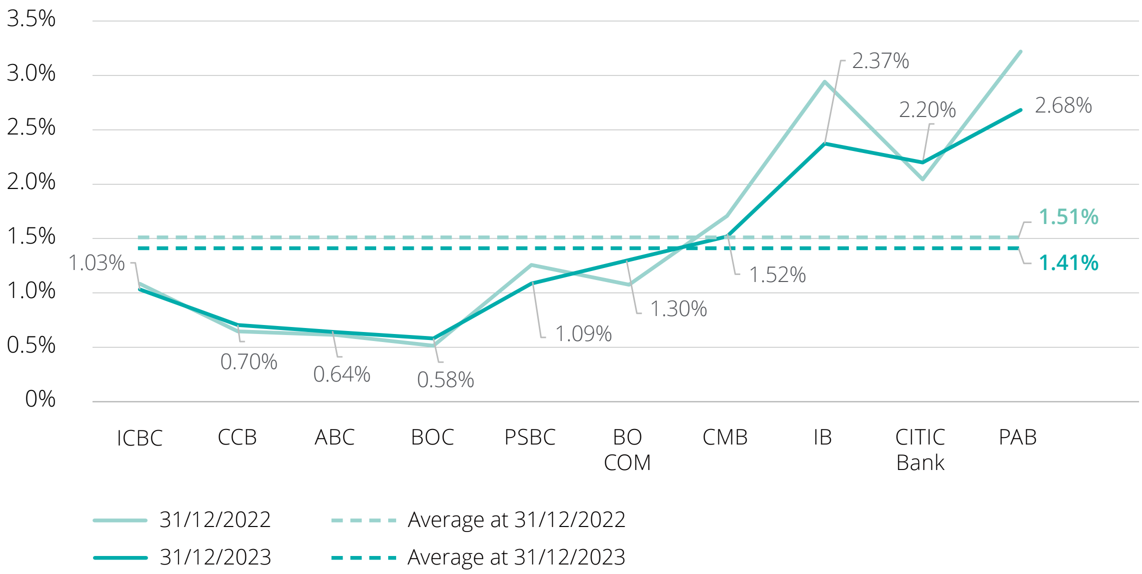
Unit: RMB100 million



At the end of 2023, domestic banks' average ratio of overdue unsecured loans was 1.41%, down 0.10 percentage points from the beginning of the year. CCB's, BOC's, ABC's, BOCOM's and CITIC Bank's ratios of overdue unsecured loans rose, while the rest banks' ratios fell slightly. IB's ratio dropped most by 0.57 percentage points. Despite a mild rise, BOC's ratio (0.58%) was still the lowest. The gap between state-owned and joint-stock banks' ratios of overdue unsecured loans narrowed. At the end of 2023, State-owned and joint-stock banks' average ratios were 0.89% and 2.19%, respectively, up 0.02 and down 0.28 percentage points from the beginning of the year. Therefore, the average ratio gap narrowed to 1.30 percentage points at the end of 2023, down 0.31 percentage points from the beginning of the year.

In general, as domestic banks' unsecured loan balances grew rapidly, their ratios of overdue unsecured loans dropped. Banks' credit quality was challenged, but relevant risks were controllable. While strengthening the supply of unsecured loans, state-owned banks recorded a higher ratio of overdue loans. Joint-stock banks' unsecured loans grew slowly, but their overdue loans decreased remarkably.

Figure 9: Ratio of Overdue Unsecured Loans



In 2023, domestic banks adjusted their credit supply strategies with varied priorities. Specifically, state-owned banks and CMB increased unsecured loans; CITIC Bank and IB increased guaranteed loans; PAB strengthened the supply of pledged loans. Except for IB, the proportions of unsecured loans in the rest of the domestic banks climbed. All domestic banks attached importance to unsecured loans.

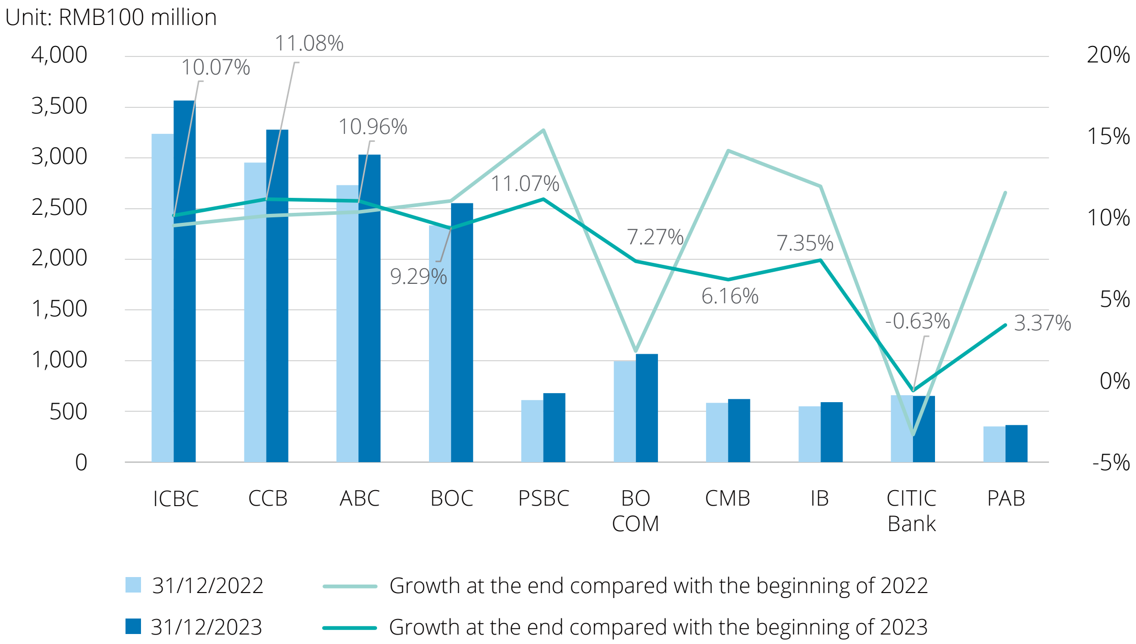
In March 2024, the NFRA issued the *Notice on Effectively Promoting Inclusive Credit for 2024*, proposing enhancing the ability to serve small and micro enterprises, increasing first and renewal loans, actively developing micro-unsecured loan products, and promoting the revolving loan model. In April 2024, the NFRA, Ministry of Industry and Information Technology, and National Development and Reform Commission jointly issued the *Notice on Deepening Financial Services for Manufacturing Industry and Facilitating New Industrialization*, requiring expanding unsecured loans

for strategic emerging industries, reducing the reliance on collateral, and strengthening unsecured loan and medium and long-term lending support for private manufacturing projects. Therefore, unsecured loans will likely maintain a high growth rate in 2024. State-owned banks were in a leading position regarding the growth rate of unsecured loans, but in the meantime, their average ratio of overdue unsecured loans climbed, posing new challenges to state-owned banks' ability to identify and control risks. Generally, unsecured loans bear higher risks than mortgage loans, demanding more robust risk control capabilities. With Fintech's rapid development and application in recent years, domestic banks accelerated their digital transformation, promoting the whole process of issuing unsecured loans online. However, online issuance of loans has inherent defects, such as inadequate pre-loan investigation and complex post-loan supervision. In the future, banks' big data analysis and digital risk control capabilities will determine their competitiveness in the market.

Credit asset quality steadily improved

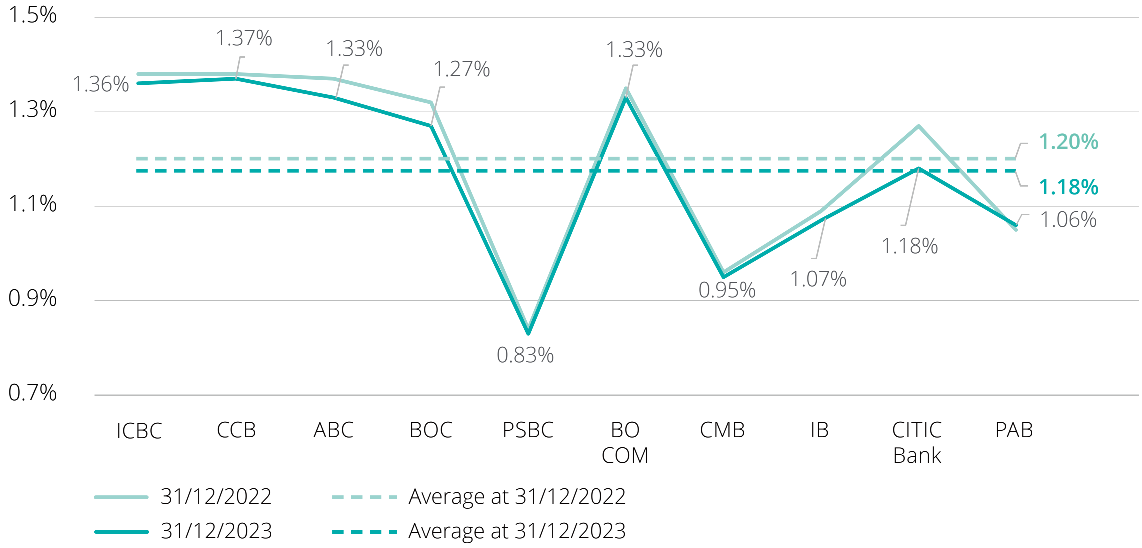
In 2023, domestic banks continued to improve their risk management systems and ramped up efforts to dispose of nonperforming assets, achieving initial success in risk control in critical areas such as the real estate sector and local governments' financing platforms. Banks maintained overall asset quality stability. At the end of 2023, domestic banks' balance of nonperforming loans totaled RMB1,626.8 billion, an increase of RMB138.2 billion or 9.29% from the beginning of the year.

Figure 10: Nonperforming Loan Balance



Domestic banks' average nonperforming loan ratio was 1.18%, down 0.02 percentage points from the beginning of the year. The nonperforming loan ratio of PAB rose slightly by 0.01 percentage points, while that of the rest of the banks dropped. Specifically, CITIC Bank's ratio fell by 0.09 percentage points, the largest drop among domestic banks; PSBC's ratio (0.83%) remained the lowest; CMB's ratio fell 0.01 percentage points to 0.95%. Domestic banks' nonperforming loan balances increased, but their nonperforming loan ratios steadily dropped. Domestic banks' credit asset quality remained stable.

Figure 11: Nonperforming Loan Ratio

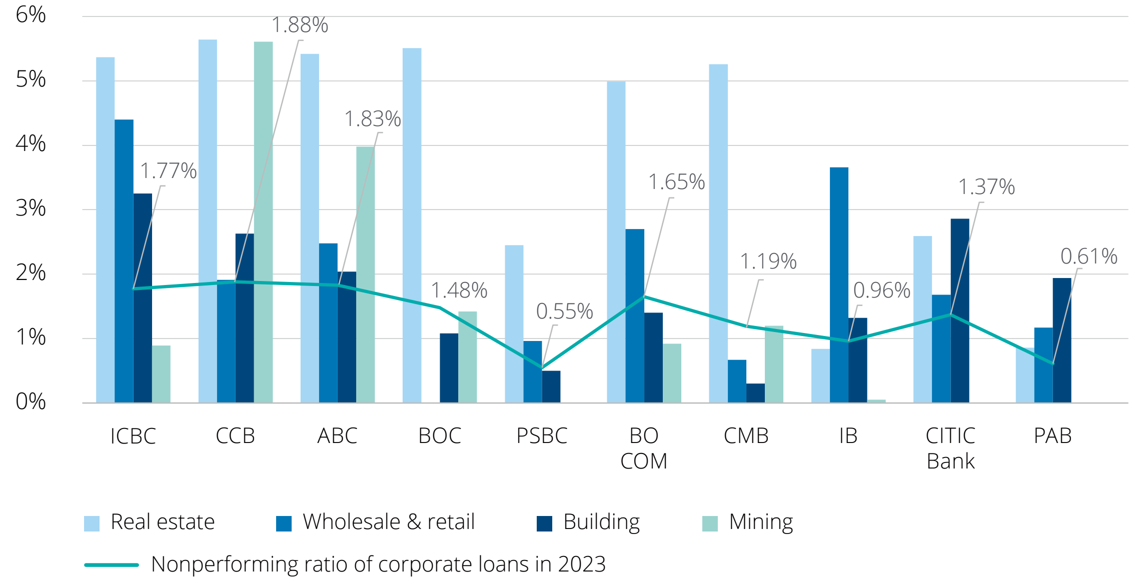


Real estate asset quality pressure continued; nonperforming ratio of loans to key areas lowered

In 2023, business operations improved as China's economy continued to recover. Domestic banks strengthened risk control of credit assets, implemented new regulations for the classification of financial assets, optimized asset allocation, and continuously improved nonperforming asset disposal quality and efficiency. Banks' credit asset quality remained stable.

At the end of 2023, domestic banks' average nonperforming ratio of corporate loans was 1.33%, down 0.15 percentage points from the beginning of the year. BOC's nonperforming loan ratio fell by 0.36 percentage points, the largest drop; the nonperforming ratios of PSBC, PAB, and IB were below 1%. The nonperforming loan ratios of the real estate, building, and water conservation and environment sectors climbed, while those of other sectors dropped from the beginning of the year.

Figure 12: Industries with a Higher Nonperforming Loan Ratio at the End of 2023

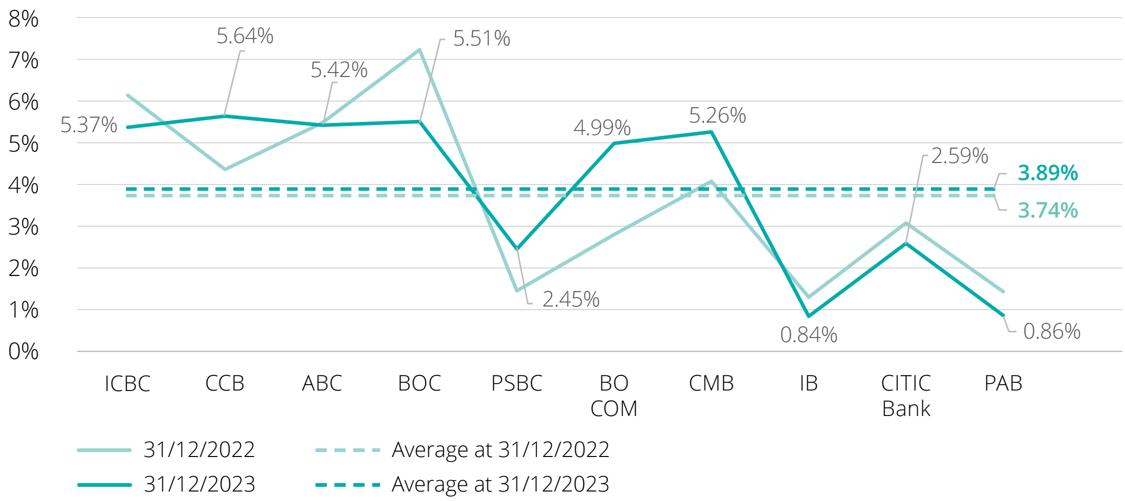


Note: BOC did not disclose its nonperforming loan ratio in the wholesale & retail sector; CITIC Bank did not disclose its nonperforming loan ratio in the mining sector.

In 2022's second half, risks emerged in the real estate sector. Liquidity risks were exposed in some enterprises. Debt defaults and negative public sentiment appeared in the open market. Domestic banks' quality of real estate credit assets was threatened. Domestic banks have been focusing on preventing and controlling real estate risks since 2023 and have accelerated the disposal of risks from key real estate enterprises. However, with the ongoing real estate market downturn, banks' nonperforming ratios of real estate loans further rose. At the end of 2023, domestic banks' average nonperforming loan ratio in the real estate sector was 3.89%, up 0.15 percentage points from the beginning of the year.

However, banks' real estate risk exposures are polarized. The real estate nonperforming loan ratios of ICBC, ABC, BOC, IB, CITIC Bank and PAB declined. BOC's nonperforming ratio fell most by 1.72 percentage points. Other domestic banks' nonperforming ratios climbed continually. ICBC's and CCM's ratios rose remarkably by 2.19 and 1.28 percentage points.

Figure 13: Nonperforming Loan Ratio in the Real Estate Sector



In 2023, domestic banks optimized credit resource allocation, focusing on key industries, regions and customers. Nonperforming loan ratios in some key industries, such as the manufacturing and transportation sectors, dropped. At the end of 2023, the average nonperforming ratio of loans to manufacturing enterprises was 1.39%, down 0.31 percentage points from the beginning of the year, and the average nonperforming ratio of loans to transportation companies was 0.40%, down 0.17 percentage points. Banks achieved notable results in adjusting their credit structures.

Figure 14: Nonperforming Loan Ratio in the Manufacturing Sector

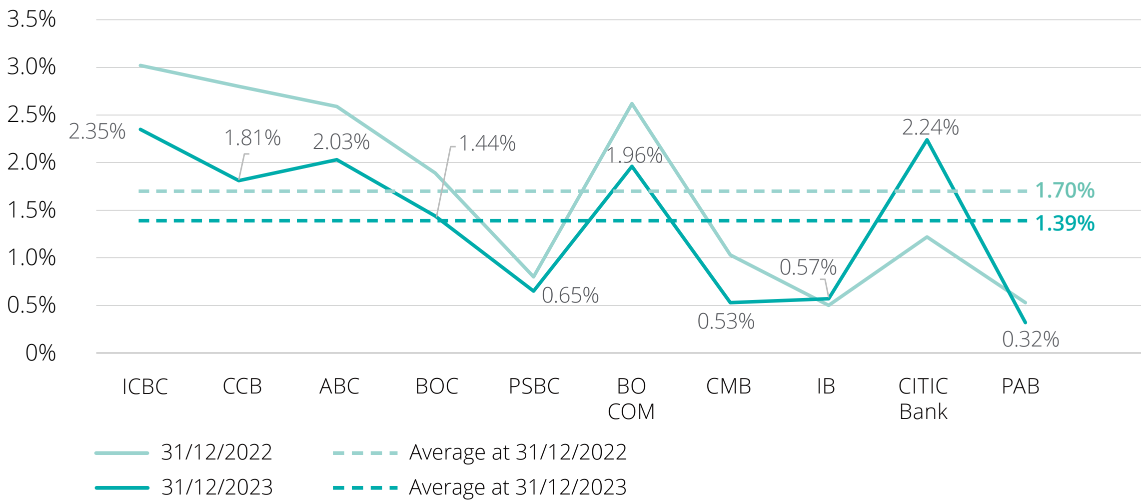
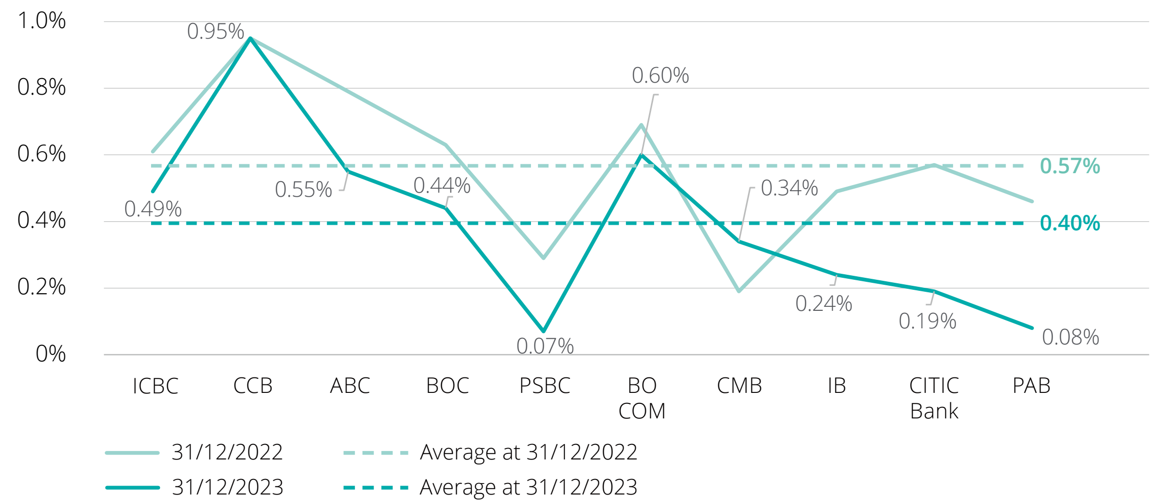


Figure 15: Nonperforming Loan Ratio in the Transportation Sector



Real estate sales slump lingered; individual housing loans decreased with a higher nonperforming ratio

In 2023's first half, the real estate recovery momentum faded quickly following the intensive release of pent-up demand. In the second half, real estate enterprises were unmotivated to launch new houses, and the market remained in a period of recession and adjustment. As the July meeting of the Political Bureau of the CPC Central Committee proposed adjusting real estate policies according to the significant supply-demand relationship changes, new policies were introduced to optimize the supply and demand situations. On the demand side, the minimum down payment ratio and the mortgage rates on second homes were lowered; buyers with mortgage records but no local property ownership will be recognized as first-time homebuyers, eligible for favorable down payments and lower mortgage rates. On the supply side, the 16 financial support measures proposed by the People's Bank of China (PBC) and the China Banking and Insurance Regulatory Commission would be effective continually in 2024; banks must follow the "three 'No-Less-Than' policies" to issue loans; the financial sector shall support government-subsidized housing construction, urban village renovation, and the construction of public infrastructure for both ordinary and emergency use purposes.

The real estate sector will not recover quickly as it takes time for the relief policies to deliver effect. In 2023, national real estate investment amounted to RMB11,091.3 billion, down 9.60 percentage points from 2022; residential housing investment declined by 9.30 percentage points. The total floor area of sold units amounted to 1,117.35 million square meters, decreasing by 8.50 percentage points; the floor area of sold residential housing decreased by 8.20 percentage points. Commercial housing sales amounted to RMB11,662.2 billion, decreasing 6.50 percentage points; residential housing sales decreased by 6.00 percentage points. The real estate supply and demand sides continued to weaken, leading to real estate enterprises' sales slump.

In 2023, domestic banks actively implemented the country's guidelines and regulatory requirements for real estate credit. They adopted differentiated policies based on cities' local conditions, lowered outstanding mortgage interest rates, and actively supported residents' rigid and housing-improving needs, to promote the stable development of the real estate market. However, domestic banks' individual housing loans contracted compared with the beginning of the year, with a slight rise in the nonperforming ratio. At the end of 2023, the total balance of domestic banks' individual housing loans reached RMB30.27 trillion, down RMB496.7 billion or 1.61% from the beginning of the year. All other domestic banks' individual housing loan balances decreased except PSBC, CITIC Bank and PAB. Among them, BOCOM had the largest drop of 3.31%, followed by ABC's 3.29%. At the end of 2023, domestic banks' average nonperforming ratio of individual housing loans was 0.45%, up 0.01 percentage points from the beginning of the year. Among them, IB recorded the highest nonperforming ratio of 0.56%; CITIC Bank's nonperforming ratio rose most by 0.08 percentage points.

Figure 16: Balance of Individual Housing Loans

Unit: RMB100 million

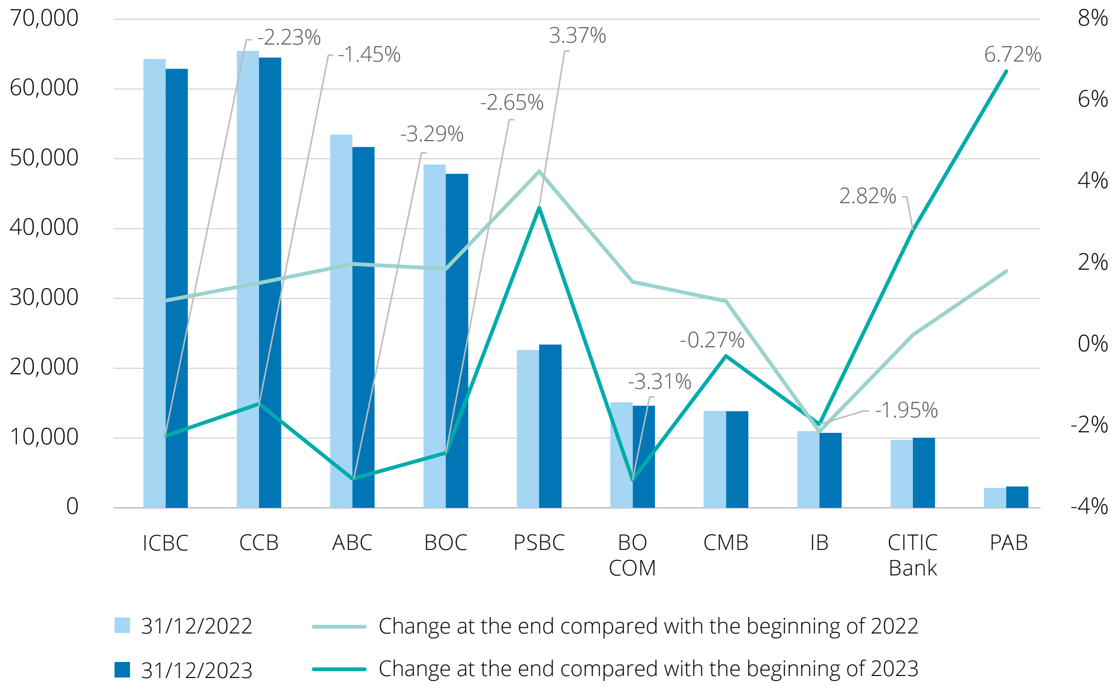
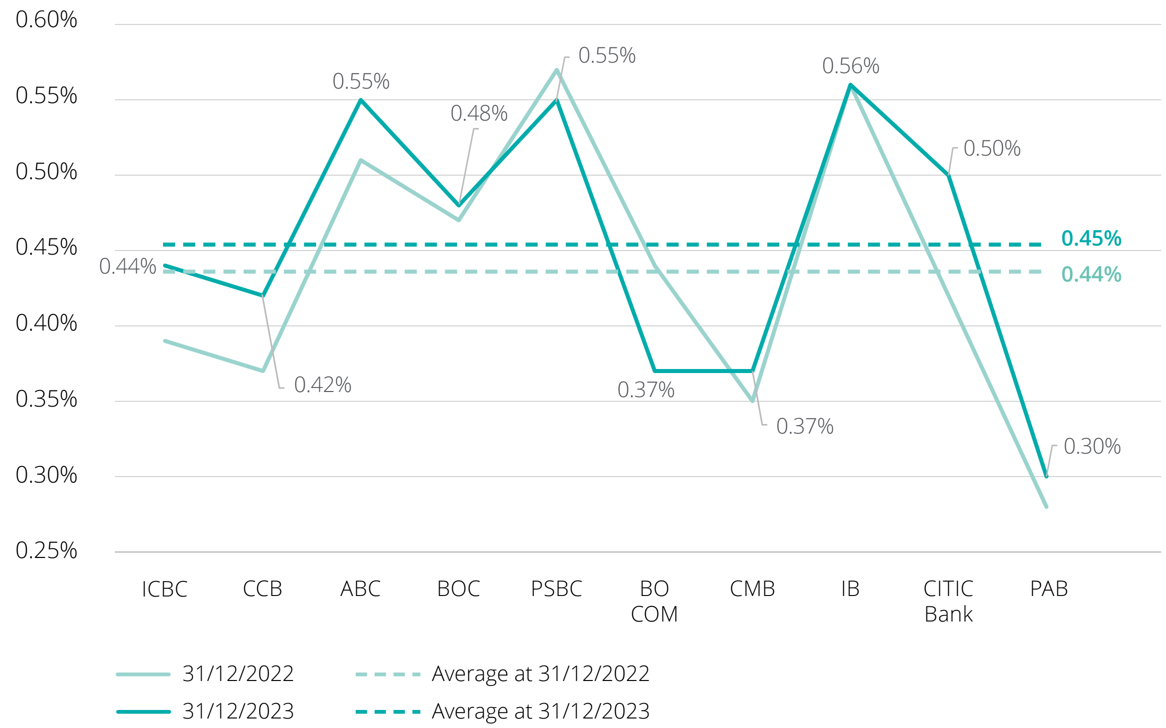


Figure 17: Nonperforming Ratio of Individual Housing Loans



The credit card business scale and nonperforming ratio remained stable

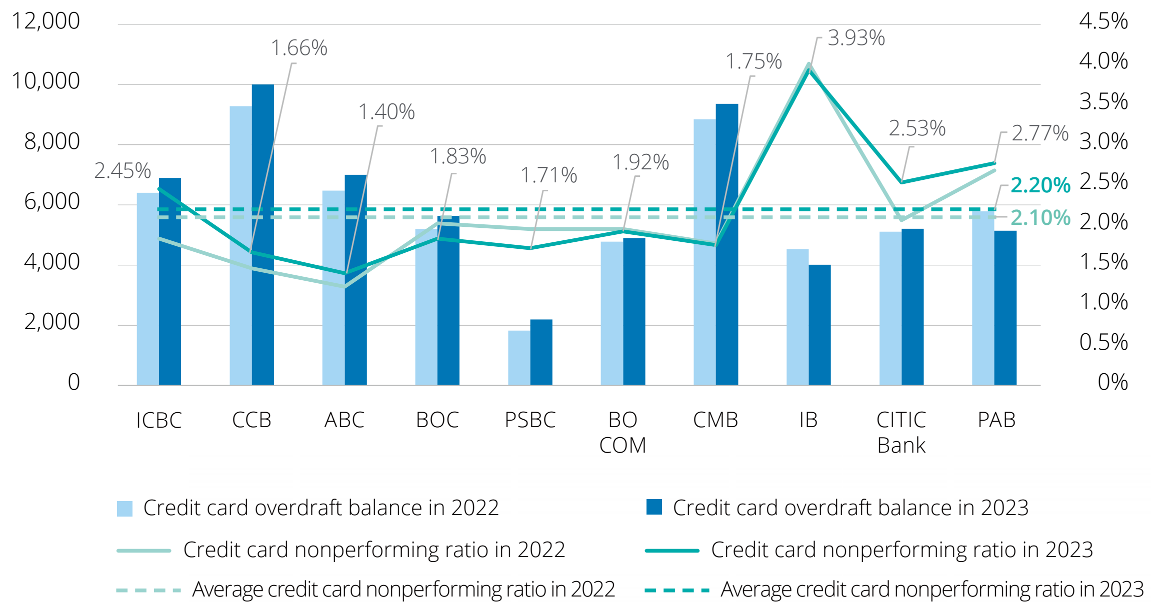
In 2023, real interest rates climbed amid the continuing low inflation, which impacted credit demand. The outstanding balance of bankcard credit remained stable, while the credit card payment overdue by half a year or more trended up. According to PBC's *Payment System Report (2023)*, the total bankcard credit line was RMB22.66 trillion, a year-on-year increase of 2.35%; the outstanding balance of bankcard credit was RMB8.69 trillion, down 0.03 percentage points year-on-year, representing a 0.88% lower growth rate; the credit card payment overdue by half a year or more totaled RMB98.135 billion, up 13.35 percentage points year-on-year. The total balance of domestic banks' credit card loans reached RMB6.04 trillion at the end of 2023, increasing RMB212.7 billion from the beginning of the year, representing a growth rate of 3.59%.

Domestic banks' scales of credit card loans changed divergently. Specifically, IB and PAB recorded negative growth, while the rest of the domestic banks' credit card loans were scaled. PSBC registered the highest growth rate of 20.31%, while IB recorded the most remarkable decline of 11.29%. CMB's credit card loans exceeded RMB930 billion, second only to CCB's RMB1,000.424 billion.

Domestic banks' average credit card nonperforming loan ratio was 2.20% at the end of 2023, up 0.10 percentage points from the beginning of the year. Specifically, ICBC's, CCB's, ABC's, CITIC Bank's and PAB's nonperforming ratios climbed, while other banks' ratios dropped. Among them, ICBC's and CITIC Bank's nonperforming ratios increased by 0.62 and 0.47 percentage points to 2.45% and 2.53%; IB and PAB recorded relatively higher nonperforming ratios, respectively, at 3.93% and 2.77%.

Figure 18: Credit Card Overdraft Balance and Nonperforming Loan Ratio

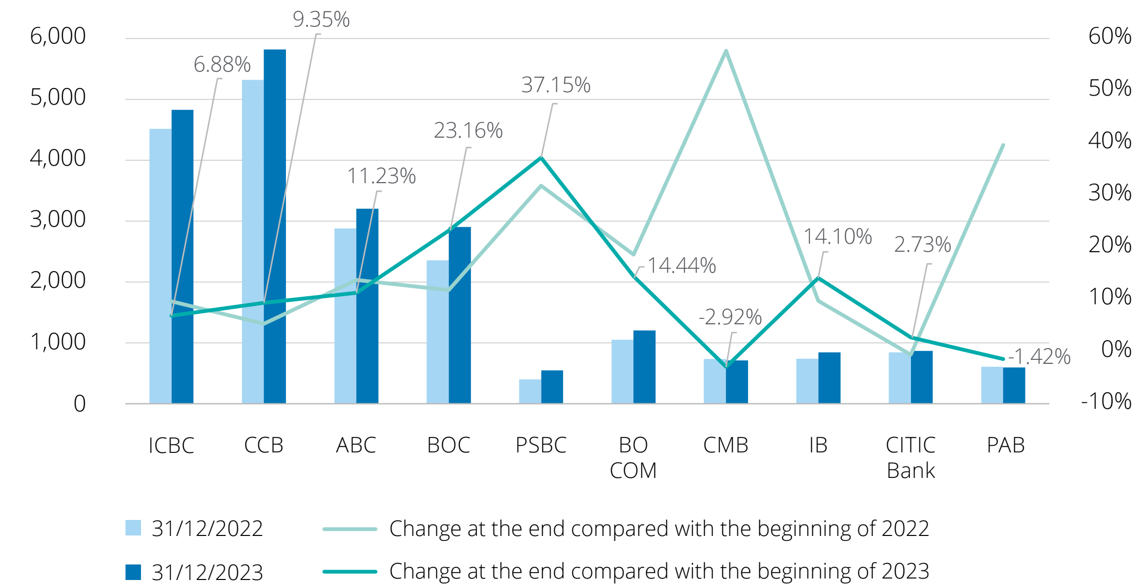
Unit: RMB100 million



Special-mention loan balance and migration ratio rose, with increasing pressure on potential nonperforming loans

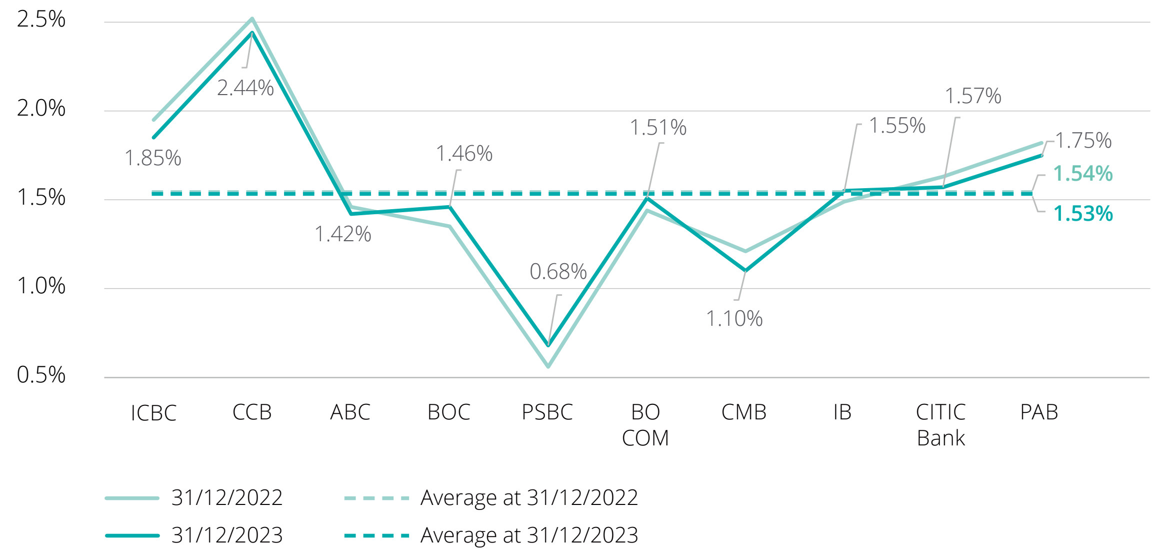
Domestic banks' special-mention loans increased in 2023, with a total balance of RMB2.15 trillion, up RMB207.5 billion from the beginning of the year, representing an average increase of 10.67%. Specifically, state-owned banks' special-mention loan balance totaled RMB1.85 trillion, an increase of RMB197.8 billion or 11.97%. Among them, BOC recorded the most significant increase of RMB54.6 billion; PSBC registered the highest growth rate of 37.15%. Joint-stock banks' special-mention loan balance totaled RMB302.2 billion, an increase of RMB9.7 billion or 3.33% (17.33 percentage points lower than 2022's 20.66%). Among them, IB's and CITIC Bank's special-mention loans increased 14.10% and 2.73%; CMB's and PAB's decreased 2.92% and 1.42% following 2022's significant increases of 57.63% and 39.57%, respectively.

Figure 19: Special-mention Loan Balance



The average proportion of domestic banks' special-mention loans was 1.53%, down 0.01 percentage points from the beginning of the year. Specifically, PSBC's proportion remained the lowest among domestic banks, despite a most remarkable rise of 0.12 percentage points to 0.68%; BOC's proportion of special-mention loans climbed 0.11 percentage points to 1.46%; BOCOM and IB also recorded a higher proportion compared with 2022. The rest of the domestic banks' proportions fell. Among them, CMB's proportion dropped 0.11 percentage points to 1.10%. CCB's proportion fell by 0.08 percentage points to 2.44% but was still the highest. In general, the differences between domestic banks' special-mention loan proportions narrowed.

Figure 20: Proportion of Special-mention Loans



In 2023, the average migration ratio of domestic banks' pass loans was 1.58%, down 0.01 percentage points from 2022. With the smooth shift in the COVID-19 response, the national economy improved. Banks' migration ratios of pass loans dropped. Among them, CMB had the largest decline of 0.32 percentage points year-on-year. The average migration ratio of special-mention loans was 29.11%, up 2.65 percentage points from 2022. ICBC's, ABC's, BOCOM's and PAB's migration ratios of special-mention loans fell slightly; the remaining banks' down-migration intensified. Among them, IB recorded the largest migration ratio rise of 12.87 percentage points. In 2023, real estate enterprises' risks were increasingly exposed, consumer demand weakened, and employment stress intensified. Therefore, domestic banks still face considerable pressure from potential new nonperforming loans.

Overall, CCB, BOC, PSBC, and IB's migration ratios of pass and special-mention loans rose, while ICBC and BOCOM recorded declines in both ratios.

Figure 21: Migration Ratio of Pass Loans

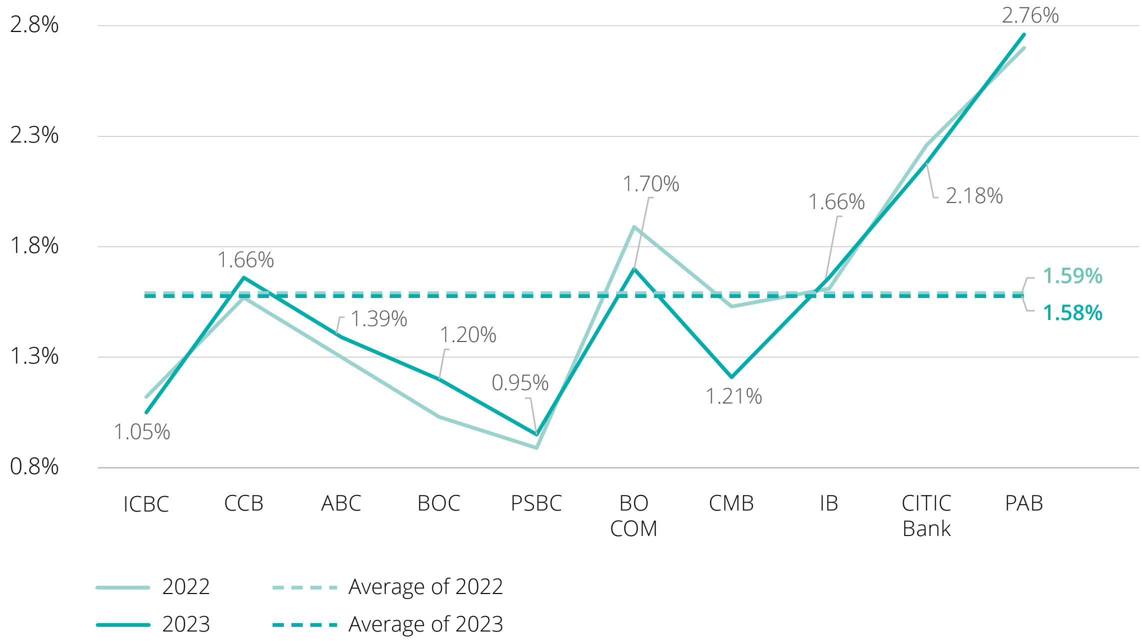
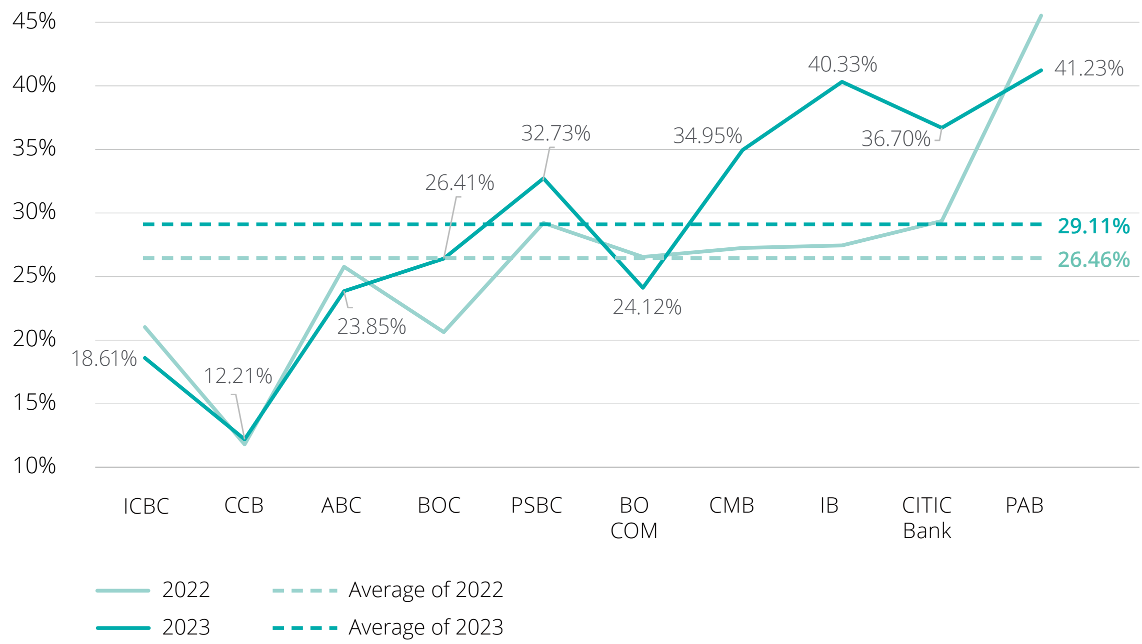


Figure 22: Migration Ratio of Special-mention Loans

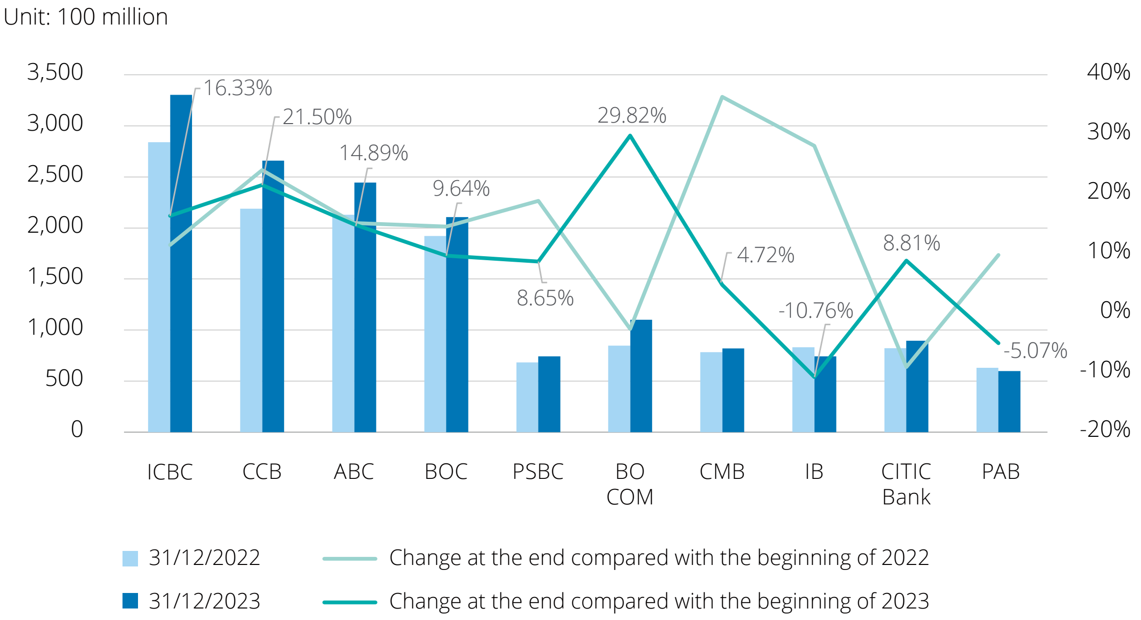


Note: ICBC and PAB restated the migration ratios of pass and special-mention loans for 2022.

Growth rate and proportion of overdue loans declined generally

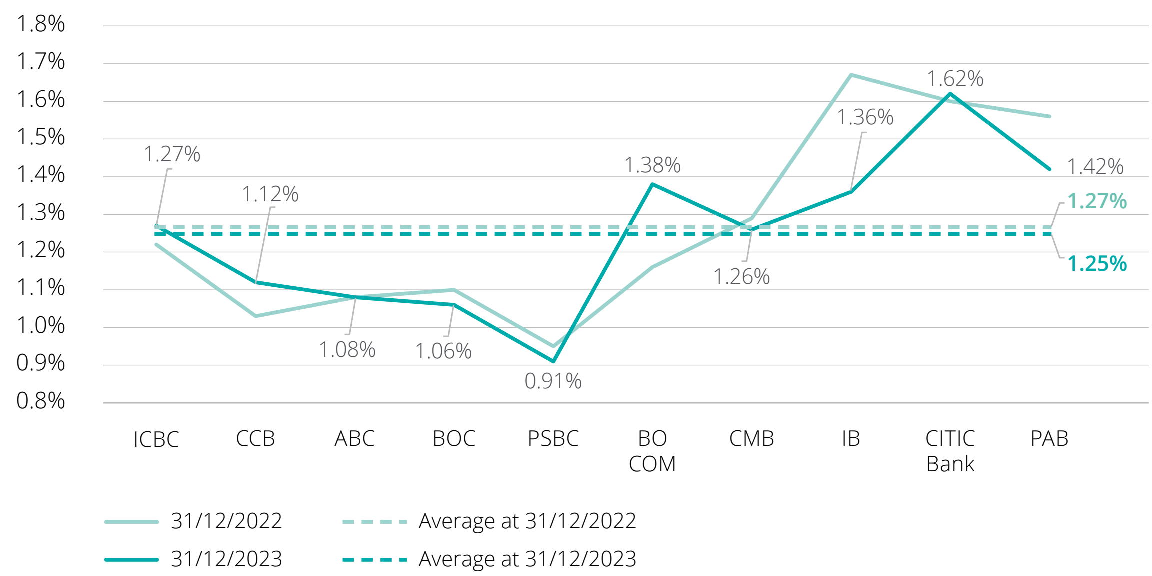
At the end of 2023, domestic banks' overdue loan balance totaled RMB1.54 trillion, an increase of RMB173.6 billion or 12.70% from the beginning of the year. IB's and PAB's overdue loan balances decreased, while the rest of the banks' balances increased. BOCOM, CCB and ICBC recorded a relatively higher growth rate of overdue loans, respectively by 29.82%, 21.50%, and 16.33%, while IB had the largest decline of 10.76%.

Figure 23: Overdue Loan Balance



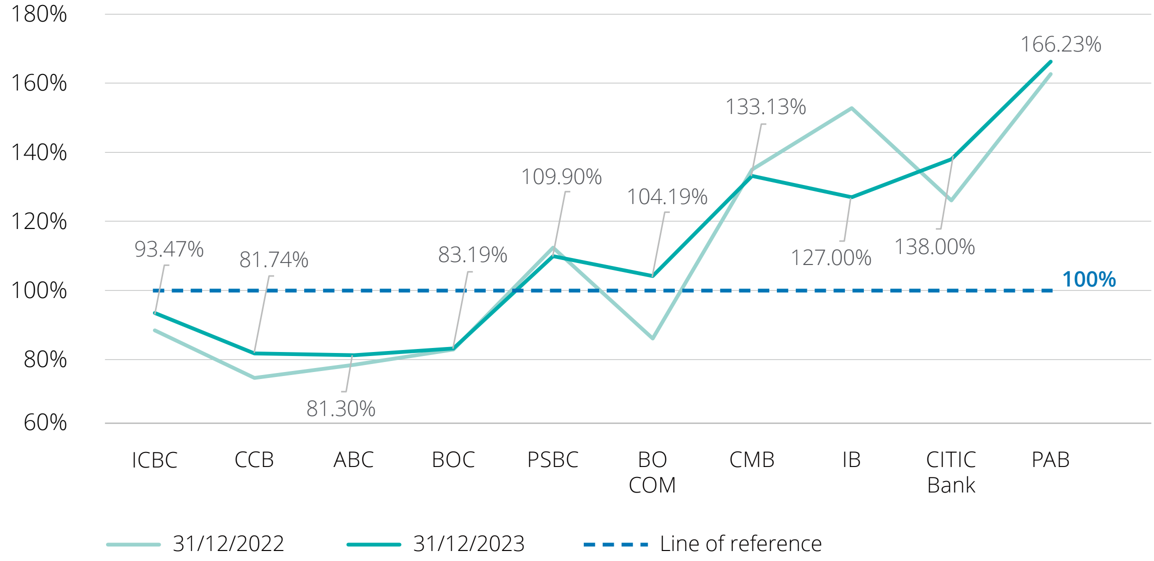
In 2023, domestic banks' average overdue loan ratio was 1.25%, a decrease of 0.02 percentage points from the beginning of the year. Specifically, IB's and PAB's overdue loan balances and ratios declined; BOC's, PSBC's and CMB's overdue loan balances increased, but their overdue loan ratios dropped; other domestic banks' overdue loan balances and ratios grew.

Figure 24: Overdue Loan Ratio



In 2023, domestic banks' average ratio of overdue loans to nonperforming loans was 111.82%, up 1.87 percentage points from the beginning of the year. PSBC's and IB's ratios dropped, while the rest of the domestic banks had a higher ratio than 2022. The highest and lowest ratios were recorded at PAB (166.23%) and ABC (81.30%). BOCOM's and CITIC Bank's ratios grew 18.10 and 11.97 percentage points, respectively. IB's ratio fell most by 25.76 percentage points.

Figure 25: Ratio of Overdue Loans to Nonperforming Loans



Banks strengthened disposing of nonperforming assets and took various approaches to resolving risky assets

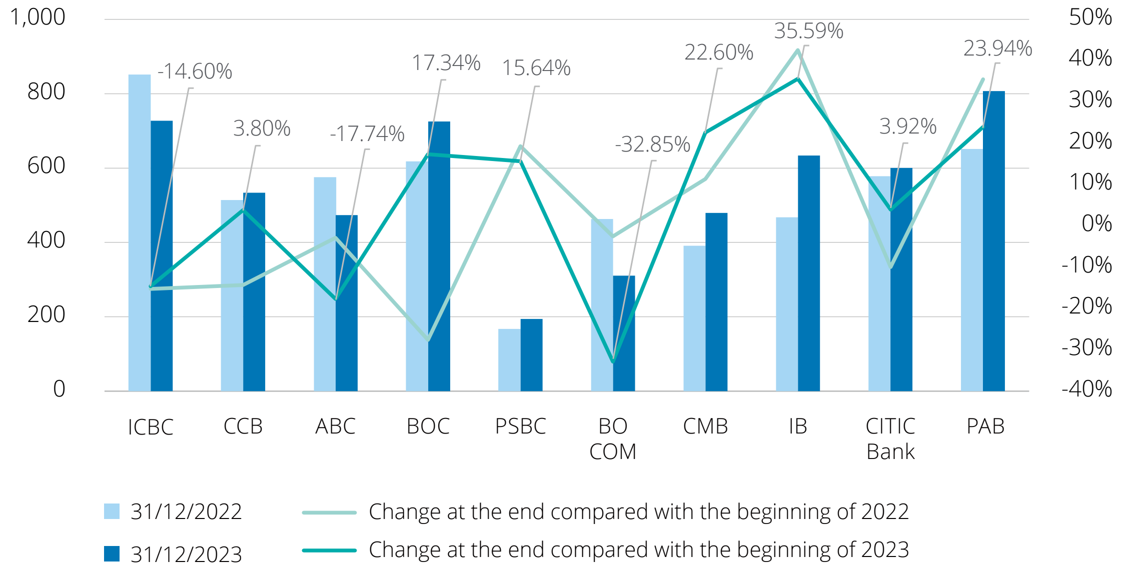
According to the NFRA, in 2023, commercial banks' nonperforming loan balance totaled RMB3.23 trillion, an increase of 8.14% from the beginning of the year and a YoY increase of 3.37 percentage points. Amid the real economy's downward pressure, there was an urgent need for domestic banks to lower the nonperforming ratio. Banks continued to improve credit risk management, strengthened risk control in key areas, and enhanced nonperforming asset disposal quality and efficiency. They adopted various methods, such as recovery, writing-off, debt offsetting, securitization, transfer and restructuring, to reduce nonperforming loans.

According to the *Asset-Backed Securities Development Report for 2023* released by China Central Depository & Clearing Co., Ltd. (CCDC) and public data, in 2023, 117 nonperforming loan (NPL) ABS products were issued in the inter-bank public offering market, covering NPLs of credit cards, personal consumption loans, auto loans, individual housing loans, small and micro-loans, and corporate loans, totaling RMB46.601 billion, up 46% year-on-year, accounting for 13% of the total credit ABS issuance. In 2023, the total principal and interest of nonperforming loans disposed of through asset securitization were RMB274.217 billion, an increase of 42.65% over the previous year. State-owned banks were the main issuers of NPL ABS products in the inter-bank public offering market. The top three issuers of NPL ABS products in 2023 were CCB, ICBC and BOC, totaling RMB20.323 billion, accounting for 43.61% of the total. The NPL ABS products became increasingly diversified. BOCOM, PSBC and PAB issued individual housing NPL ABS, small business NPL ABS, and auto NPL ABS, respectively, for the first time.

According to the latest statistics of PBC, the written-off nonperforming loans in the banking sector totaled RMB1.1 trillion, an increase of RMB69.8 billion from 2022. In 2023, domestic banks' loans written off and transferred out totaled RMB548.6 billion, a year-on-year increase of RMB20.7 billion or 3.93%. Except for ICBC, ABC, and BOCOM, the rest of the domestic banks' written-off and transferred-out loans grew, with an average increase of 17.55%. Specifically, IB and PAB increased RMB16.6 billion (or 35.59%) and RMB15.6 billion (or 23.94%), respectively; BOCOM's written-off and transferred-out loans decreased RMB15.2 billion or 32.85%, a significant decline from 2022.

Figure 26: Written-off and Transferred-out Loans

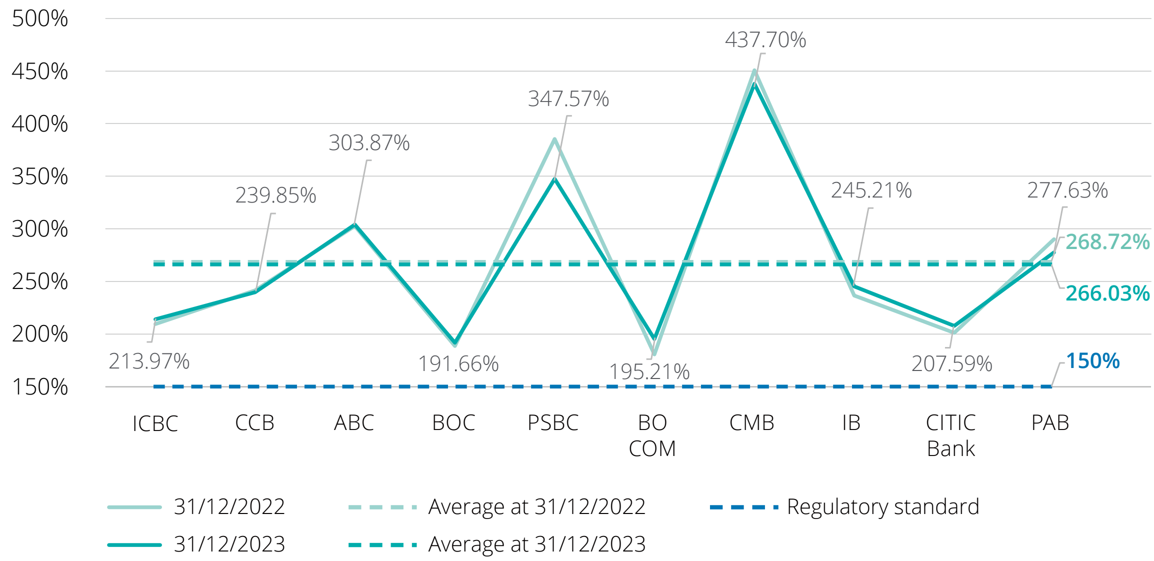
Unit: RMB100 million



Loan provision ratio and provision coverage decreased with sufficient risk compensation capacity

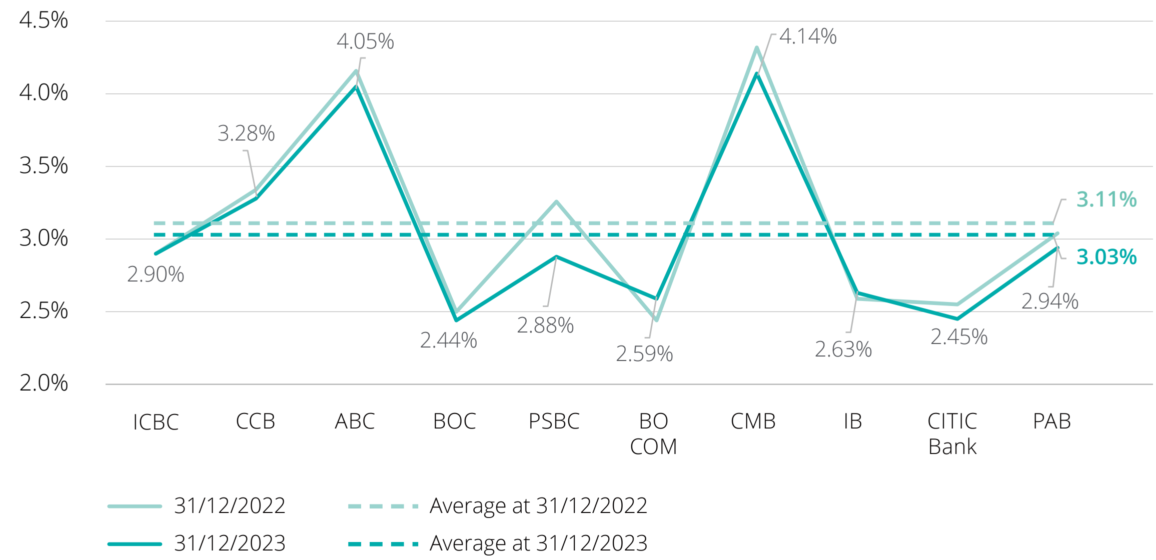
In 2023, domestic banks' average loan provision ratio and average provision coverage were 3.03% and 266.03%, down 0.08 and 2.69 percentage points, respectively, from the beginning of the year. Specifically, the loan provision ratios and provision coverages of CCB, PSBC, CMB and PAB dropped, while those of BOCOM and IB rose; BOC's, ABC's, and CITIC Bank's loan provision ratios declined, but their provision coverages climbed; ICBC's loan provision ratio remained stable, but its provision coverage rose slightly. ABC's year-end provision coverage was 191.66%, lower than other banks. CMB's provision coverage (437.70%) was the highest among domestic banks despite a drop of 13.09 percentage points from the beginning of the year. In 2023, domestic banks' provision coverages declined slightly but remained at high levels.

Figure 27: Provision Coverage



In 2023, most domestic banks' loan provision ratios dropped except for ICBC, BOCOM and IB. PSBC, CMB and BOC had a more remarkable decline, respectively by 0.38, 0.18 and 0.11 percentage points, from the beginning of the year.

Figure 28: Loan Provision Ratio

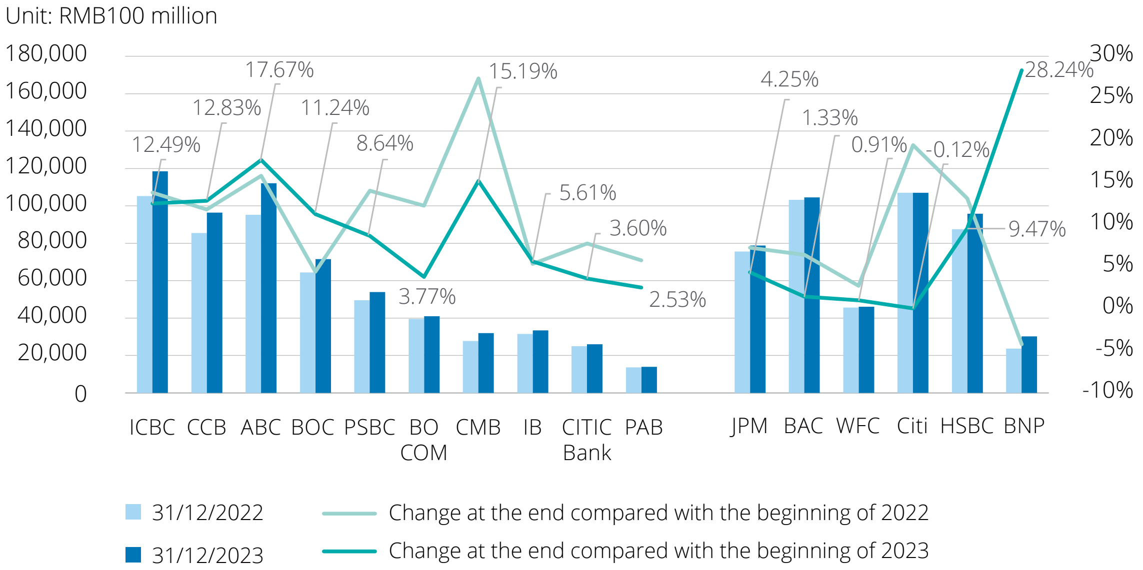


Financial asset investments varied significantly in the changeable and complex external environment

In 2023, the supply of funds in the domestic financial market was generally stable; bond yields dropped amid oscillations. Inflation in major overseas economies remained high. The Federal Reserve raised interest rates by 100 basis points four times, leading to tightening liquidity. At the end of 2023, the book value of domestic banks' financial asset investments totaled RMB59.87 trillion, an increase of RMB6.12 trillion from the beginning of the year, with an average growth rate of 11.39%. The book value of state-owned banks' financial asset investments totaled RMB49.35 trillion, an increase of RMB5.40 trillion from the beginning of the year, representing an average growth rate of 12.28%. Among them, ICBC, CCB, ABC and BOC achieved double-digit growth. ICBC's and ABC's investment scale exceeded RMB11 trillion at the end of the year. The total book value of joint-stock banks' financial asset investments was RMB10.51 trillion, an increase of RMB0.72 trillion, with an average growth rate of 7.38%. CMB recorded a 15.19% growth rate, significantly higher than other domestic banks, while PAB's growth slowed.

The book value of foreign banks' financial asset investments totaled RMB46.24 trillion, an increase of RMB1.98 trillion or 4.48% from the beginning of the year. Citi's investment scale exceeded RMB10 trillion, which is still the highest among foreign banks despite a decline. BNP's growth rate of 28.24% was much higher than that of other foreign banks, mainly due to increased securities in trading financial assets. BNP's financial investment scale achieved double-digit growth; HSBC also recorded a relatively high growth rate, while the rest of the foreign banks' scales remained stable (in the original currency).

Figure 29: Financial Asset Investment

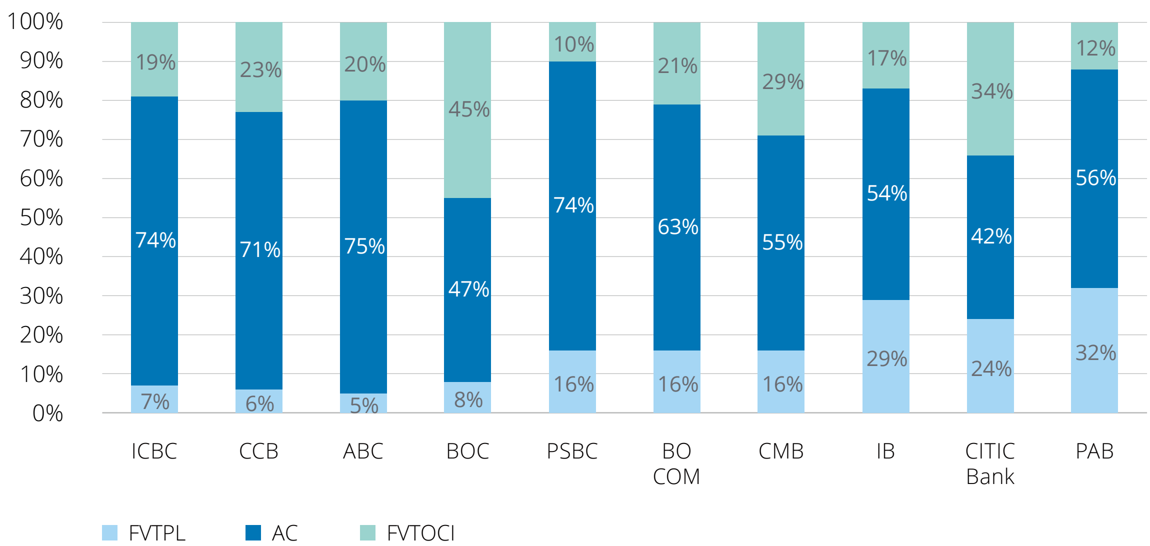


State-owned banks had a higher proportion of financial assets measured at the amortized cost, while joint-stock banks had more financial assets measured at fair value

In 2023, domestic banks' financial asset investment structures (by measurement method) varied significantly. The four major state-owned banks' proportions of FVTPL (fair value through profit and loss) were lower than 10%—lower than that of PSBC and BOCOM, and significantly lower than joint-stock banks' average proportion (25.25%). Among joint-stock banks, PAB's FVTPL accounted for more than 30%, and IB's and CITIC Bank's accounted for more than 20%. State-owned banks (except for BOC) had a higher proportion of financial assets measured at the amortized cost (AC). Specifically, the proportions of ICBC, CCB, ABC and PSBC exceeded 70% and BOCOM's exceeded 60%. However, joint-stock banks' average proportion of financial assets measured at the amortized cost was about 52%. Regarding the FVOCI (fair value through other comprehensive income) proportion, BOC's was 45% (up 7% from the prior year-end), CITIC Bank's and CMB's were about 30%, PSBC's was 10%, PAB's was 12%, and other domestic banks' proportions were around 20%.

Generally, as the leading force in financial services, state-owned banks continued to support the development of the real economy; thus, they had a higher proportion of held-to-maturity government bonds and financial assets measured at the amortized cost. Join-stock banks' financial asset investments were more diversified, with a higher proportion of financial assets measured at fair value.

Figure 30: Financial Asset Investment Structure at the End of 2023 (by Method of Measurement)

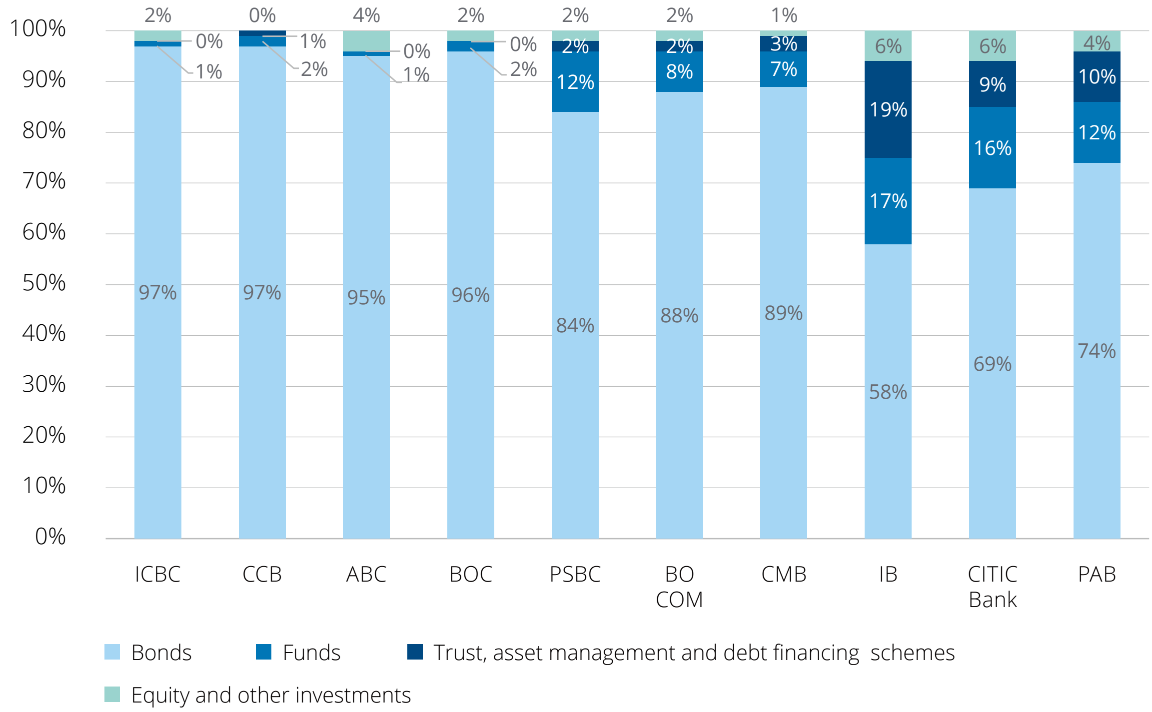


State-owned banks had more proprietary bond investments; joint-stock banks had more investment varieties

At the end of 2023, the four major state-owned banks' proprietary bond investments accounted for more than 95%, and such investments of PSBC, BOCOM and CMB exceeded 80%. The four major state-owned banks' fund investments were relatively smaller, with an average ratio of only 1.47%; PSBC was the only state-owned bank whose fund investment accounted for more than 10%. Joint-stock banks had a significantly higher average ratio (13.35%) of fund investment; among them, IB's and CITIC Bank's fund investment ratios exceeded 15%, PAB's was about 12%, and CMB's was about 7%; the underlying assets were primarily standard investments such as financial bonds, credit bonds, and interbank certificates of deposit. State-owned banks' proportions of trust, asset management and debt financing schemes were deficient, while such investments of joint-stock banks were about 10%; the underlying assets included bond investments and non-standard investments; for example, in IB's asset management scheme, credit assets accounted for more than 50%, bond investment accounted for nearly 40%, equity and other investments accounted for about 3%, mainly including asset-backed securities, equity investment & debt-repaid equity, and interbank wealth management products.

State-owned banks had a dominant proportion of proprietary bond investments, while joint-stock banks mainly allocated their assets through various structured entities.

Figure 31: Financial Asset Investment at the End of 2023 (by Investment Varieties)

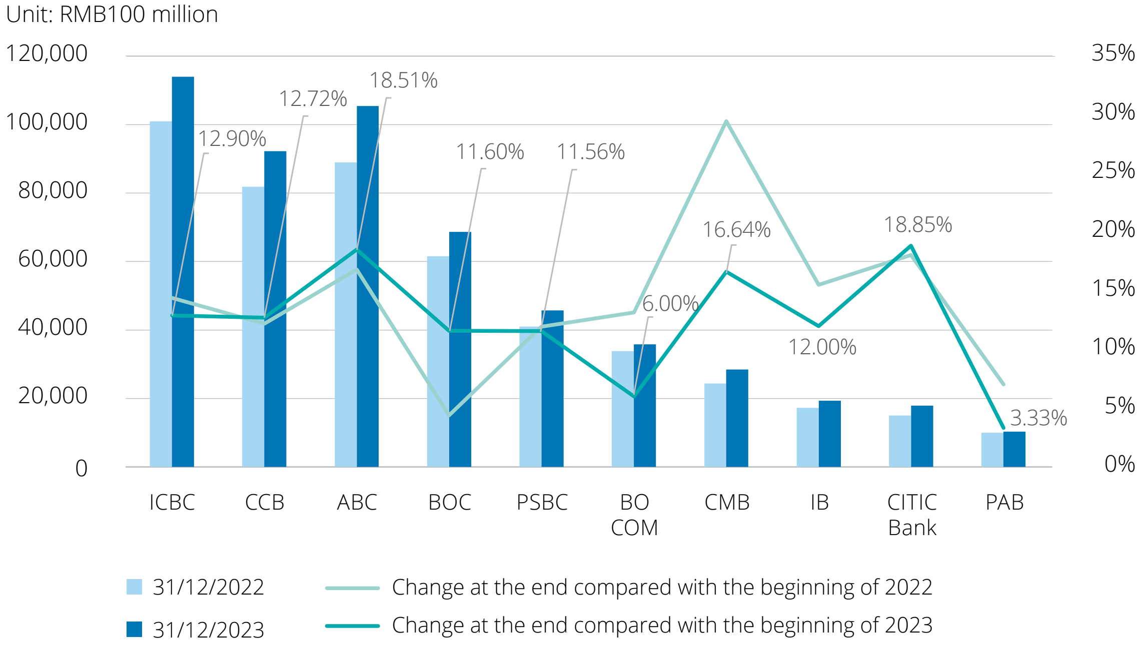


Domestic banks' bond investment proliferated, requiring them to strengthen their investment and risk management ability continuously

In 2023, bond yields trended down. As the U.S. Treasury yields continued to exceed China's government bond yields, the RMB exchange rate against the U.S. dollar depreciated generally, seeing a slight rebound at the end of the year. In 2023, domestic banks' bond investment balance was RMB53.85 trillion, an increase of RMB6.13 trillion or 12.85% from the beginning of the year. State-owned banks' bond investment balance was RMB46.17 trillion, an increase of RMB504 million or 13.18%. Among them, ICBC's and ABC's balances exceeded RMB10 trillion; BOC's growth rate rose; ABC's growth rate reached 18.51%. The balance of joint-stock banks' bond investment was RMB7.67 trillion, an increase of RMB0.76 trillion or 10.91%. BOCOM's and CMB's growth slowed. As the primary investment institutions in the bond market, domestic banks' bond investment is related to credit asset distribution, market interest rate changes, policy orientation and regulatory policies. Banks must comprehensively consider the impacts of bond market fluctuations, expected credit losses, bonds' tax-saving effect, and potential investment gains and losses (other comprehensive income).

The complex market environment continually challenged commercial banks' ability to grasp investment opportunities and improve bond duration management. Some foreign banks' risk events highlighted the liquidity risks caused by mismatching assets and liabilities. This spurred domestic banks to pay more attention to managing liquidity risks and adjusting their asset structures. Therefore, domestic banks are more seriously considering asset liquidity and asset-liability coordination when deploying bond assets. With declining interest rates in the bond market, domestic commercial banks must also attach importance to managing bond asset yields and screening bond investment opportunities.

Figure 32: Bond Investment

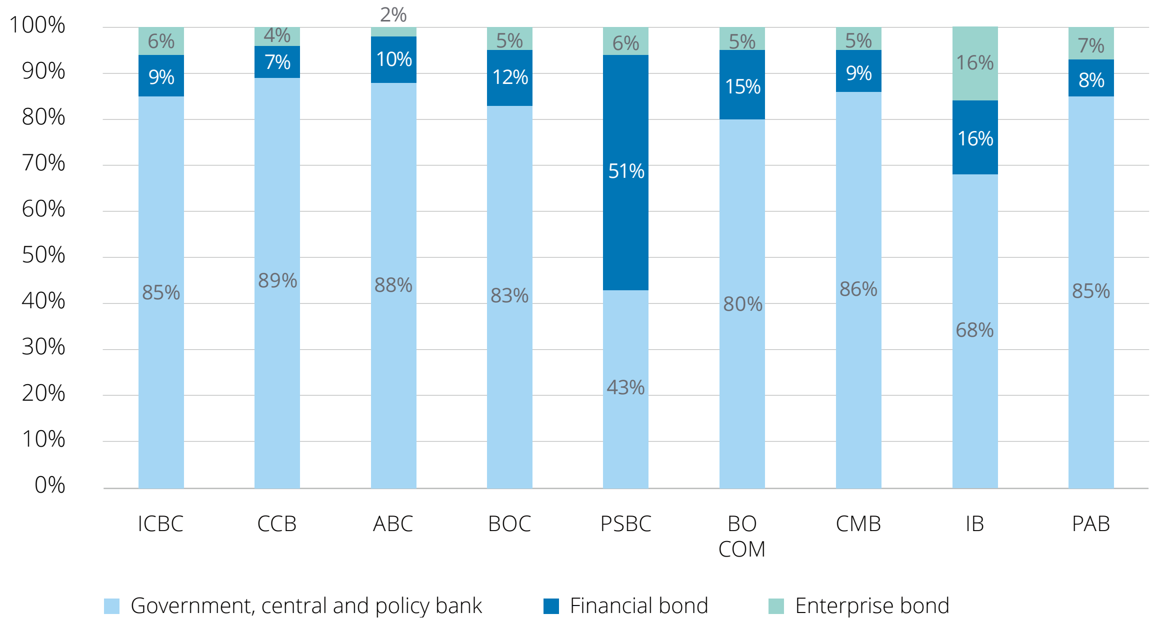


Domestic banks had a higher proportion of rate bonds and paid more attention to debenture bond risks

In 2023, domestic banks' bond investments were dominated by government bonds, central bank bills and policy banks' financial bonds, accounting for about 80%. PSBC's financial bond investment accounted for nearly 50%, much higher than that of other domestic banks. BOC's, BOCOM's, and IB's financial bond investments accounted for approximately 12%, 15%, and 16%, respectively, while the rest of domestic banks' enterprise bonds accounted for less than 10%. Generally, domestic banks' rate bonds accounted for a higher proportion, while their financial bonds, enterprise bonds, and other debentures accounted for about 20%.

With the easing of bond market fluctuations, the release of the *Administrative Measures for the Capital of Commercial Banks (Draft for Comment)* (hereinafter referred to as the "Measures"), and rising risk weights of investments in publicly offered funds, market entities were more willing to deploy bond assets. Meanwhile, dissolution of local government debts impacted commercial banks' liquidity indicators and capital occupation, which may weaken banks' bond deployment demand. In addition, banks must pay attention to the knock-on effects of financial redemption, including the risk of further depreciation and redemption, which may expand and impact the entire market. The Central Economic Work Conference required lowering financing costs, so the benchmark rates of long-term bonds may continue to decline. Banks should pay continuous attention to bonds' coupon rate income, credit and market risks. They should examine their current investment structures and capital consumption and dynamically, foresightedly adapt their bond deployment according to the risk weight adjustments for various bonds proposed in the Measures.

Figure 33: Bond Investment by Issuers in 2023



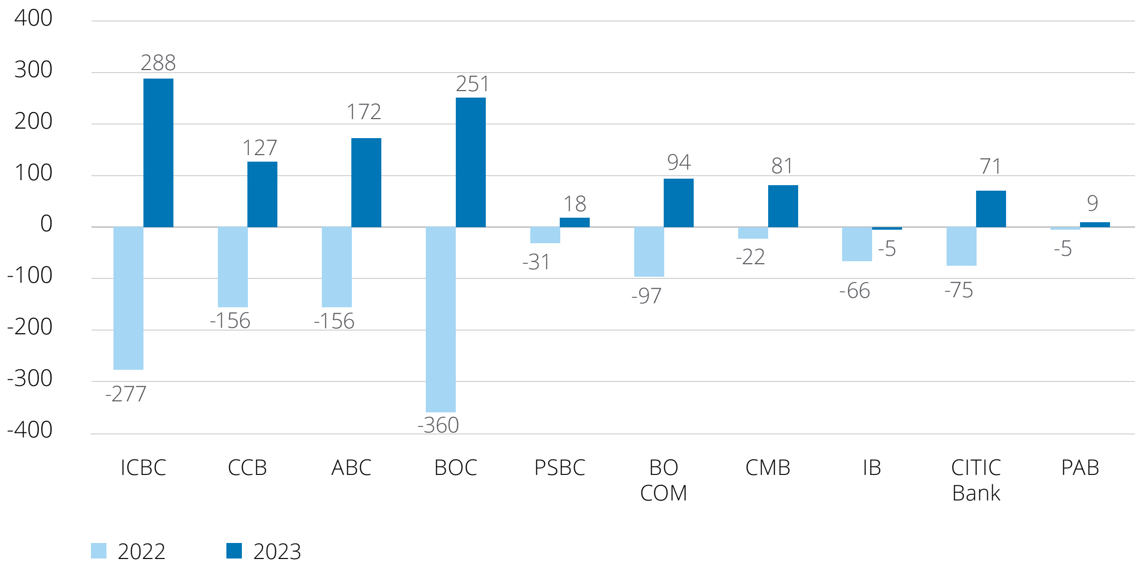
Note: CITIC Bank didn't separately disclose its bond investments by different issuers.

Pay attention to the fair value variation of financial assets not included in current profits and losses; continue to enhance risk management

With the bond market rebounding in 2023 and the prior year-end low base, domestic banks saw a rise in the valuation of financial assets measured at fair value, with the changes included in other comprehensive income. The total amount included in other comprehensive income of the year (not directly affecting the profits and losses) was RMB110.7 billion, an increase of RMB235.1 billion or 188.95% from the previous year. ICBC and BOC recorded higher floating gains. Domestic banks' fair value of financial assets measured at the amortized cost increased significantly, and the total amount not included in the income statement was RMB468.9 billion, an increase of RMB374.3 billion or 395.53%. CCB, ABC, BOC and CMB recorded a relatively higher growth rate.

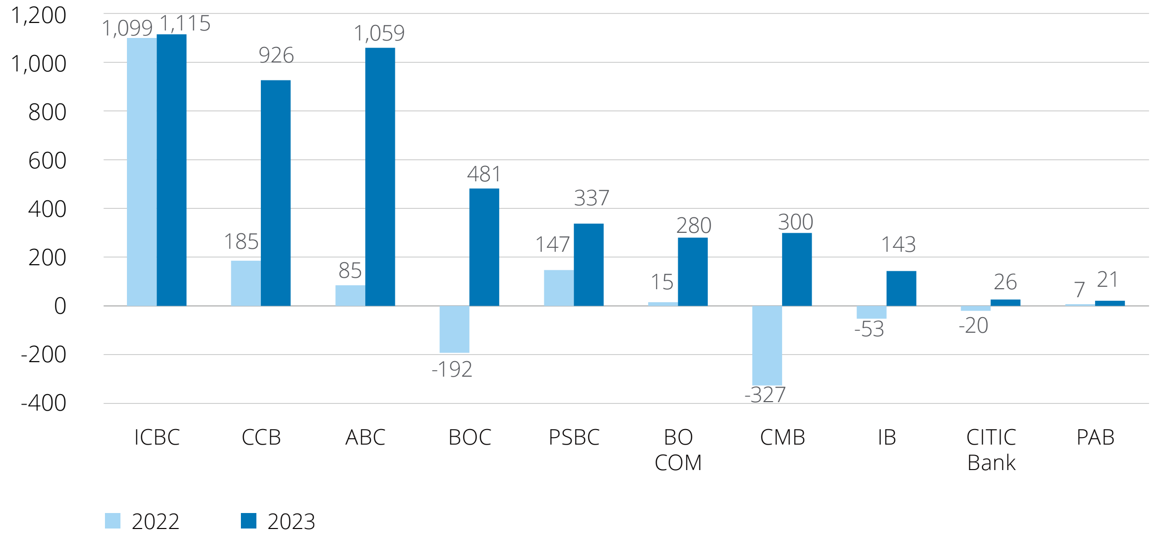
In 2024, the macro economy will continue to recover. However, with the effect of dissolving local government debts, declining interest rates, and the new capital regulations, banks must still pay attention to bond yields and valuation fluctuations and effectively manage liquidity risks.

Figure 34: Changes in Fair Value of Financial Assets (Changes Included in Other Comprehensive Income)



Note: It is the current-year pre-tax amount included in other comprehensive income (including loans and financial investments through fair value with the changes included in other comprehensive income)

Figure 35: Changes in Fair Value of Financial Assets Measured at the Amortized Cost

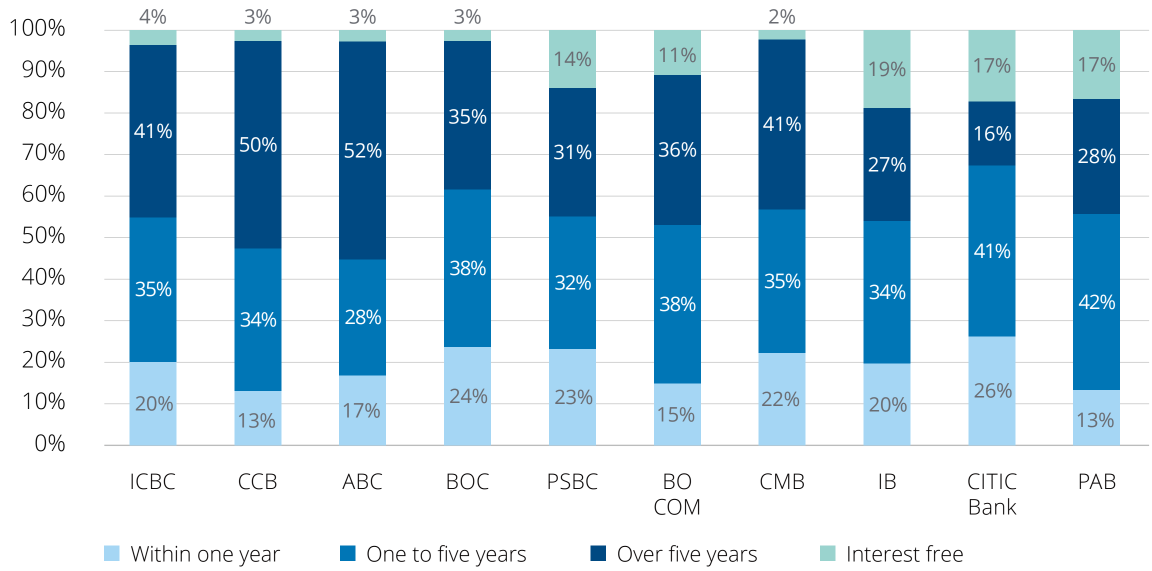


Note: It is based on the two-year changes in the difference between the fair value and carrying value of financial assets measured at the amortized cost.

Pay attention to interest rate risks of financial asset investment and strengthen investment duration management

At the end of 2023, domestic banks' financial asset investments with interest rate risk periods within one year, one-to-five years, and over five years accounted for 19%, 34% and 41%, respectively. The proportion of financial asset investments with a duration of more than one year increased. Long-term investments accounted for a higher proportion and were mainly held to maturity. Regarding rate repricing investments within one year, the financial asset investment balance of CITIC Bank accounted for more than 25%, and that of ICBC, BOC, PSBC, CMB and IB accounted for more than 20%. For rate repricing investments between one and five years, CITIC Bank's and PAB's financial asset investment balances accounted for more than 40%, and ICBC's, BOC's, BOCOM's and CMB's balances accounted for more than 35%. For rate repricing investments over five years, the financial asset investment balances of CCB and ABC accounted for more than 50%, and that of ICBC and CMB accounted for more than 40%. BOCOM's balance of financial asset investments within one year accounted for 15% (down 15% from the previous year), and its proportion of financial asset investments between one and five years and over five years rose 16%. The benchmark interest rate will continue to fall. Banks should strengthen investment duration management to reduce the impact of interest rate fluctuations on bond yields.

Figure 36: Interest Rate Risk of Financial Asset Investment at the End of 2023



Note: It is the total amount of interest rate risks of: 1) financial assets measured at fair value with the changes included in current profit and loss, 2) financial assets measured at the amortized cost, and 3) financial assets measured at fair value with the changes included in other comprehensive income

2.3 Liabilities

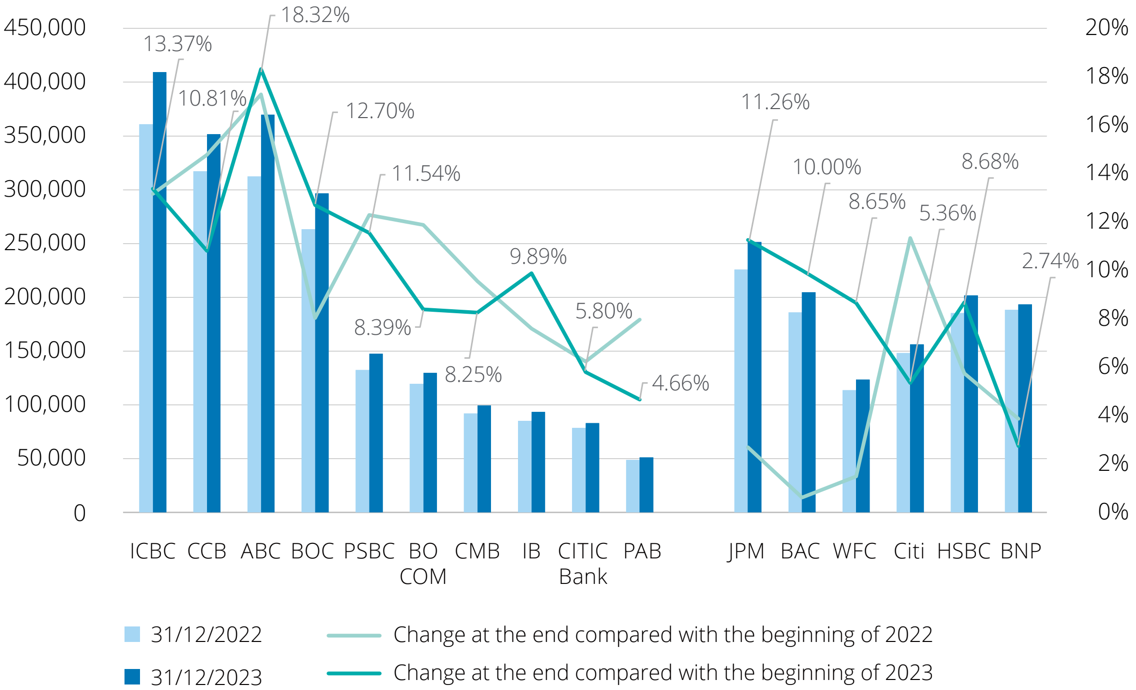
Domestic and foreign banks' total liabilities continued to rise, with stable asset-liability structure

In 2023, domestic banks' total liabilities reached RMB203.18 trillion, an increase of RMB22.14 trillion from the beginning of the year, representing a growth rate of 12.23% (lower than 2022's 12.27%). All other state-owned banks' total liabilities increased by more than 10%, except for BOCOM. Joint-stock banks' total liabilities increased steadily. Except for IB, other joint-stock banks' growth rates dropped compared with 2022.

In 2023, foreign banks' liabilities totaled RMB113.08 trillion, a modest increase from the beginning of the year. JPM, BAC, HSBC and WFC recorded steady liability growth (in the original currency).

Figure 1: Total Liabilities

Unit: RMB100 million

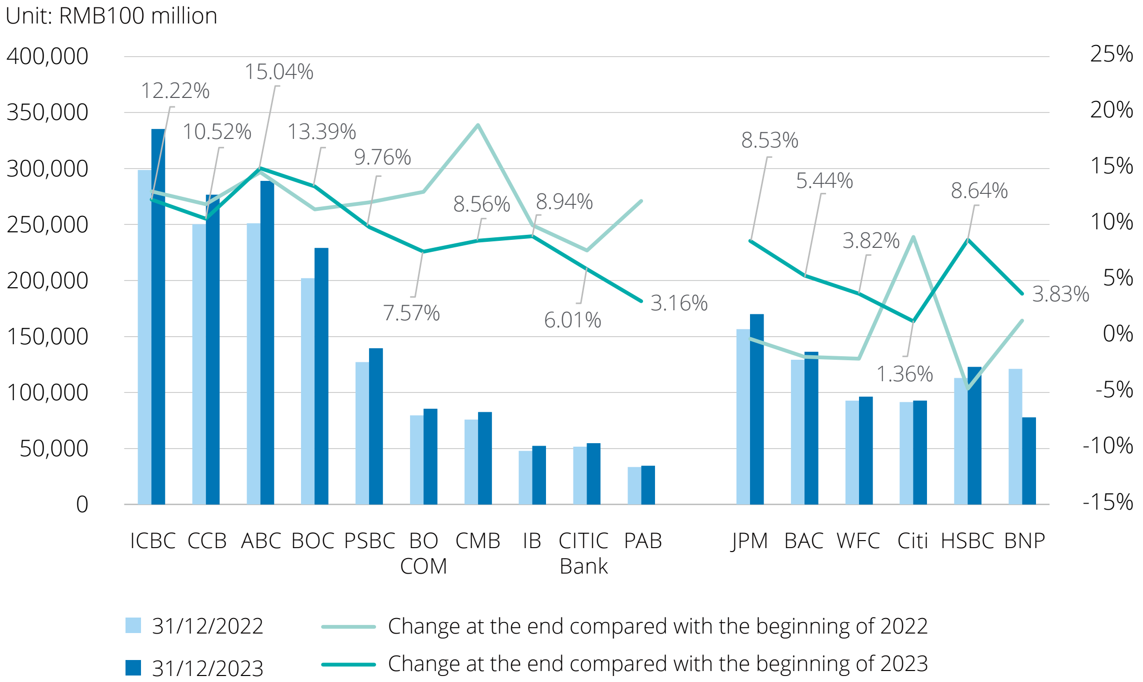


Customer deposits were scaled up; product/service quality and quantity boost profits

In 2023, domestic banks' customer deposit balance totaled RMB157.87 trillion, an increase of RMB16.10 trillion or 11.36% from the beginning of the year. Although the growth rate fell slightly from the previous year, customers' willingness to save remained high. State-owned banks' deposit balance totaled RMB135.49 trillion, up 12.09% year-on-year. Among them, ABC recorded a growth rate of 15.04%, the highest among the state-owned banks, followed by BOC and ICBC. Except for BOC and ABC, the growth rates of other state-owned and joint-stock banks slowed compared to 2022.

Foreign banks' customer deposit balance totaled RMB69.57 trillion, an increase of RMB3.78 trillion or 5.75% from the beginning of the year. JPM acquired First Republic Bank in 2023. HSBC reclassified the liabilities held for sale into customer deposits. Therefore, JPM and HSBC recorded an increase in customer deposits. Other foreign banks' customer deposits decreased slightly (in the original currency), mainly due to higher yields on financial assets driven by continuous interest rate hikes, customers' risk aversion triggered by banking risk events (e.g., Silicon Valley Bank), and seasonal factors.

Figure 2: Customer Deposits



Fixed-term deposits increased

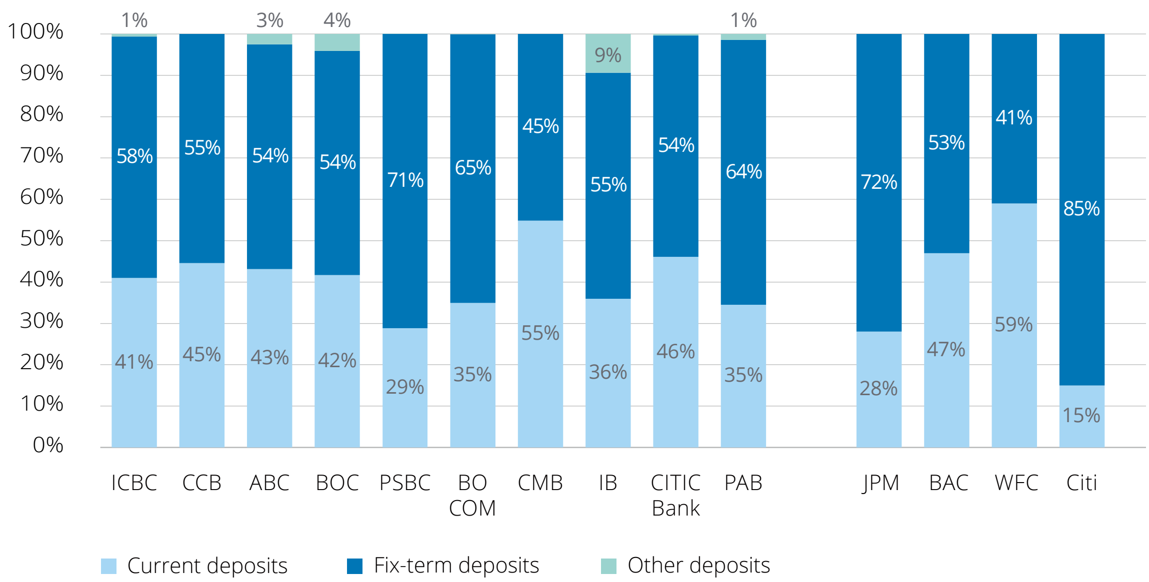
In 2023, as investors' demand for value preservation and increase heightened, domestic banks' weighted average proportion of fixed-term deposits was 58.06%, up 5.10 percentage points from the previous year. ICBC and CMB saw remarkable growth in fixed-term deposits.

Domestic banks' weighted average proportion of current deposits was 40.55%. PSBC recorded the highest fixed-term deposit proportion of 71.12%, up 3.46 percentage points from the beginning of the year. CMB recorded the highest current deposit proportion of 54.86%, down 8.12 percentage points from the beginning of the year.

The weighted average proportion of foreign banks' fixed-term deposits stood at 63.35%, while their weighted average proportion of current deposits was 36.65%. WFC's current deposits accounted for 58.70%, decreasing 5.39 percentage points, still the highest among foreign banks. Citi's fixed-term deposits registered the highest proportion of 84.64%, up one percentage point.

In general, residents tended to be conservative in investment, affected by factors such as unstable economic growth and disappointing capital market performance. Domestic banks' fixed-term deposits will expand and loan interest rates will fall continually. Banks should pay attention to managing costs and optimizing asset and customer structures to ease the narrowing of interest margins.

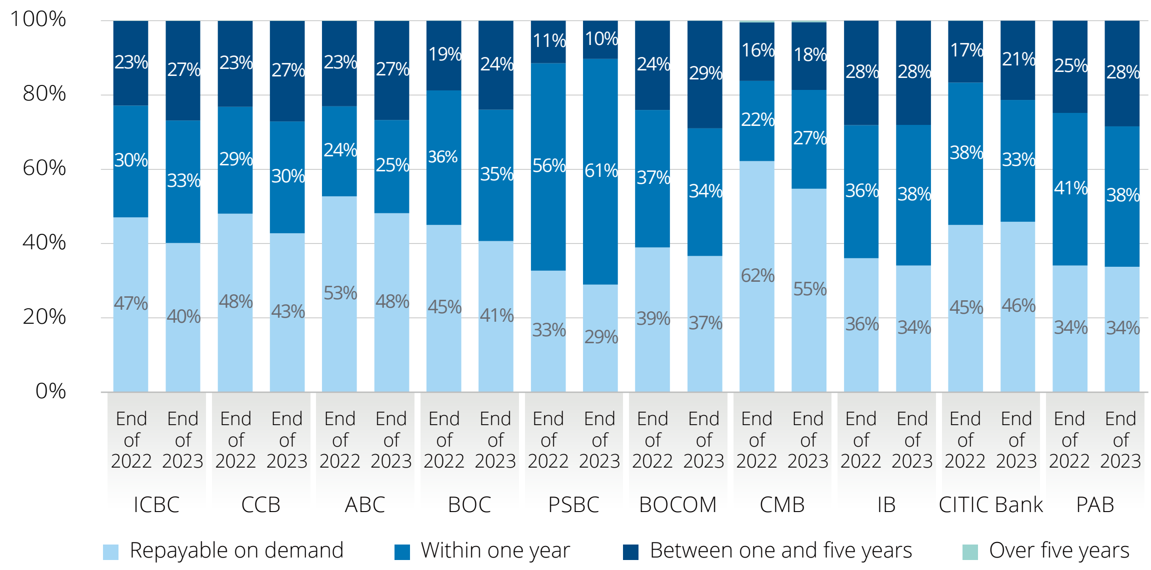
Figure 3: Deposit Composition at the End of 2023



Note: HSBC and BNP did not disclose their deposit composition.

From the perspective of remaining maturity of deposits, in 2023, the weighted average proportion of domestic banks' deposits repayable on demand was 41.59%, down 4.62 percentage points from the beginning of the year; the weighted average proportion of deposits maturing within one year was 33.82%, up 1.06 percentage points; the weighted average proportion of deposits maturing between one and five years was 24.55%, up 3.57 percentage points; the weighted average proportion of deposits over five years was 0.04%, down 0.01 percentage points. In 2023, the People's Bank of China continued to guide the optimization of the deposit structure and reduce deposit rates. State-owned and joint-stock banks cut interest rates three times in June, September and December, covering current and fixed-term deposits. Domestic banks strictly controlled high-cost liabilities, and expanded settlement, clearing and bankcard businesses to increase current deposits and low-cost liabilities.

Figure 4: Proportion of Deposits by Remaining Maturity



Note 1: IB's deposits repayable on demand were combined and disclosed with the deposits maturing within one year; to enhance comparability, the current deposits were combined with the deposits repayable on demand for analysis

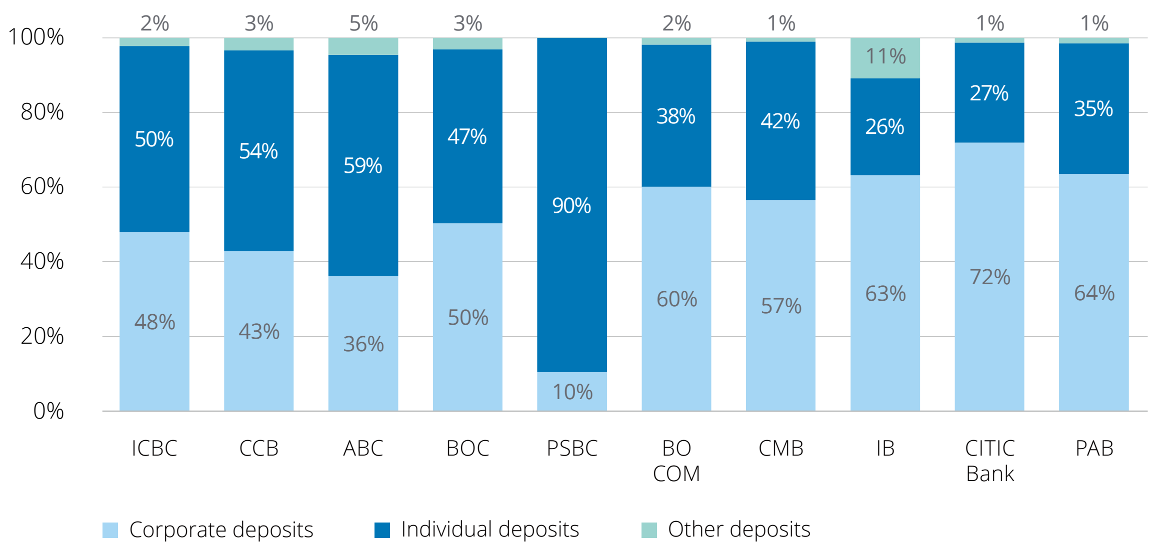
Note 2: End of 2023: 31/12/2023, End of 2022: 31/12/2022

Deposit structure stabilized broadly

From the perspective of customer types, the weighted average proportion of the four major state-owned banks' deposits of corporate and individual customers was 44.32% and 52.42%, down 0.55% and up 0.54%, respectively, from the beginning of the year. Relying on its extensive outlets, PSBC's deposits of individual customers recorded the highest proportion among domestic banks, reaching 89.53%. The weighted average proportion of joint-stock banks' deposits from corporate customers was 62.96%, down 3.19 percentage points from the beginning of the year, and their weighted average proportion of individual deposits was 33.62%, up 2.42 percentage points.

Generally, the proportion of domestic banks' corporate deposits decreased, while the proportion of individual deposits climbed slightly.

Figure 5: Proportion of Corporate and Individual Customer Deposits at the End of 2023



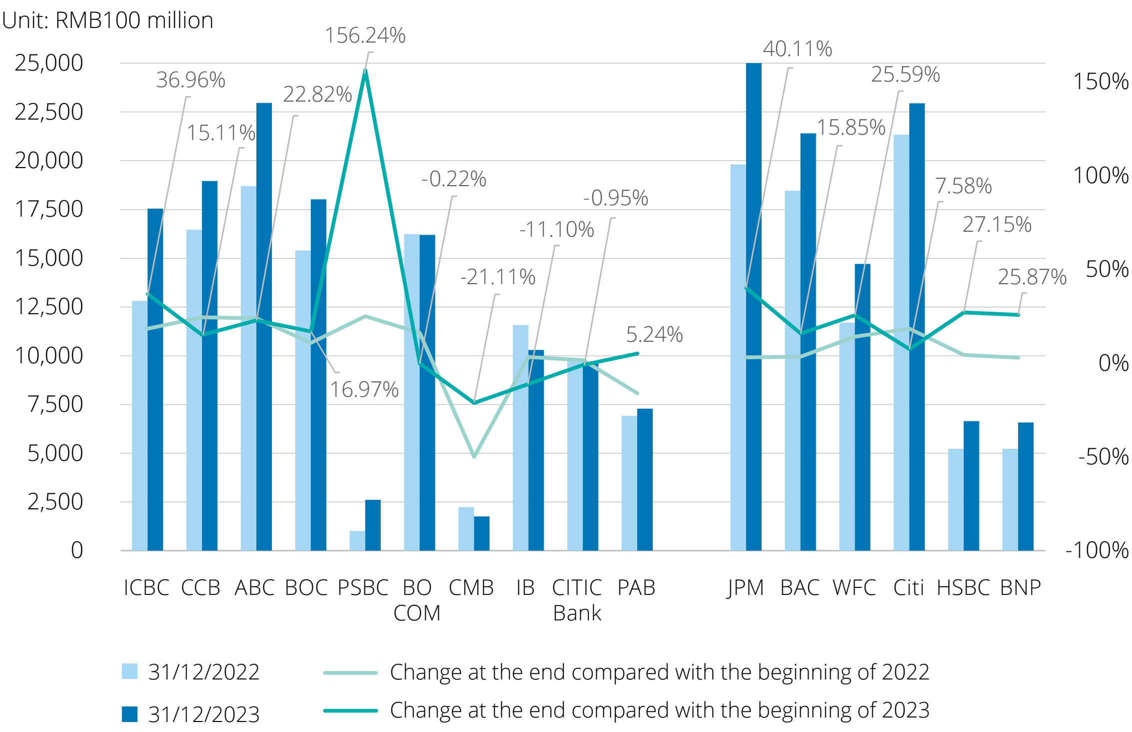
Debt instruments increased and active debts trended up

In 2023, domestic banks' balance of bonds payable and certificates of deposit issued totaled RMB12.53 trillion, an increase of RMB1.42 trillion or 12.75% from the beginning of the year. BOCOM's, CMB's, IB's and CITIC Bank's active debts were scaled down compared with the beginning of the year, while the rest of the domestic banks' active debts grew, with the overall growth rate higher than 2022's average rate of 9.73%, which may be the result of banks' efforts in optimizing the liability structure and lowering financing costs.

Foreign banks' balance of bonds payable and certificates of deposit issued totaled RMB10.00 trillion, an increase of RMB1.83 trillion or 22.33% from the beginning of the year. The growth rates of JPM, HSBC and BNP climbed significantly, while Citi's growth contracted (in the original currency).

Overall, the active debts of domestic and foreign banks trended up. With deepening market-oriented interest rate reform and lower benchmark interest rate, domestic commercial banks issued certificates of deposit to optimize their liability structures and reduce deposit costs, increasing active liabilities marginally. Foreign banks' deposits decreased due to rising yields on financial investments, so they strengthened external financing.

Figure 6: Bonds Payable and Certificates of Deposit Issued



2.4 Capital position

According to the *Administrative Measures for the Capital of Commercial Banks (for Trial Implementation), Additional Regulatory Provisions on Systemically Important Banks (for Trial Implementation)* (D-SIBs) and relevant regulations for global systemically important banks (G-SIBs), the capital regulation bottom line requirements for the ten domestic banks as of 2023 are shown in the table below. Among them, CCB and ABC were upgraded from Bucket 1 to Bucket 2 in the G-SIBs category; BOCOM was included in G-SIBs for the first time. As of 2023, the ten banks' core tier 1 capital adequacy ratio, tier 1 capital adequacy ratio and capital adequacy ratio met the regulatory requirements.

Table 1: Capital Regulation Bottom Line

Bank	Core Tier 1 Capital Adequacy Ratio	Tier 1 Capital Adequacy Ratio	Capital Adequacy Ratio	SIB Category
ICBC	9.00%	10.00%	12.00%	G-SIBs, Bucket 2 D-SIBs, Bucket 4
CCB	9.00%	10.00%	12.00%	G-SIBs, Bucket 2 D-SIBs, Bucket 4
BOC	9.00%	10.00%	12.00%	G-SIBs, Bucket 2 D-SIBs, Bucket 4
ABC	9.00%	10.00%	12.00%	G-SIBs, Bucket 2 D-SIBs, Bucket 4
BOCOM	8.50%	9.50%	11.50%	G-SIBs, Bucket 1 D-SIBs, Bucket 3
CMB	8.25%	9.25%	11.25%	D-SIBs, Bucket 3
IB	8.25%	9.25%	11.25%	D-SIBs, Bucket 3
PSBC	8.00%	9.00%	11.00%	D-SIBs, Bucket 2
CITIC Bank	8.00%	9.00%	11.00%	D-SIBs, Bucket 2
PAB	7.75%	8.75%	10.75%	D-SIBs, Bucket 1

Domestic banks' capital adequacy ratios diverged, while foreign banks' ratios generally rose

As of 2023, the core tier 1 capital adequacy ratio, tier 1 capital adequacy ratio and capital adequacy ratio of state-owned and joint-stock banks met the regulatory requirements. Domestic banks' average core tier 1 capital adequacy ratio, tier 1 capital adequacy ratio and capital adequacy ratio were 11.07%, 12.83% and 15.98%, respectively. The core tier 1 capital adequacy ratio and tier 1 capital adequacy ratio declined by 0.03 and 0.02 percentage points, respectively, from the beginning of the year, while the capital adequacy ratio climbed by 0.02 percentage points. The capital adequacy ratios of ICBC, CCB, ABC, IB and CITIC Bank fell, while other domestic banks' improved.

The average core tier 1 capital adequacy ratio, tier 1 capital adequacy ratio and capital adequacy ratio of foreign banks were 13.52%, 15.34% and 17.19%, up 0.67, 0.64, and 0.57 percentage points, respectively.

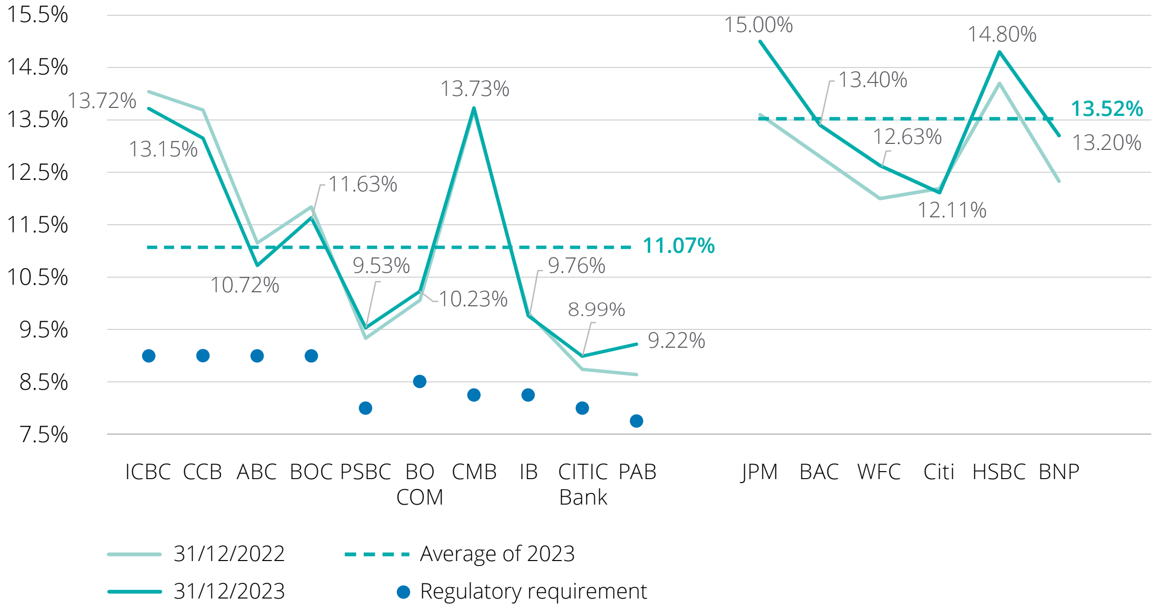
Banks' core tier 1 capital adequacy ratios changed inconsistently

In 2023, economic recovery in different countries varied. Domestic banks' core tier 1 capital adequacy ratios changed diversely due to monetary policy adjustment, intensified market volatility and geopolitical tensions. Generally, domestic banks' core tier 1 capital adequacy ratios declined because of the internal and external environment. Foreign banks' core tier 1 capital adequacy ratios improved broadly, with the exception of Citi's decline of 0.08 percentage points.

The four major state-owned banks proactively supported economic recovery and increased credit supply, so their capital consumption accelerated. Their core tier 1 capital adequacy ratios trended down, but remained above the regulatory requirement of 9.00%. Among them, CCB recorded the largest decline of 0.54 percentage points. PAB's core tier 1 capital adequacy ratio rose 0.58 percentage points year-on-year, the highest growth rate among domestic banks. CMB recorded a growth rate of only 0.05%.

Among the foreign banks, JPM's core tier 1 capital adequacy ratio rose significantly from 2022's 13.60% to 15.00%. BAC's, WFC's, HSBC's and BNP's core tier 1 capital adequacy ratios also climbed—BNP recorded a more remarkable rise, from 12.33% to 13.20%, thanks to its risk management and capital optimization capabilities. Citi's core tier 1 capital adequacy ratio dropped from 12.19% to 12.11%.

Figure 1: Core Tier 1 Capital Adequacy Ratio

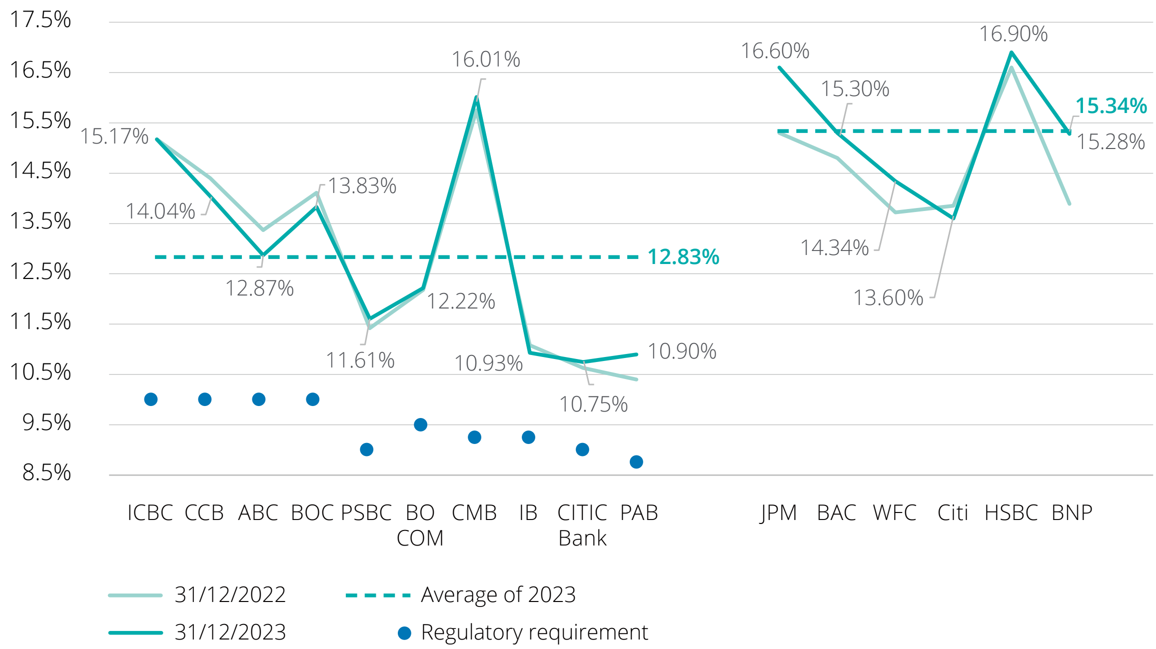


State-owned banks' tier 1 capital adequacy ratios and capital adequacy ratios declined slightly, while most joint-stock banks' and foreign banks' increased

Some domestic banks' tier 1 capital adequacy ratios grew slightly, while others' trended down. Among the four major state-owned banks, CCB's, ABC's and BOC's ratios declined by 0.36, 0.50 and 0.28 percentage points, respectively, while ICBC's remained unchanged at 15.17%. CMB's tier 1 capital adequacy ratio rose by 0.26 percentage points to 16.01%, the highest among domestic banks. PSBC's, BOCOM's, CITIC Bank's and PAB's tier 1 capital adequacy ratios rose but were still below domestic banks' average. IB's tier 1 capital adequacy ratio fell by 0.15 percentage points, related to its negative net profit growth.

In 2023, foreign banks' tier 1 capital adequacy ratios generally increased, recording 16.60%, 16.90%, 15.30%, 14.34%, and 15.28%, respectively, at JPM, HSBC, BAC, WFC and BNP. Only Citi registered a drop of 0.25 percentage points.

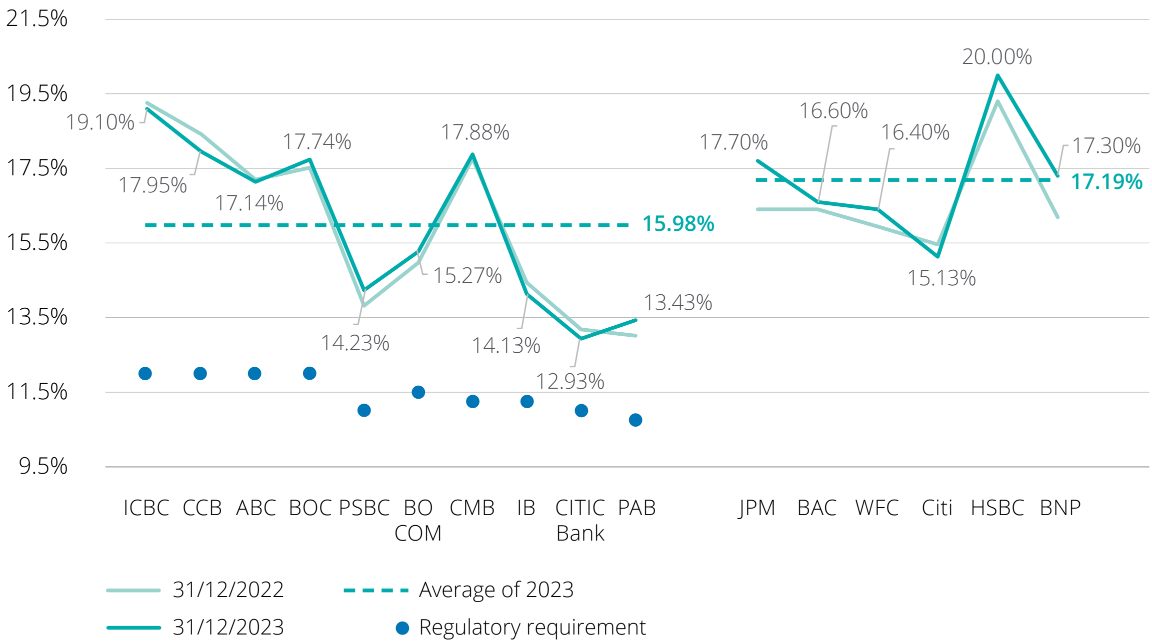
Figure 2: Tier 1 Capital Adequacy Ratio



ICBC's capital adequacy ratio fell slightly to 19.10% but was still the highest among domestic banks. BOC, ABC, CMB and CITIC Bank saw insignificant changes in their capital adequacy ratio, with CMB's rising slightly to 17.88%. PSBC and PAB recorded a more notable rise by 0.41 and 0.42 percentage points.

Among the foreign banks, Citi's capital adequacy ratio decreased by 0.33 percentage points, while all other banks rose. JPM's rose most—by 1.30 percentage points to 17.70%. HSBC's rose to 20.00%, the highest among foreign banks. BNP's improved to 17.30%, up 1.11 percentage points.

Figure 3: Capital Adequacy Ratio



Domestic banks actively sought external capital supplement

In 2023, domestic banks strengthened their capital structures through exogenous financing strategies, with their total capital instruments amounting to RMB1,323 billion. Five banks supplemented other tier 1 capital, amounting to RMB190 billion, and seven banks added tier 2 capital, amounting to RMB960 billion. ICBC and BOC issued large amounts of capital instruments in 2023, totaling RMB350 billion and RMB250 billion, respectively, accounting for 23.28% and 19.08% of their total capital instruments.

Table 2: External Capital Supplement

Unit: RMB100 million

Bank	Financing Instrument	Capital	Financing Scale
ICBC	Tier 2 capital bonds	Tier 2 capital	3,500
CCB	Tier 2 capital bonds	Tier 2 capital	1,200
	Perpetual bonds	Other tier 1 capital	600
ABC	Perpetual bonds	Other tier 1 capital	400
	Tier 2 capital bonds	Tier 2 capital	1,900
BOC	Perpetual bonds	Other tier 1 capital	300
	Tier 2 capital bonds	Tier 2 capital	2,200
PSBC	Tier 2 capital bonds	Tier 2 capital	200
	Non-public issuance of A-share common stocks		450
	Perpetual bonds	Other tier 1 capital	300

Bank	Financing Instrument	Capital	Financing Scale
BOCOM	Tier 2 capital bonds	Tier 2 capital	300
	Special financial bonds	Special financial bonds	300
	Green financial bonds	Green financial bonds	300
	Straight bonds	Straight bonds	380
	Straight bonds	Straight bonds	300
CMB	Perpetual bonds	Other tier 1 capital	300
CITIC Bank	Tier 2 capital bonds	Tier 2 capital	300

Note: Equity-based capital supplement instruments include initial public offerings, non-public offerings, allotment of shares, and preferred shares. Debt instruments are limited to tier 2 capital bonds. Hybrid instruments are mainly convertible bonds.

BOC's, PSBC's and BOCOM's external capital instruments accounted for more than 40% of their total net capital. CCB's and CMB's external capital instruments accounted for less than 25%. ICBC's, ABC's, IB's and CITIC Bank's external capital instrument proportions were between 25% and 40%. In 2023, CITIC Bank's proportion of capital instruments decreased most, by 3.64%, year-on-year.

Table 3: Proportion of Capital Instruments

Unit: RMB100 million

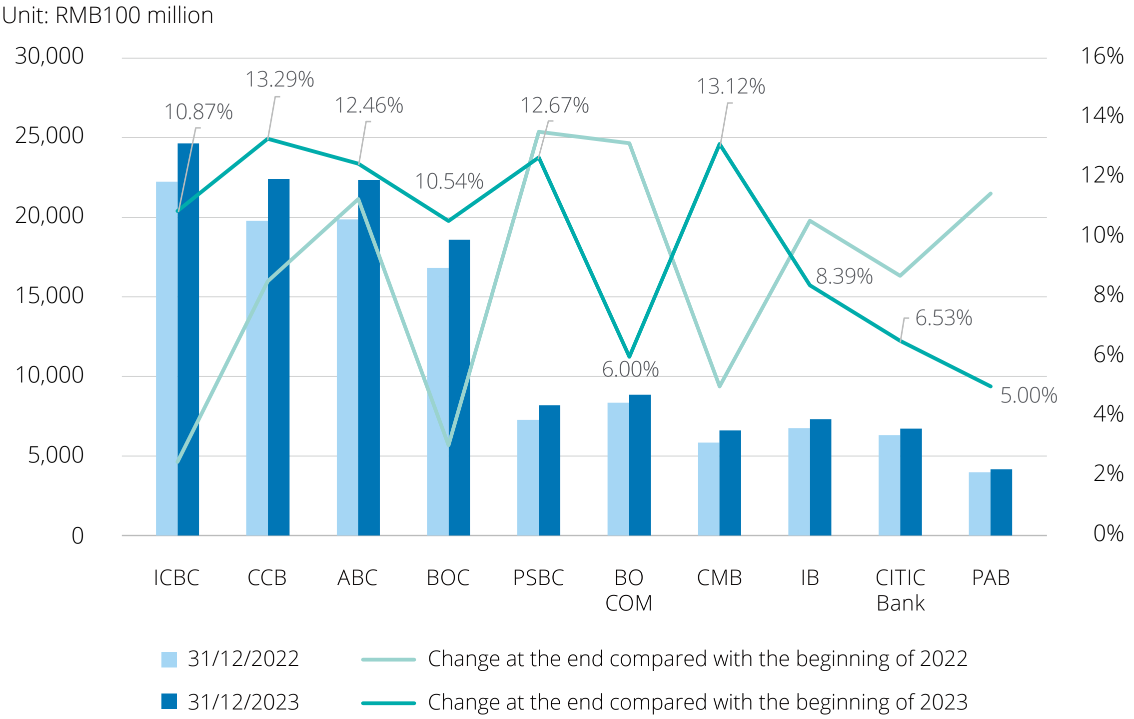
Item		ICBC	CCB	ABC	BOC	PSBC	BOCOM	CMB	IB	CITIC Bank
Total capital instruments	2023	15,032	8,823	13,099	13,106	5,518	5,818	2,523	3,068	2,370
	2022	13,876	7,840	11,198	11,958	4,568	5,518	2,424	3,068	2,570
	Growth rate	8.33%	12.54%	16.98%	9.60%	20.80%	5.44%	4.08%	-	(7.78%)
Total net capital	2023	47,071	40,207	38,282	32,974	11,654	13,511	11,815	10,331	8,699
	2022	42,811	36,404	34,163	29,465	10,040	12,503	10,379	9,738	8,321
	Growth rate	9.95%	10.45%	12.06%	11.91%	16.08%	8.06%	13.84%	6.09%	4.54%
Proportion of capital instruments	2023	31.93%	21.94%	34.22%	39.75%	47.35%	43.06%	21.35%	29.70%	27.24%
	2022	32.41%	21.54%	32.78%	40.58%	45.50%	44.13%	23.35%	31.51%	30.89%
	Growth rate	(0.48%)	0.41%	1.44%	(0.84%)	1.85%	(1.07%)	(2.00%)	(1.81%)	(3.64%)

Note: Total capital instruments refer to the amount (regulatory standard) of qualified capital instruments disclosed in the commercial banks' annual reports or capital adequacy supplementary reports. PAB did not disclose its total capital instruments.

Risk-weighted assets grew rapidly; credit risk-weighted assets accounted for an increasingly larger proportion

In 2023, domestic banks' risk-weighted assets totaled RMB129.83 trillion, increasing RMB12.66 trillion from the beginning of the year, representing an average growth rate of 10.80%. Among them, ICBC's total risk-weighted assets reached RMB24.64 trillion, ranking first among the domestic banks; CCB recorded the largest increase of RMB2.63 trillion. The significant growth of risk-weighted assets pressed the banks' capital adequacy ratio.

Figure 4: Risk-weighted Assets



Specifically, state-owned banks' credit risk-weighted assets accounted for more than 90% of their total risk-weighted assets, averaging 93.27%, an increase of 0.62 percentage points from the beginning of the year. ABC's credit risk-weighted assets recorded the highest proportion of 94.20%. For joint-stock banks, CMB's, IB's, CITIC Bank's and PAB's credit risk-weighted assets accounted for 88.3%, 91.82%, 93.35% and 89.19%, respectively.

Table 4: Risk-weighted Asset Composition

Item	ICBC	CCB	ABC	BOC	PSBC	BOCOM	CMB	IB	CITIC Bank	PAB
Credit risk-weighted assets	92.77%	93.05%	94.20%	93.46%	93.81%	92.34%	88.30%	91.82%	93.35%	89.19%
Market risk-weighted assets	0.95%	0.66%	0.22%	0.77%	0.69%	2.69%	1.46%	2.71%	0.82%	3.09%
Operational risk-weighted assets	6.28%	6.29%	5.58%	5.77%	5.50%	4.97%	10.24%	5.47%	5.83%	7.72%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Note: CMB calculated the risk-weighted assets without taking into consideration the floor requirements during the parallel run period.

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Observation of Listed Banks' Business in 2023

3.1

Forge ahead to write a glorious chapter of inclusive finance

Commercial banks lead the development of inclusive finance; policies support micro and small enterprises' healthy growth

In 2023, despite the lingering effects of COVID-19, inclusive finance lending continued to significantly support the high-quality development of China's economy by increasing loans to micro and small businesses at lower rates. According to NFRAnote, as of 2023, the balance of inclusive finance lending to micro and small businesses was RMB29.06 trillion, an increase of 23.27% year-on-year. The average interest rate of newly issued inclusive loans was 4.78%, down 0.47 percentage points from 2022, demonstrating financial institutions' positive results in enhancing financial services for micro and small enterprises, agriculture-related entities and key groups. Inclusive finance lending for micro and small enterprises is expanding steadily.

According to the People's Bank of China[note], inclusive finance lending for micro and small enterprises has continued to increase over the past three years, registering RMB19.23 trillion, RMB23.80 trillion and RMB29.40 trillion, with year-on-year growth rates of 27.3%, 23.8% and 23.5%, respectively. Commercial banks and other financial institutions play a critical role in advancing the development of inclusive finance. State-owned banks spearheaded inclusive financial services, with their inclusive loan scale expanding from 2021's 33.66% to 39.22% in 2023, contributing significantly to the growth of total inclusive finance lending. Joint-stock and city commercial banks focused on technical empowerment to facilitate sound development of micro, small, and medium-sized enterprises. In the meantime, rural financial institutions leveraged their advantages to comprehensively integrate local funds, resources and talent, substantially promoting rural digital inclusive finance.

In November 2013, the Third Plenary Session of the 18th CPC Central Committee formally proposed "developing inclusive finance". Inclusive finance has seen remarkable progress over the past ten years. In 2023, China actively implemented incentive policies to propel inclusive finance, adopted various measures to address relevant difficulties, and improved financial services for key groups, effectively easing enterprises' burdens, advancing rural revitalization, and improving people's wellbeing.

Note: Differences exist between NFRA's and PBC's statistical standards for inclusive loans for micro and small enterprises.

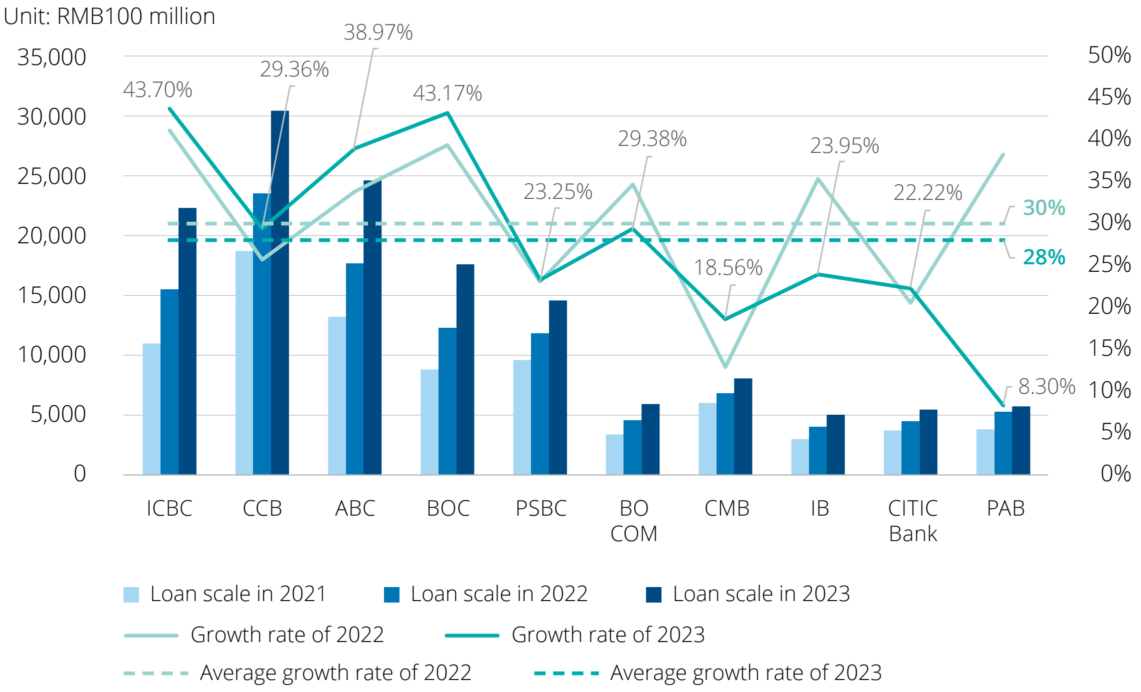
Table 1: Inclusive Finance Policies Introduced in 2023

Date	Issued by	Policy
April 2023	Former CBIRC	*Notice on Banking and Insurance Industries Serving the Key Work of Promoting Rural Revitalization in 2023*
April 2023	Former CBIRC	*Notice on Stepping up Efforts to Improve the Quality of Financial Services for Micro and Small Enterprises in 2023*
July 2023	MIIT, PBC, NFRA, CSRC, Ministry of Finance	*Circular on Launching the "One Chain-One Policy-One Batch" Financing Initiative for SMEs*
August 2023	Ministry of Finance, State Taxation Administration	*Circular on the Policy of Exempting Interest Income Obtained by Financial Institutions from Loans Offered to Micro and Small Enterprises from Value-added Tax*
October 2023	State Council	*Implementing Opinions on Promoting the High-quality Development of Inclusive Finance*
November 2023	PBC, NFRA, CSRC, SAFE, NDRC, MIIT, Ministry of Finance, All-China Federation of Industry and Commerce	*Circular on Enhancing Financial Support Measures to Boost the Growth of the Private Economy*

Inclusive loans to micro and small enterprises continued to increase with expanding customer groups; interest rates of newly issued loans declined

Commercial banks disclose information about inclusive finance businesses separately in their annual reports. The ten commercial banks' scale and customer number of inclusive finance lending, and the interest rates of newly issued loans were as follows:

Figure 1: Scale of Inclusive Loans to Micro and Small Enterprises



Loan supply increased year by year to help micro and small enterprises overcome obstacles

In 2023, commercial banks' inclusive loans for micro and small enterprises increased, with an average growth rate of 28%, slightly lower than 2022’s 30%. BOCOM, IB and PAB recorded a lower growth rate compared with 2022.

As of 2023, CCB's inclusive finance lending reached RMB3.04 trillion, ranking first in the banking sector, an increase of RMB690 billion from the beginning of the year; ABC's balance of inclusive loans was RMB2.46 trillion, an increase of RMB689.3 billion; ICBC recorded the highest growth rate of 43.70%, with the loan balance reaching RMB2.23 trillion, followed by BOC's 43.17% and RMB1.76 trillion.

CMB's balance of inclusive loans reached RMB804.3 billion, the highest among the joint-stock banks. IB recorded the fastest growth rate of 23.95%, with a loan balance of RMB501 billion.

In 2023, the six state-owned banks launched a series of lending and service measures to facilitate the steady growth of micro and small enterprises. ICBC simplified the "Online Revolving Loan" procedures, advanced the direct connection of the mortgage registration system, improved processing efficiency, launched innovative scenarios such as "Personal e-Enterprise Quick Loan," and expanded credit support for self-employed businesses.

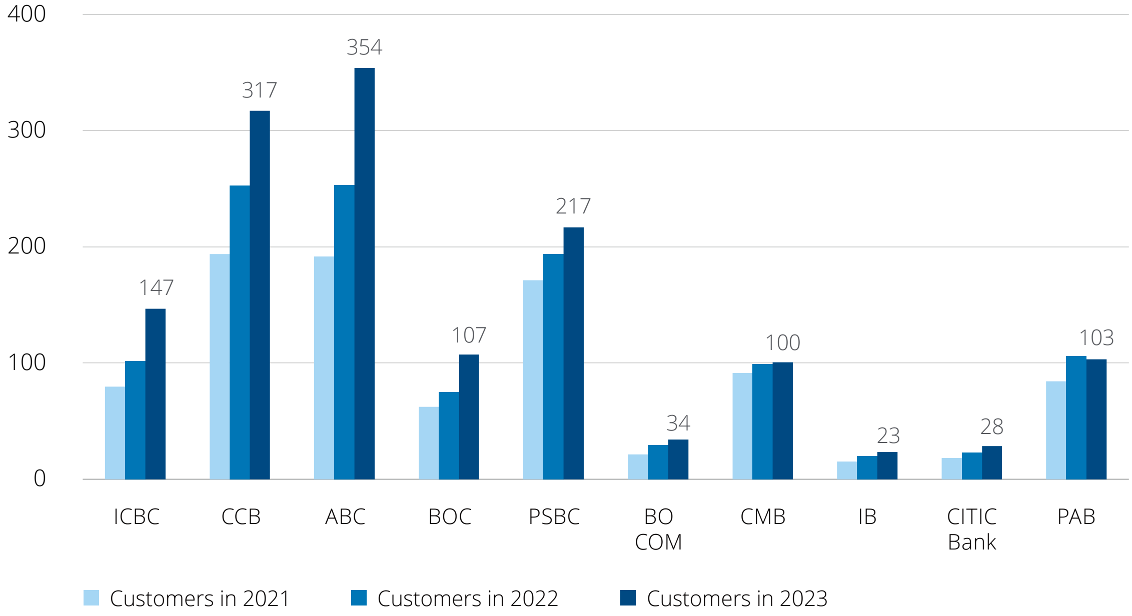
CCB strengthened efforts in serving sci-tech enterprises and promoted products such as "Shankedai," "Shanxindai," and "Advanced Loan for Opening (Entering the Industrial Park)." In addition, it pressed ahead with the construction of "CCB Startup Station," cumulatively granting RMB59 billion of loans to 41 thousand enterprises. ABC improved the two-level inclusive financial specialized institution system at the head office and branches, enhanced the classified operation of financial services for small and micro enterprises at branch outlets, established 500 specialized institutions at the head office level and 10,060 development-type branch outlets for small and micro-credit business, and built 296 characteristic sub-branches for small and micro enterprises. PSBC innovatively advanced proactive credit extension among "Sannong" customers, leveraged big data technologies to analyze existing rural customers' profiles, and generated white lists of proactive credit extension in batches; RMB142.1 billion of loans under the "Sannong" proactive credit extension projects were granted, with the balance standing at RMB106.4 billion and a net increase of RMB89.1 billion in the year.

Commercial banks vigorously promoted inclusive financial strategies, easing micro and small enterprises' difficulties in accessing affordable financing, driving their healthy development, and injecting new vitality into the economy.

Inclusive loan coverage continued to expand to reach ordinary families

Figure 2: Number of Inclusive Loan Customers

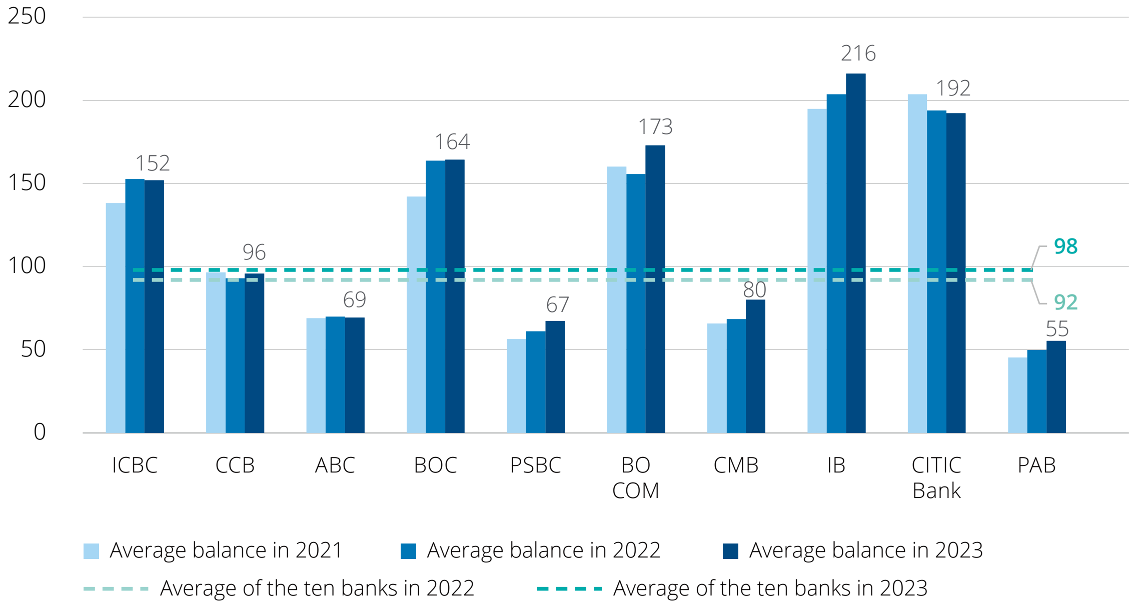
Unit: 10,000 customers



As of 2023, ABC had more than 3.5 million inclusive loan customers, ranking first in the industry, an increase of 1.01 million or 39.92% over the prior year-end; CCB, PSBC and ICBC served 3.17 million, 2.17 million, and 1.47 million inclusive loan customers, respectively.

Figure 3: Average Inclusive Loan Balance of Micro and Small Customers

Unit: RMB10,000



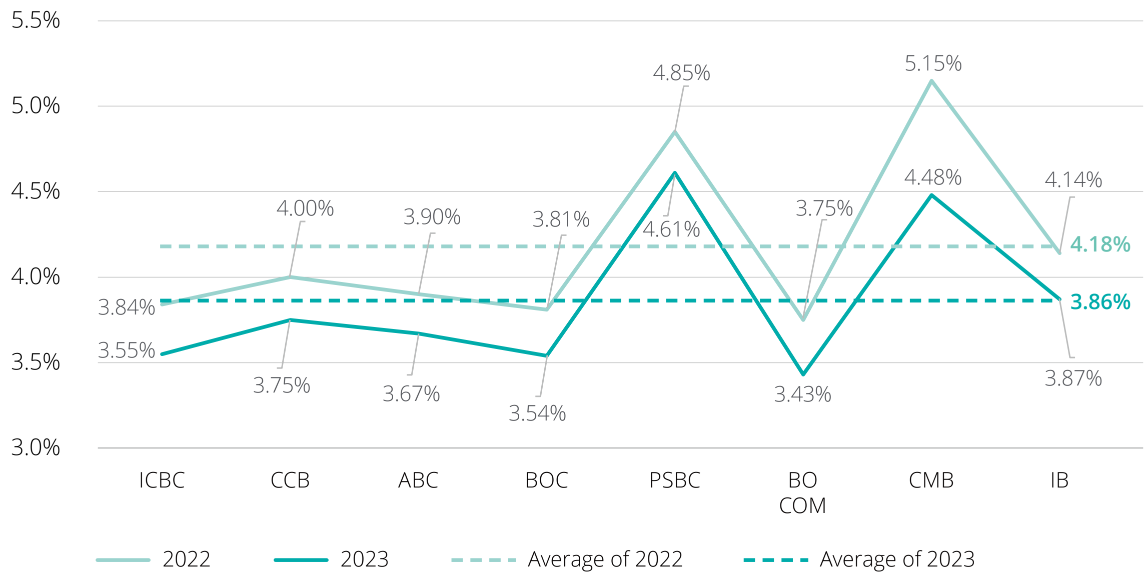
In 2023, in terms of enterprises' average balance of inclusive loans, the average amount of the ten commercial banks was RMB980,000, an increase of 6.14%. By the end of 2023, PAB's inclusive loan customers' average balance was the lowest (about RMB550,000); IB and CITIC Bank had higher average balances, respectively, RMB2.16 million and RMB1.92 million.

Specifically, ICBC's, ABC's and CITIC Bank's inclusive loan customers' average balances dropped from 2022, with their customers continuing to expand in lower-tier cities and rural areas; CCB's, ABC's, PSBC's, CMB's and PAB's balances were below the ten banks' average.

Financing costs dropped steadily

All commercial banks' interest rates of newly issued inclusive loans declined year-on-year. Except for PSBC and CMB, the interest rates of the other commercial banks were lower than 4%. BOCOM's interest rates of new loans fell the most (from 2022's 3.75% to 2023's 3.43%) to be the lowest among the six state-owned banks.

Figure 4: Interest Rate of Newly Issued Inclusive Loans



Note: CITIC Bank and PAB did not disclose the interest rates of newly issued inclusive loans in their annual reports.

In 2023, to further lighten the economic burdens of micro and small enterprises and drive the economy's sustained recovery and healthy development, the government continued to implement and optimize the support policies for micro and small enterprises to effectively reduce their financial costs.

In September 2023, the Ministry of Finance issued the *Administrative Measures for the Special Funds for Inclusive Financial Development* to give play to the guiding and leverage role of fiscal funds and improve the quality and effectiveness of the policies relating to providing financial support for the development of inclusive finance. For the purpose of these Measures, the Special Funds refer to the special transfer payment funds arranged by the central finance for supporting inclusive finance development. The Special Funds support executing secured loan interest discounts for business startups, building inclusive finance development demonstration zones supported by central finance, providing targeted subsidies for rural financial institutions, and other work. Qualified individuals and micro and small enterprises may apply for business startup secured loans and financial interest discounts. Qualified business startup secured loans may be included in incentives and subsidies under the Special Funds. For eligible business startup secured loans, the financial departments may offer a financial interest discount of 50% of the actual interest rate.

In November 2023, the *Notice of the General Office of the People's Government of Guangdong Province on Issuing Several Measures to Reduce Manufacturing Costs and Promote High-quality Development of Manufacturing in Guangdong* (Yue Ban Han [2023] No.302) was officially released. It specifies that eligible loans granted to manufacturing MSMEs through the Guangdong MSMEs financing platform will be given specific interest discounts, effective until December 31, 2025.

Some local commercial and rural cooperative banks extended the repayment periods and adjusted the repayment terms, providing customized financial solutions for micro and small enterprises. Under the guidance of the People's Bank of China, financial institutions actively implemented new measures for cutting fees and making interest concessions. In October 2023, the six state-owned banks announced that while continuing to implement the existing favorable policies, they would introduce new enterprise and people-benefiting measures to further lower business operating costs and ease financial consumers' burdens.

Improve development models and enrich product lines to further the high-quality development of inclusive finance

Bank	Strategy	Development model	Major products
ICBC	Driven by innovation and transformation, ICBC further developed the "digital inclusive" model; Catering to customer demands, the bank continuously improved the coverage, accessibility and satisfaction of inclusive financial services.	• Continued to refine the three major digital inclusive product systems, namely, Online Revolving Loan, Quick Lending for Operation, and Digital Supply Chain; • Strengthened the supply of credit funds and business opportunities, built a comprehensive financial service system of "financing, consulting and commercial services" for small and micro enterprises, and created a sound development ecosystem; • Following the "digital inclusive" development direction, ICBC formed a financing risk management system characterized by "data-driven, intelligent warning, dynamic management and continuous operation"; • By comprehensively integrating internal and external data sources such as financing, settlement, justice, credit reference, taxation and customs, ICBC built a "1+N" intelligent risk control system adapted to the risk characteristics of small and micro enterprises.	• Quick Lending for Operation: open application and flexible withdrawal to help micro and small enterprises quickly obtain funds; • Personal e-Enterprise Quick Loan: a credit support product targeting self-employed businesses; • Customized financing plan: develop a customized financing plan to stabilize, consolidate and reinforce the supply chain, focusing on the key fields of the supply chain; • Digital inclusive products: e.g., Planting e Loan, which integrates innovative digital technologies to provide micro and small customers with more convenient financial services.

Bank	Strategy	Development model	Major products
CCB	The bank continued to develop the digitalized inclusive finance model featuring "batched customer acquisition, accurate profiling, automated approval, intelligent risk control, and integrated services," constantly improved inclusive finance systems and mechanisms, expanded inclusive finance service offerings, and enhanced the quantity, coverage, and quality of its inclusive finance business.	• Promoted deep integration of online and offline services to synergistically improve service quality and efficiency; • Focusing on key areas and weak links in society and economy, the bank improved its inclusive finance service model and fostered its comprehensive service capabilities based on the characteristics and needs of small and micro businesses, individual business owners, agriculture-related customers, as well as upstream and downstream customers in the supply chain.	• Iteratively upgraded "CCB Huidongni" 4.0, sped up the transition from credit services to inclusive financial service ecosystems, and enabled "one-stop" services, "one-minute" financing and "one-price" charging; • Strengthened efforts in serving sci-tech enterprises and promoted products such as "Shankedai", "Shanxindai," and "Advanced Loan for Opening (Entering the Industrial Park)"; • Pressed ahead with the construction of "CCB Startup Station", cumulatively granting loans of RMB59 billion to 41 thousand enterprises.
ABC	The bank enhanced its "Sannong" inclusive finance service capabilities; Focusing on consolidation and expansion of poverty alleviation achievements, sufficient supply of food and major agricultural products, rural industrial development, rural construction and other key areas, the bank intensified credit supply and continuously innovated service models.	• Improved the two-level inclusive financial specialized institution system at the head office and branches, and enhanced the classified operation of financial services for micro and small enterprises at branch outlets; • Improved the long-term service mechanism for inclusive finance; maintained the continuity and stability of credit business policies and systems for small and micro enterprises; and continually strengthened efforts in credit management, assessment, resource guarantee, due diligence, and liability exemption.	• Strengthened the construction of an inclusive financial service system, built an online business hall for small and micro enterprises, and released the "Inclusive E-station 3.0 of ABC" to improve the one-stop loan serviceability and comprehensive service capabilities for all products; • Upgraded general products such as "Micro Quick Loans," "Quick Loans," and "Supply Chain Quick Loans" and branch special products to improve customer experience.
BOC	The Bank continued to uphold the "finance for the people" concept and remained committed to serving the real economy. It focused on the comprehensive financial needs of micro and small-sized market entities, urban and rural residents, and other inclusive finance customers, promoting the high-quality development of inclusive finance businesses.	• Continually expanding business volume and service coverage, and comprehensively improving service quality; • Benefitting the people by helping stabilize and expand employment and ensure people's livelihood; • Serving rural revitalization and helping to build China's strength in agriculture; • Giving full play to the Group's synergies and providing comprehensive inclusive finance services.	• Continually upgraded online service channels such as the "BOC Inclusive Finance" app and "BOC E-Cooperation" app to provide customers with online products and services, and increased the number of its featured outlets for inclusive finance to over 2,800; • Provided services for self-employed individuals, entrepreneurs and new urban residents, and launched special activities such as "Benefitting Merchants · Driving Consumption" and "Providing Resources to Support Startups", thus expanding its financial support service system.

Bank	Strategy	Development model	Major products
PSBC	The bank is committed to providing financial services for micro and small enterprises and has stepped up efforts in digital transformation. It strives to leverage digital technologies to address inclusive financial problems and improve service quality.	• Expanding customer connection channels and improving service coverage; • Enriching the supply of comprehensive products and enhancing service accessibility; • Upgrading operation processes and improving service convenience; • Strengthening intelligent risk control throughout the process and enhancing sustainable development.	• Popularized H5 light tools for the on-ground marketing of "Easy Small and Micro Loan", and expanded customer connection by remote banking; • Industry E Lona and Platform E Loan: leveraging big data, blockchain and other technologies to provide customized credit products and pledge credit services; • PSBC Facilitates Corporate Operation: an enterprise financial cloud platform enabling integrated digital solutions covering fiscal and tax management, salary management, purchase, sales and inventory management.
BO COM	The bank expanded the coverage of inclusive finance, and increased financial support for small and micro enterprises and for rural revitalization; It is devoted to facilitating expanding domestic demand and boosting consumption and steadily improving the quality and efficiency of inclusive financial businesses.	• Continued to increase the scale and coverage of its credit business to strengthen financial support for key areas such as first-time small and micro borrowers, credit lending, sci-tech small and micro enterprises, and small and micro manufacturing enterprises; • By concentrating on technological empowerment, the bank has consolidated the digital risk control system and strengthened post-loan management and compliance management to safeguard the risk bottom line.	• Created a unified brand for inclusive finance and rural revitalization – BoCom Zhanyetong and BoCom Yinongtong, providing online standard products and customized scenario products; • Continued to optimize the business processes to facilitate remote audio and video verification, direct connection and handling of mortgage registrations, and centralized post-loan monitoring and management; • Provided the BoCom Jiaoxintong digital platform free of charge to support enterprises' transformation and upgrade.
CMB	The bank implemented the policy guidance of providing financial support for small and micro enterprises, and steadily improved the quality and efficiency of financial services for the real economy while maintaining stable asset quality and strengthening compliance management.	• Leveraging the advantages of "One Entire Bank for One Customer", the bank provided exclusive credit support to customers in key industries such as automobile, green energy, medical insurance and healthcare, communications, power and equipment manufacturing under the "product + customer group" scenario-based business model; • The bank constructed a long-term mechanism for inclusive finance development and reinforced financial support for private small and micro enterprises.	• Innovated and upgraded the supply chain finance 3.0 service system by launching the new products such as "CMB Chain Easy Loan" and the "Distribution Easy Loan"; • Launched the exclusive product "Sci-Tech Loan" to provide financing support for sci-tech enterprises; • Launched "Shengyidai" to facilitate the business operation of small and micro enterprises and self-employed businesses; • Launched "CMB Loan+" mini program to provide preliminary review application access for customers without CMB cards, expanding the coverage of inclusive financial services.

Bank	Strategy	Development model	Major products
IB	The bank focused on improving data application, product innovation, customer operation, and intelligent risk control capabilities and promoted integrated development with green and technical finance.	• Continued to improve the "online + offline" "scenario + platform" integrated service system, strengthened internal data integration and external data matching, improved model management and duration management, adhered to the basic business logic, and leveraged big data to effectively prevent risks, reduce costs, and increase income; • Actively utilized its "three business cards" to promote micro and small enterprises' green transformation, wealth value preservation and appreciation, and better development. It provided people with stable, low-risk products to preserve and increase their wealth value, substantially benefiting people and laying a solid customer base.	• Customized special financing plans for credit scenarios, designed differentiated model strategies and system processes, and created scenario-based online products, such as "Xingsudai"(exclusive for black gold private banking customers), "Xingsudai" (exclusive for guaranteeing credit enhancement), and "Xingsudai" (bill exclusive); • Continued to build and operate the open service platform "CIB Inclusive" to attract customers and established an online-offline integrated operation model.
CITIC Bank	The bank vigorously strengthened its ability to provide financial services for micro and small enterprises to fully support their development.	• Included inclusive finance indicators into branches' comprehensive performance assessment, with a weight of over 10%; Provided special incentives, funds and subsidies; Maintained risk tolerance; Implemented the principle of exempting those who fulfilled duties from accountability; • Fully leveraged the test field mechanism for inclusive finance product innovation, and intensified the granting of medium and long-term loans as well as loans for the manufacturing sector to meet the financial needs of key fields.	• Optimized the intelligent credit factory for product R&D, and enriched and improved the featured product system of "CITIC Easy Loan"; • Refined online service channels, launched "Xinzhihui," a customer-oriented mini-program, and boosted customer service efficiency and experience.
PAB	Taking full advantage of financial technology to implement "true inclusive service and true micro/small enterprises."	• Established a "1+N+n" integrated business model to reach customers through multiple channels, and supported core enterprises' upstream and downstream customers of the supply chain as well as their ecosystem customers; • Provided "order financing" services to solve the financing pain points of the manufacturing sector, and replicated and promoted successful cases; • Supported enterprises' cross-border trade and fully supported the credit financing needs of small and medium-sized export enterprises through online inclusive financial products.	• With the help of leading technologies such as big data, AI, Internet of Things and blockchain, PAB looked deep into supply chain scenarios and ecosystems, and promoted the "New-Micro-Loan" product for micro/small enterprises to realize digital upgrades; • Continuously optimized the inclusive products such as "Home Equity Loans" and "Mortgage E-Loan," effectively alleviating the financing barriers and lowering financing costs for enterprises; • Accelerated the innovation of inclusive financial products related to agriculture and launched "preferential agricultural loans"; provided development funds for multiple physical industries, such as mariculture, crispy grass carp breeding, fishing, and fishery.

The Central Bank relaxed the identification criterion for inclusive loans to continuously promote commercial banks' development quality and efficiency of inclusive finance

Inclusive finance has developed rapidly in recent years, with loan rates declining year by year. The coverage, accessibility and satisfaction of inclusive financial services improved significantly. With the pace of economic growth, inclusive finance businesses face new realities.

At a press conference of the State Council Information Office on January 24, 2024, the governor of China's central bank said that the central bank would relax the identification criterion for inclusive loans to micro and small enterprises from the loan ceiling (for each enterprise) of RMB10 million to RMB20 million, extend the terms of inclusive loan support for micro and small enterprises and inclusive re-lending facilities for elderly care, increase support of inclusive finance via re-lending and rediscounting for the agriculture sector and small businesses, and expand the scale of carbon-reduction supporting tools as well as the supporting targets and scope. This move will raise banking financial institutions' enthusiasm for developing inclusive finance, expand the policy coverage of inclusive loans, and benefit more micro and small enterprises.

On March 5, 2024, the Government Work Report put forward more comprehensive and in-depth requirements for developing inclusive finance. The report pointed out that, while continuing to promote finance that serves the real economy, the government would deepen financial reform and optimize the financing structure to better serve high-quality economic development.

The Report stressed that instead of setting specific inclusive loan growth targets, the government would provide more flexible policy guidance and regulatory incentives to encourage financial institutions to independently decide the lending direction and pace according to the market demand and internal risk controls.

This ensures that funds will flow to innovation, green and other key areas, agriculture, micro and small enterprises, and other weak links. The Report aims to promote a more balanced and effective distribution of financial resources, drive economic restructuring, transformation and upgrading, and provide solid financial support for micro and small enterprises and key areas.

On March 15, 2024, the NFRA issued the *Notice on Effectively Promoting Inclusive Credit for 2024*, specifying the overall goal of inclusive lending in 2024: ensuring quantity, stabilizing price and optimizing structure. The NFRA's inclusive loan criterion is still no more than RMB10 million for each enterprise. The Notice calls for full support to small and micro enterprises with advantages in scientific and technological innovation, specialized and sophisticated technologies, and green and low-carbon development. It also requires strengthening credit supply for upstream and downstream small and micro enterprises of the supply chain of key industrial sectors, as well as small and micro enterprises in foreign trade, consumption and other fields, and increasing credit support for major grain areas and people out of poverty. This is necessary for promoting the transformation of the economic growth model and facilitating the development of key areas and weak links of the economy and society. In addition, the Notice requires financial institutions to maintain credit support, reasonably determine the pace of credit supply, and manage to make the growth rate of inclusive loans level with that of all loans.

Continually expanding and deepening inclusive financial services is a critical future development direction for commercial banks. Facing opportunities and challenges, commercial banks must focus on the following aspects to advance the high-quality development of inclusive finance:

1

Technology & innovation

Building a healthy digital inclusive finance ecosystem and progressively promoting the development of digital inclusive finance; increasing investment in science and technology, utilizing emerging technologies such as big data, cloud computing and artificial intelligence to enhance risk management capabilities, optimizing customer experience, and providing more accurate and efficient financial services for micro and small enterprises, farmers and low-income groups; promoting the online, intelligent, digital transformation of inclusive finance, improving service efficiency, and reducing transaction costs.

2

Risk control & compliance

Standardizing inclusive credit management, strengthening pre-lending investigation, investigation during lending, and post-lending inspection, intensifying qualification examination of borrowers, establishing a monitoring and regular investigation mechanism for the use of the loans granted, and prohibiting swindle and embezzlement of loans; enhancing risk monitoring and management and the efficiency of disposing of non-performing assets; placing a high value on and effectively strengthening quality management of inclusive credit data, and conducting internal spot checks and audits to ensure data authenticity and reliability.

3

Key areas and groups

Expanding financial services to rural areas and rural-urban fringes, improving the micro-credit work for people lifted out of poverty, and increasing financial support for key counties of rural revitalization; Developing special financial products according to local economic characteristics and satisfying the financial needs of farmers and new agricultural business entities.

4

Customer education & service facilities

Intensifying the popularization of financial knowledge in rural areas, improving the financial literacy of the public, especially the understanding and prevention awareness of financial risks; intensifying public sharing of credit information, continuously promoting the construction of rural payment environment, and improving the intellectual property-pledged financing and movable property financing registration and other basic platforms.

5

Mechanism construction

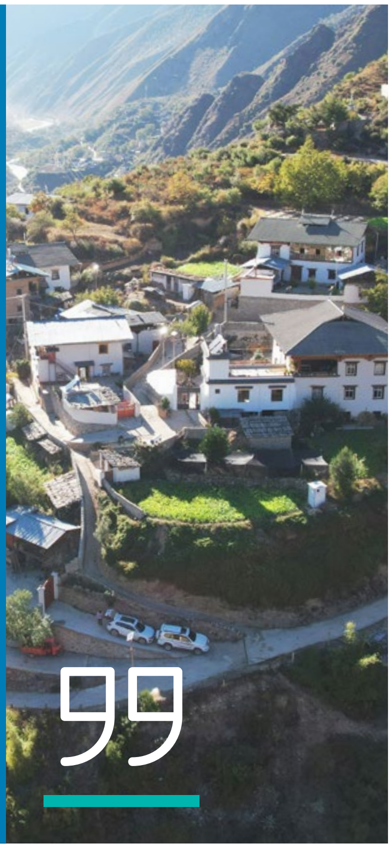
Banking financial institutions should sustain the inclusive credit resource input by implementing separate credit plans, performance assessment priorities and internal transfer pricing preferences. Large commercial banks should consolidate professional mechanisms for inclusive credit, improve branches' product approval efficiency, and intensify services for debt-free customers. Joint-stock banks should optimize their line management modes, improve the department setting at the first- and second-level branches to enhance their independent service ability. Local corporate banks must focus on exploring local customers. Policy banks should strengthen financing support for micro and small enterprises and agricultural business entities according to their functional positioning.

6

Sustainable development & social responsibility

Integrating green and low-carbon development goals into inclusive financial services in key areas, paying attention to environmental protection and social responsibility, and supporting environmental protection projects through green finance and other means to facilitate sustainable development; actively participating in poverty alleviation and public welfare undertakings and strengthening supporting people's livelihood and serving the elderly and vulnerable groups to promote social harmony and regional development balance.

2023 marks the tenth anniversary of inclusive finance as a national strategy. Under the leadership of the CPCCC and State Council, financial regulators, government departments, and financial institutions have made significant strides, creating a diversified, multilevel, and extensive inclusive financial service system. Commercial banks should continue to prioritize inclusive finance strategically, maintaining their focus and fostering healthy competition. They must provide efficient, convenient, and affordable financial support to stimulate micro and small enterprises, consolidate poverty alleviation achievements, and promote rural revitalization.



3.2

Policies help restore confidence with gradual clearing of real estate risks

Policies guided real estate loan rates down to boost demand

According to data released by the National Bureau of Statistics in January 2024, the total investment in real estate development in 2023 was RMB11.09 trillion, down 9.6% from the previous year. Residential investment totaled RMB8.4 trillion, down 9.3%. In 2023's first half, policy easing was introduced in many regional real estate markets: 18 cities eased restrictions on property purchases, 51 cities relaxed loan restrictions, 12 loosened sales restrictions, and 78 introduced fiscal incentive policies. However, these supportive policies could not immediately reverse the real estate downturn. In the latter half of the year, governments at all levels worked on addressing the issues of supply and demand by introducing several measures, such as recognizing households with mortgage records but no local property ownership as first-time homebuyers and making them eligible for favorable down payments and lower mortgage rates, lifting the purchase and sales restrictions, and cancelling the land and house price limits. These steps boosted confidence in the capital market and provided more business financing options. In addition, mortgage interest rates and down payment ratios were lowered to stimulate real estate demand.

Table 1: Key Real Estate Policies Introduced in 2023 and 2024's First Quarter

Released by	Time and nature	Content and impact
Meeting of the Political Bureau of CPPCC	28/4/2023 supply side	Adhering to the positioning that housing is for living in, not speculation, implementing accurate policies according to cities' local conditions, supporting rigid and housing-improving demands, and improving the work of ensuring timely deliveries of presold homes, ensuring people's livelihood and maintaining stability; actively and steadily promote urban village renovation in extra-large and mega cities; planning low-income housing construction.
General Office of the State Council	21/7/2023 Supply side	*Guiding Opinions on Actively and Steadily Promoting Urban Village Renovation in Extra-large and Mega Cities* Urban village renovation includes 1) demolition & rebuilding, 2) repair & upgrading, and 3) a combination of 1) and 2), aiming to improve the urban housing environment and urban quality.

Released by	**Time and nature**	**Content and impact**
Ministry of Housing and Urban-Rural Development ("MOHURD"), PBC, NFRA	25/8/2023 Demand side	*Notice on Optimizing the Criterion for Identifying the Number of Housing Units in Connection with Individual Housing Loans* When a household (including the borrower, spouse and minor children) applies for a loan for a residential housing purchase and its family members do not own a local housing unit under their names, regardless of whether or not they already purchased a housing unit with a loan, banking financial institutions shall implement the housing credit policies for first-time home buyers. This policy is included into the policy toolkit under the "one city, one policy" arrangement.
PBC, NFRA	31/8/2023 Demand side	*Notice on Matters Related to Lowering the Interest Rates of Existing Housing Loans of First-time Homebuyers* The borrower of an existing commercial individual housing loan for a first-home purchase may apply to the lending financial institution to replace the existing loan with a new loan issued by the same financial institution. The new loan's interest rate shall not be lower than the lower limit of interest rates outlined in the local city's policy. The borrower may also apply to the lending financial institution to negotiate and change the interest rate prescribed in the original contract.
MOHURD	21/12/2023 Supply side	2024's work focus: seeking progress while maintaining stability, implementing diversified policies according to cities' local conditions, strengthening policy support for first-home purchases, promoting urban renewal, and satisfying the financing needs of different real estate enterprises.
Local governments	Q1 2024 Demand side	More than 40 cities announced phasing out the lower interest rate limits of commercial individual housing loans for first-time homebuyers; more than ten cities implemented the real estate "trade-in" policy; nearly 90 provinces and cities (counties) issued over 100 policies; first-tier cities successively relaxed purchase restrictions; second- and third-tier cities continuously optimize demand-side policies, including lifting purchase restrictions, improving identification standards for second homes, refining the housing provident fund loan policies, easing sales restrictions, and granting house purchase subsidies.

Table 2: Default of Some Risky Real Estate Enterprises in 2023

Enterprise	**Risk**
Jingrui Holdings	Failed to make payment on the outstanding principal amount of USD350 million and accrued interest of USD12.6875 million for its 14.5 percent senior notes, which matured on 19 February 2023 and was considering comprehensive restructuring.
Yango Group	As of 12 May 2023, USD2.244 billion of unpaid principal on offshore open market bonds and RMB19.475 billion on domestic open market bonds.
Leading Group	On 23 June 2023, it announced default again for the USD119.43 million notes that had been extended for one year.
Evergrande	About RMB287.468 billion of unrepaid matured debts as of June 2023; RMB244.663 billion of overdue commercial bills.
Sino-Ocean Group	Failed to pay the interest of a USD700-million bond (maturing in 2024) before the grace period or 13 August, leading to suspension of the bond on the HKEX on 14 August 2023.

Enterprise	**Risk**
Country Garden	In October 2023, it announced its failure to pay the due debt with the principal amount of HKD470 million, and expected that it would not be able to fulfill the repayment obligations for all overseas debts as scheduled or within the grace period.
Vanke	In November 2023, Moody's Ratings downgraded Vanke to Baa3 from Baa1, revising the outlooks to negative. Vanke currently has seven USD bonds totaling USD3.224 billion. Three of them will mature within one year, amounting to USD2.675 billion.
PowerLong	Failed to pay the interest (on the notes maturing in April 2025) of USD15,916,250 (about RMB114 million) before the end of the grace period on 29 November 2023.

Commercial banks' loan supply growth rate slowed; nonperforming loans increased significantly

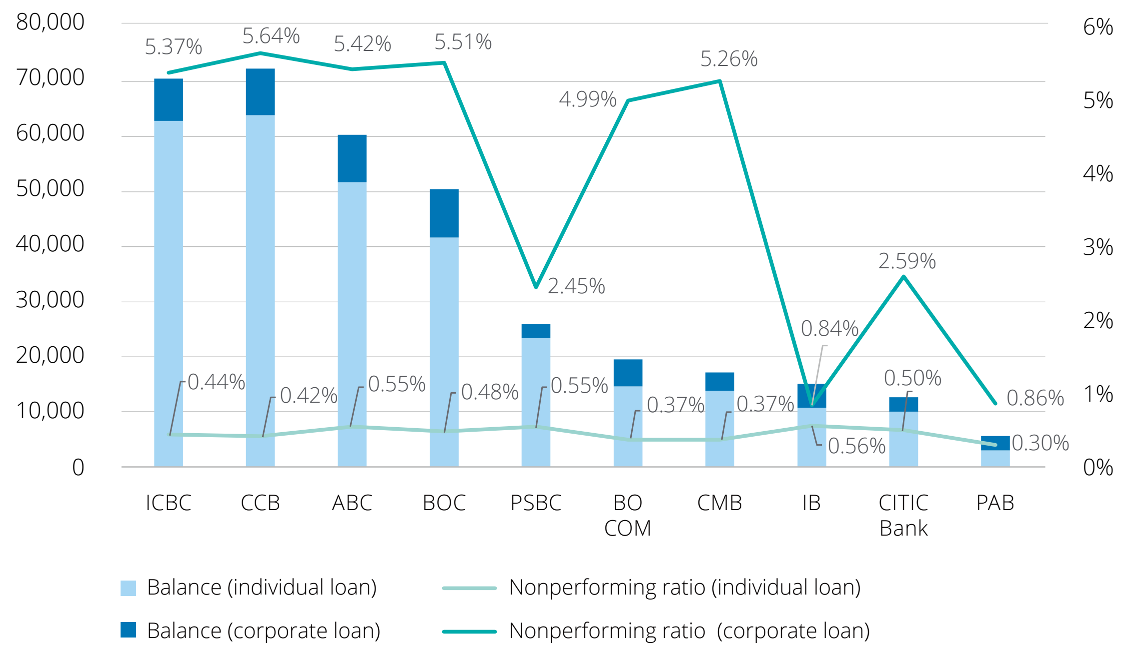
Commercial banks' real estate loans are mainly composed of three parts: loans to real estate enterprises (corporate business), individual housing loans, and off-balance-sheet businesses (i.e., real estate-related loans of wealth management, entrusted loans, commissioned trusts and funds, and other businesses that do not assume credit risks). Individual housing loans account for a larger proportion; credit risks mainly exist in the corporate business.

Analysis of real estate loan exposure

Generally, commercial banks voluntarily disclose the real estate corporate and individual housing loans from which they assume credit risks. As of the end of 2023, the ten domestic banks' balances and nonperforming ratios of real estate corporate and individual housing loans are shown in the figure below:

Figure 1: Balance and Nonperforming Ratio of Real Estate Corporate and Individual Housing Loans

Unit: RMB100 million



Note: The above data are from the banks' 2022 and 2023 annual reports; the CCB, ABC and BOC data are consistent with those of their domestic branches. The corporate loan data of ICBC are the data of its domestic branches, while the rest are the banks' Group-level data.

As of the end of 2023, the ten commercial banks' individual housing loans accounted for 84.63% and corporate loans accounted for 15.37% of their real estate loans. The balance of individual housing loans was RMB29,582.993 billion, down 1.78% year-on-year; the balance of real estate corporate loans was RMB5,372.602 billion, up 6.40% year-on-year; and the total balance of real estate loans reached RMB34,955.595 billion, down 0.84% year-on-year.

Individual housing loans are linked to personal credit, with a low collateral rate, stable collateral and a low nonperforming ratio. The ten commercial banks' average nonperforming ratio of individual housing loans was 0.47%, up 0.03 percentage points from 2022's 0.44%; The average nonperforming ratio of loans to real estate enterprises was 4.55%, up 0.06 percentage points from 2022's 4.49%.

In addition, CMB, IB, CITIC Bank and PAB disclosed the real estate loan exposure of businesses bearing no credit risks, such as wealth management, entrusted loans, and commissioned trusts and funds. Such loans were relatively small, and the relevant risks were controllable.

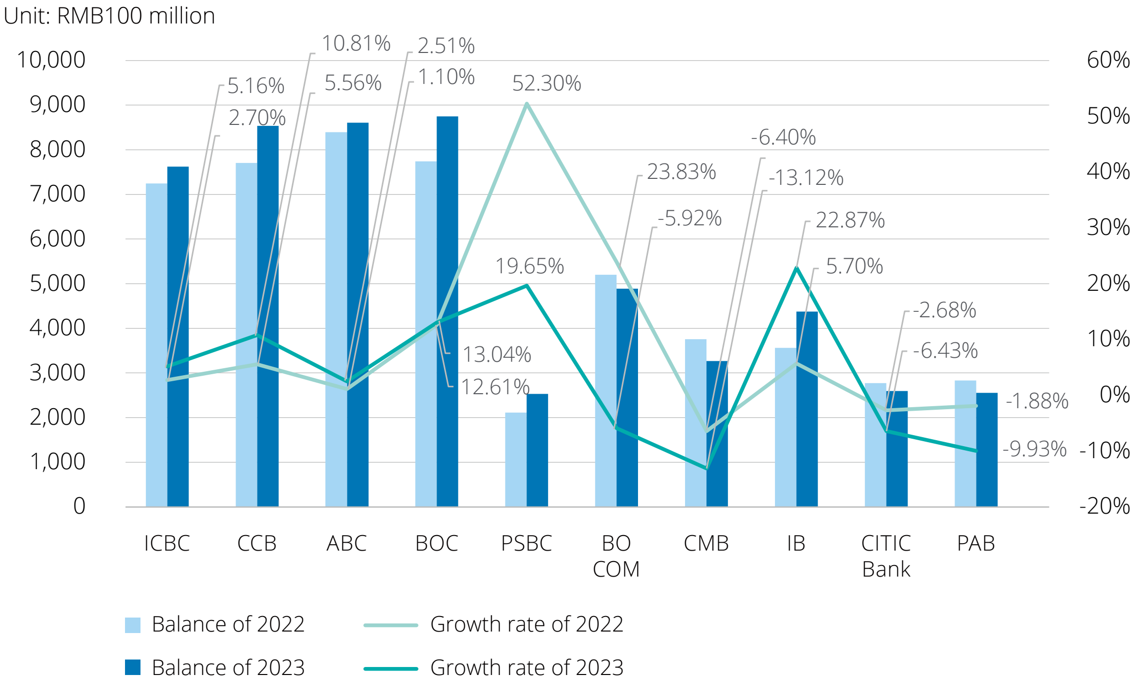
Table 3: Real Estate Businesses Bearing No Credit Risks

CMB	IB	CITIC Bank	PAB
Real estate-related businesses bearing no credit risks (such as wealth management investment and entrusted loans) totaled RMB249.448 billion, down 16.95% from 2022	Real estate-related businesses bearing no credit risks (such as domestic non-principal guaranteed wealth management, consignment sales and bond underwriting) totaled RMB108.775 billion, down 12.61% from 2022	The balance of the Group's corporate real estate financing through agency sale, wealth management product investments and others that bear no credit risks was RMB49.406 billion, an increase of RMB1.044 billion from the end of 2022	The Group's aggregate balance of non-credit risk-bearing businesses (including wealth management product investments, entrusted loans and others) amounted to RMB80,795 million, decreasing RMB8,774 million as compared with the end of 2022

Slowed real estate loan supply; bank-enterprise cooperation to boost market confidence

In 2023, the growth rate of real estate corporate loans slowed. The ten domestic banks' growth rate was 4.67%, lower than 2022's 6.40%.

Figure 2: Balance and Growth of Real Estate Corporate Loans



As of the end of 2023, most commercial banks' growth rate of real estate corporate loans slowed. The ten domestic banks' total balance of real estate corporate loans was RMB5.37 trillion, with a growth rate of 4.67%. Among them, IB's, PSBC's, BOC's and CCB's real estate corporate loans achieved double-digit growth; IB ranked first with a growth rate of 22.87%; PSBC recorded a growth rate of 19.65%, significantly down from 2022's 52.30%; CMB's loan scale decreased by 13.12%; BOCOM's, CITIC Bank's and PAB's loan scales contracted by more than 5%; CITIC Bank's real estate corporate loans recorded negative growth for four consecutive years.

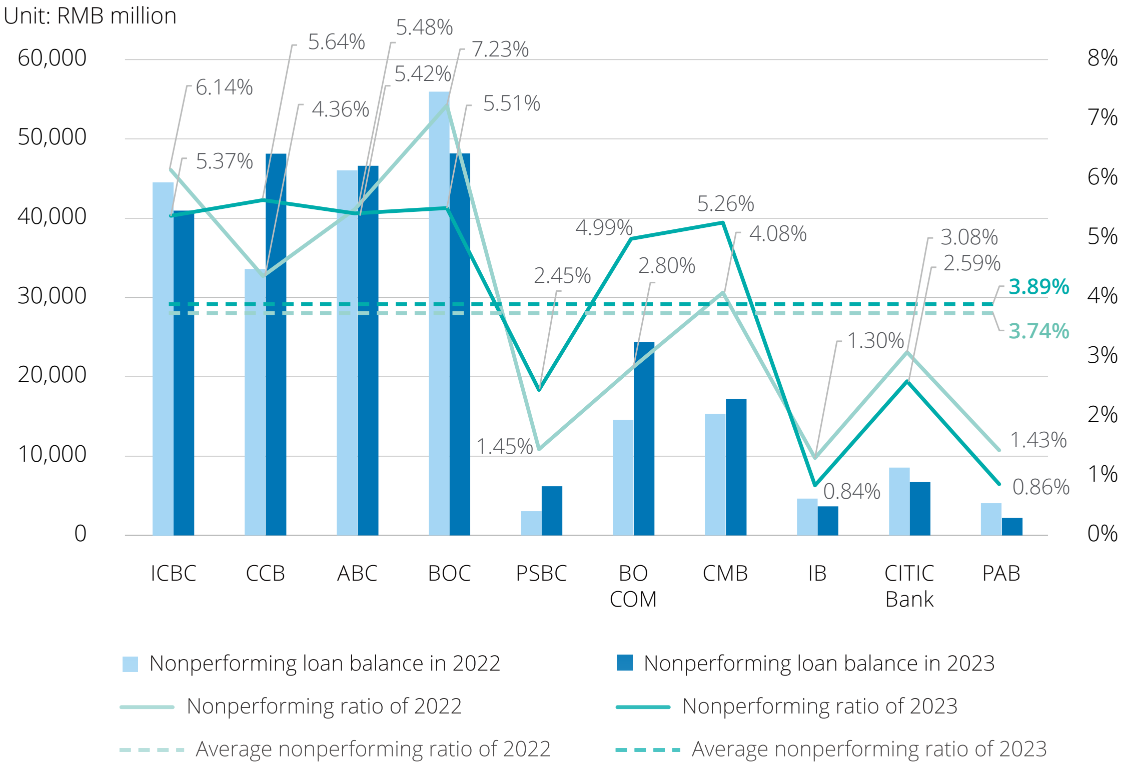
In November 2023, PBC, NFRA and CSRC jointly held a symposium for financial institutions, emphasizing that all financial institutions should satisfy the reasonable financing demands of real estate enterprises of different ownership without discrimination, and shall not withdraw, cut off or hesitate to grant loans to real estate enterprises that operate normally. The meeting proposed the "three 'No-Less-Than' policies," namely, 1) Each bank's real estate loan growth rate shall not be lower than the banking sector's average real estate loan growth rate; 2) The growth rate of loans to non-state-owned real estate enterprises shall not be lower than each bank's overall growth rate of real estate corporate loans; 3) The growth rate of individual mortgage loans for non-state-owned real estate enterprises shall not be lower than each bank's mortgage growth rate. It indicated that regulators paid more attention to the financing needs of private real estate enterprises. Commercial banks will increase support for private and mixed-ownership enterprises.

On 6 February 2024, the NFRA held a special meeting to arrange the work related to deploying the urban real estate financing coordination mechanism. It requires commercial banks to actively embrace the coordination mechanism, timely review the real estate projects forwarded to them, accelerate credit approval, and maximally satisfy reasonable financing demands. Henceforth, banks expedited real estate financing. By the end of March 2024, 31 provinces and Xinjiang Production and Construction Corps have established a provincial-level real estate financing coordination mechanism, and all cities at or above the prefecture level (excluding municipalities directly under the central government) have established a city-level financing coordination mechanism. These coordination mechanisms propose real estate project "white lists" in batches and forward them to commercial banks for financing support. Among the proposed "white lists" projects, 1,979 have obtained banks' credit approval, totaling RMB469 billion, and 1,247 have received loans amounting to RMB155.4 billion. Notably, among the first-batch lists, 84% are private and mixed-ownership enterprises' real estate development projects.

Nonperforming ratio of real estate corporate loans rose; efforts to clear risks continued

The real estate market has been declining since 2023, seeing debt defaults in many enterprises. Banks' non-performing ratios of loans to real estate enterprises generally climbed. Some banks have stepped up efforts to dispose of non-performing loans.

Figure 3: Nonperforming Real Estate Corporate Loans



The ten commercial banks' total nonperforming real estate corporate loans reached RMB244.278 billion, with a nonperforming ratio of 4.55%, up 0.06 percentage points from 2022's 4.49%. Specifically, CCB registered the highest nonperforming ratio of 5.64%; BOCOM's nonperforming ratio rose most by 2.19 percentage points to 4.99%; BOC and ICBC's nonperforming loans and ratios decreased thanks to their intensive efforts in disposing of nonperforming loans; BOC's nonperforming ratio improved significantly, falling from 2022's 7.23% to 5.51% in 2023. Among the four joint-stock banks, except for CMB, the other three banks' nonperforming ratios decreased by about 0.5 percentage points; CMB recorded a rise of 1.18 percentage points to 5.26%.

In terms of the scale of the nonperforming loan balance, PSBC, BOCOM and CCB's scales expanded by 102.39%, 67.60% and 43.31%, while BOC's contracted by 13.93%; CMB's increased by 11.96%, while the other three joint-stock banks' scales decreased by more than 20%.

Banks' individual housing loans contracted with the exception of PSBC

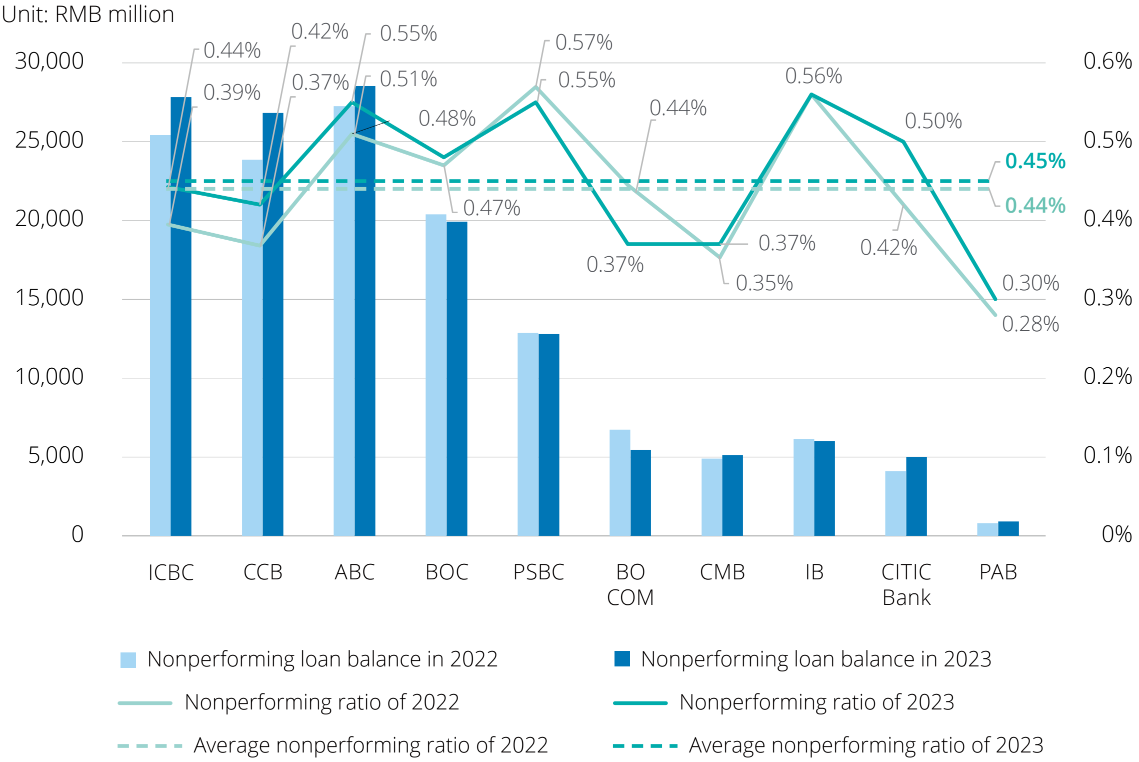
Generally, in 2023, individual housing loans declined, with the loan growth rate falling significantly.

Figure 4: Balance and Growth of Individual Housing Loans

The adjustment of interest rates of existing housing loans and increase in early repayments pressed banks' individual housing loan business. By the end of 2023, the ten domestic banks' balance of individual housing loans shrank by RMB535.3 billion or 1.78%. Among the six state-owned banks, except for PSBC's increase of 3.37%, the other banks' balances fell by one to four percentage points year-on-year. The growth of PSBC's individual housing loans was because: 1) it seized the secondary housing market; 2) its loan supply in first-tier cities increased by more than 50% year-on-year; 3) it gave full play to its outlet advantage to accommodate the rigid demand in county areas, with the growth rate of loan supply in counties exceeding 10%.

CCB still had the largest scale of individual housing loans, despite a decrease of 1.44% year over year. ABC's scale shrank most by RMB175.8 billion. For the joint-stock banks, PAB and CITIC bank maintained positive growth, while IB and CMB recorded a decrease of 1.95% and 0.27%, respectively. The depressing economy and job market undermined people's eagerness to purchase houses, leading to less demand for mortgage loans and weak retail growth.

Figure 5: Analysis of Individual Housing Loans



The ten commercial banks' balance of nonperforming individual housing loans was RMB138.438 billion, with a nonperforming ratio of 0.45%, up 0.01 percentage point from 2022's 0.44%. PSBC and BOCOM's nonperforming loans and ratios fell. IB, ABC and PSBC recorded the top three nonperforming ratios of 0.56%, 0.55% and 0.55%. Except for PSBC, BOCOM and IB, the other seven banks' nonperforming ratios rose slightly, with CITIC bank recording the largest rise of 0.08 percentage points to 0.50%; BOCOM's nonperforming ratio improved significantly, falling from 2022's 0.44% to 0.37% in 2023.

In terms of the scale of nonperforming individual housing loans, most banks' scales expanded. Specifically, CITIC Bank, PAB and CCB's nonperforming loan scales enlarged by 22.40%, 14.35% and 12.48%. BOCOM's scale shrank significantly by 18.85%.

For some time, controlling the quality of loans to the real estate sector will be a major task of banks. Commercial banks should continue to strengthen risk management of the real estate business, track the risks of real estate enterprises and projects, and intensify monitoring and post-loan management, to realize early identification, warning, exposure, and disposal of risks, thus maintaining asset quality stability, promoting the virtuous cycle between finance and real estate, and helping build a new model for real estate development.

Strengthen risk mitigation, maintain steady loan supply, and develop government-subsidized housing and other home-improving markets

As real estate loan risks exploded, some commercial banks disclosed their risk-resistance results of the real estate corporate business, risk control measures, and outlooks in their annual reports, and elaborated on such issues in their performance presentations. Commercial banks will continue to follow policy guidance, prevent credit risks, and maintain a stable loan supply to accommodate the development trends in the real estate sector.

Table 4:

Bank	Risk-resistance achievements	Risk control measures	Outlooks
ICBC	At the end of 2023, the domestic branches' NPL ratio of real estate corporate loans was 5.37%, down 0.77 percentage points from the beginning of the year.	• Step up efforts to clear risky enterprises and projects to ensure stable and controllable asset quality. • Implement differentiated housing credit policies, and increase support for new urban residents by executing optimal lending rates, prioritizing their loan approval and disbursement, and flexibly determining their income.	• Deliver the responsibilities of a state-owned bank, focus on rigid, housing-improving, and rental housing demands, prioritize the urban village, affordable housing, and public infrastructure (for both ordinary and emergency purposes) projects ("three major projects"), and increase resource input in bond underwriting and investment as well as in real estate development, individual housing, M&A, and syndicated loans to support the multidimensional and reasonable financing needs of real estate enterprises in each cycle.
CCB	CCB's abundant resources make it a leader in real estate finance. It implemented the "one city, one policy" and "one building, one plan" policies, helping all real estate customer resume operations.	• Since the launch of the housing rental strategy, CCB has gradually built a closed loop of housing financial services covering the investment, financing, management, and exit links, significantly increasing housing rental supply. • Progressively defuse risks in key areas such as local government debts and real estate risks, and enhance financial support for implementing debt-dissolving packages.	• Improve financial supporting services to ensure timely delivery of presold houses, hold bank-enterprise symposiums to support the reasonable financing needs of real estate enterprises, and leverage the bank's advantages to promote a smooth transition of the real estate sector to a new development model. • Increase support for the "three major projects" to provide people with comfortable housing rental services and help resolve "gray rhino" risks in the real estate sector.

Bank	Risk-resistance achievements	Risk control measures	Outlooks
CMB	As of the end of the reporting period, CMB's real estate corporate customers and regional structures remained sound, among which the balance of loans granted to customers with high credit-rating accounted for over 70%; Over 85% of the Company' s balance of loans for real estate development was distributed in the urban areas of first-tier and second-tier cities.	• Seize structural opportunities, focus on high-quality enterprises and high-quality regions, and select high-quality businesses and projects that can be covered by project cash flows, especially high-quality commercial residential projects, government-subsidized (rental) housing projects and operational property projects, to support the stable and healthy development of the real estate market; Unify the risk appetites of on- and off-balance sheet businesses, implement centralized risk management of customers granted with a large credit facility, strictly examine cash flows, and continuously strengthen post-investment and post-loan management.	• Support rigid and housing-improving demands, meet the reasonable financing needs of real estate enterprises of different ownerships with fair and equal treatment, enhance the support for non-state-owned real estate enterprises, improve the service level for the "three major projects" and the development of the housing rental market; Reasonably identify the subsidiaries' and the holding companies' project risks, further strengthen centralized risk management and post-investment and post-loan management, and resolutely implement the requirements for closed management of real estate loans, to effectively manage and control project risks.
IB	The banks' risk mitigation measures were effective. New nonperforming real estate corporate loans fell by 54% year-on-year. Individual housing loan collateral was sufficient, and the loan balance was RMB1,075.915 billion. The LTV value of individual housing loans (the ratio of the balance of individual housing loans to the total value of the mortgaged property) was 43.63%. The risks of the real estate financing business were controllable. The real estate corporate loan balance was RMB690.146 billion, of which RMB626.013 billion corresponded to specific projects and collateral. The balance of projects in first-tier cities such as Beijing, Shanghai, Guangdong and Shenzhen, provincial capitals, and cities with GDP exceeding one trillion and a stable real estate market, accounted for more than 80%. Other projects were concentrated in the central areas of economically developed cities in the Pearl River Delta and Yangtze River Delta. The projects had a good development prospect and sufficient collateral.	• Adhere to the "Three Classifications" risk mitigation strategy and the agile group mechanism for risk prevention and control; Mobilize the Group's professional resources to analyze and formulate a risk mitigation plan for each project of the branches; Promote project development and sales by introducing construction agents and project managers, offering special loans for ensuring delivery of presold houses, and other means to revitalize project value. • Conduct comprehensive revaluation and stress tests on the value of collateral in response to house price fluctuations in some areas.	• Resolutely execute the Party Central Committee's decisions and arrangements for actively and steadily resolving real estate risks, actively participate in the "three major projects", rental housing, and industrial park finance to drive the transformation of the real estate business. • Adhere to the "four focuses" business strategies, namely, focusing on leading enterprises with a stable capital chain and reasonable liability structure, focusing on core and new first-tier cities in the Beijing-Tianjin-Hebei region, Yangtze River Delta, and Pearl River Delta, focusing on ordinary commercial housing with strong marketability, and focusing on short-term projects, to optimize the real estate business structure.

Commercial banks' real estate business outlook: "stable loan supply and risk prevention" to facilitate stable development of the real estate sector

In 2024, the real estate market will probably be hoarding conditions for slow recovery, with market demand improved and enterprises' risks relaxed. However, the market will not see expanding investment in a short time. With the clearing of risks and continuous support of relevant policies, risky real estate enterprises may make notable progress in debt restructuring. As more supporting policies are implemented, residential sales are expected to stabilize within the year and project construction will gradually get back on track. The policies will continue to support gradual releasing of residents' housing demand, prudently preventing and resolving real estate risks, satisfying the reasonable financing needs of real estate enterprises of different ownership, and promoting the construction of the "three major projects" to gradually resume real estate investment.

Development opportunities and trends

- Establish a financing coordination mechanism to facilitate "ensuring timely delivery of presold houses" across the country and meet the reasonable financing needs of real estate enterprises to promote the stable and healthy growth of the real estate sector.

- Actively respond to the real estate project "white lists" to promote the virtuous circle between finance and real estate, propel the resumption of project operations, revitalize property value, and resolve real estate business risks.

- Actively and steadily resolve real estate risks and participate in the "three major projects", rental housing, industrial park finance to transfer the real estate business.

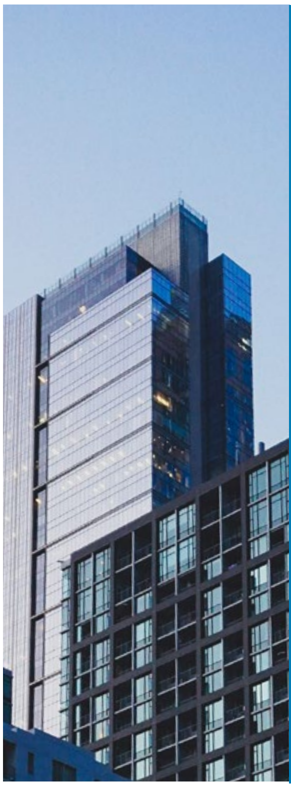
- Adhere to the "four focuses" business strategies, namely, focusing on leading enterprises with a stable capital chain and reasonable liability structure, focusing on core and new first-tier cities in Beijing-Tianjin-Hebei region, Yangtze River Delta, and Pearl River Delta, focusing on ordinary commercial housing with strong marketability, and focusing on short-term projects, to optimize the real estate business structure.

Challenges

- Residents are less willing to buy houses due to increasing downward pressure on the economy, instable income expectations, and declining housing prices. These factors continue to hinder the release of demand.

- The slow recovery of new home sales will retard the construction of new projects. Land transactions have decreased significantly over the past two years, leading to a high inventory. Financial stress and other factors may continue implicating enterprises' new project construction.

- It is relatively difficult for private real estate enterprises to raise funds. In China, financial institutions have stringent requirements for asset quality, and issuing real estate development loans is subject to stricter regulation, aggravating private enterprises' financing difficulty. In addition, overseas financing windows have been broadly closed. Repaying foreign debts, relevant interests, and short-term exchange rates increase enterprises' costs.



Looking ahead, despite the challenges, commercial banks will continually resolve risks, equally accommodate the reasonable financing needs of enterprises of different ownership, and actively serve the delivery of presold houses to promote the steady and healthy development of the real estate market.

3.3

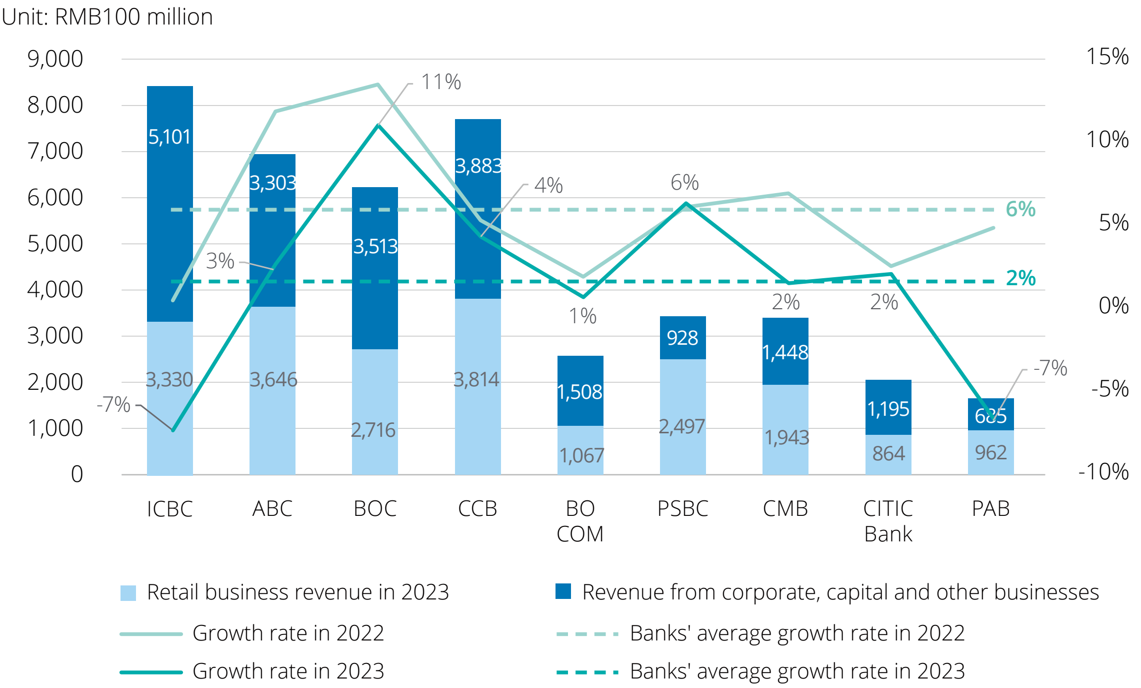
With steadily advancing digital transformation, banks must revamp strategies to address retail business challenges

In 2023, the global economy showed resilience but started to lose momentum. This period was characterized by high inflation, high interest rates, and significant debt levels amid increasing complexity and uncertainty. As a result, potential financial risks gradually increased. China's capital market was in a recovery phase, and the economic growth boosted confidence, encouraging a shift in risk preferences and leading to a gradual flow of funds into the wealth management market. The evolving macroeconomic conditions and domestic and international policies provided new opportunities for the banking sector and demanded a higher level of transformation and development. Domestic commercial banks are now tasked with quickly establishing a new retail strategy system that enhances customer experience and creates value.

Persistent pressure on retail business impacted value contribution

In 2023, in terms of the retail business' contribution to the total revenue, the ten domestic banks' retail financial business income, on average, accounted for 51% of the total revenue. Among the six state-owned banks, except for ICBC, the retail businesses of the other banks contributed more than 40% of the total revenue (PSBC's reached 73%). Among the joint-stock banks, CMB and PAB's retail business contributed more than 50% of their total revenue; CITIC Bank's retail business contribution was 42%. In 2023, the average growth rate of the ten domestic banks' retail business revenue was 2%, down four percentage points from the previous year. Except for PSBC, the rest of the domestic banks' growth rates dropped from 2022. Generally, in 2023, the ten banks saw a slower growth rate in their retail business revenue.

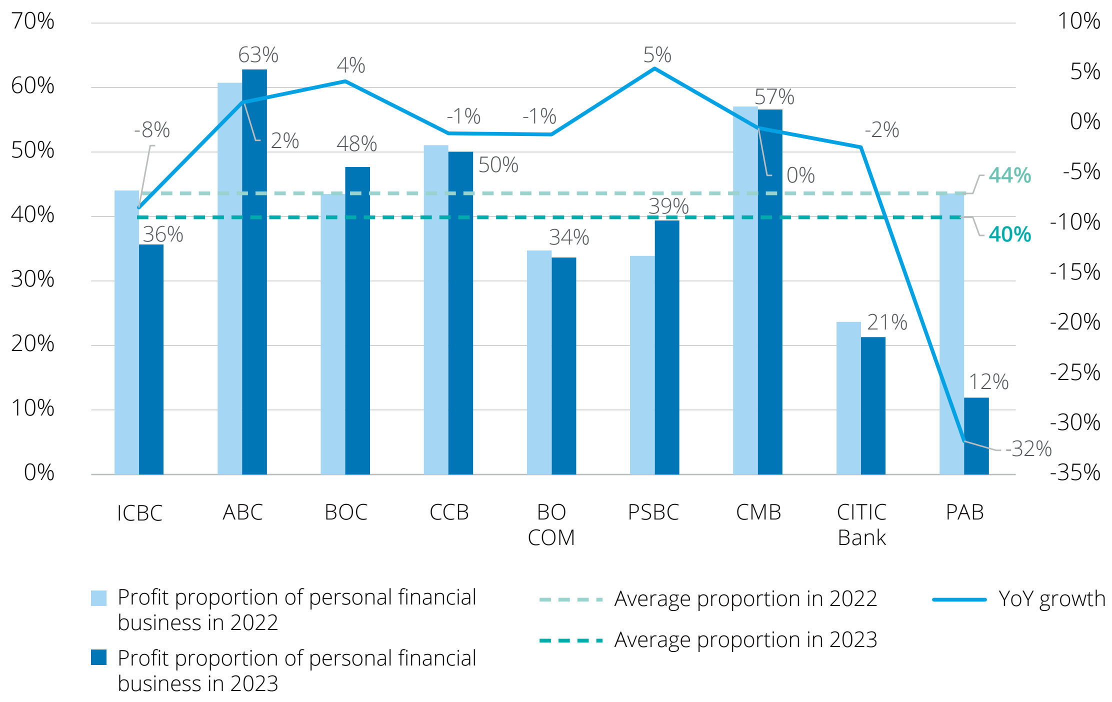
Figure 1: Retail Business Revenue



Note: IB did not disclose information about personal financial business in its FY2023 annual report.

According to the data the ten domestic commercial banks disclosed in 2023, their retail business profits averagely accounted for 40% of their total profits, down four percentage points from the previous year. As the macroeconomy affected retail asset quality, some banks increased write-offs and provisions for retail assets, resulting in a year-on-year drop in the profit contribution of retail business. In 2023, ICBC's, CCB's, BOCOM's, CITIC Bank's, CMB's and PAB's retail profit proportions declined from 2022. Specifically, PAB recorded the largest decline, by 32 percentage points to 12%, followed by ICBC, with retail profits accounting for 36% of its total profits, down eight percentage points from the previous year.

Figure 2: Proportion of Retail Business Profits

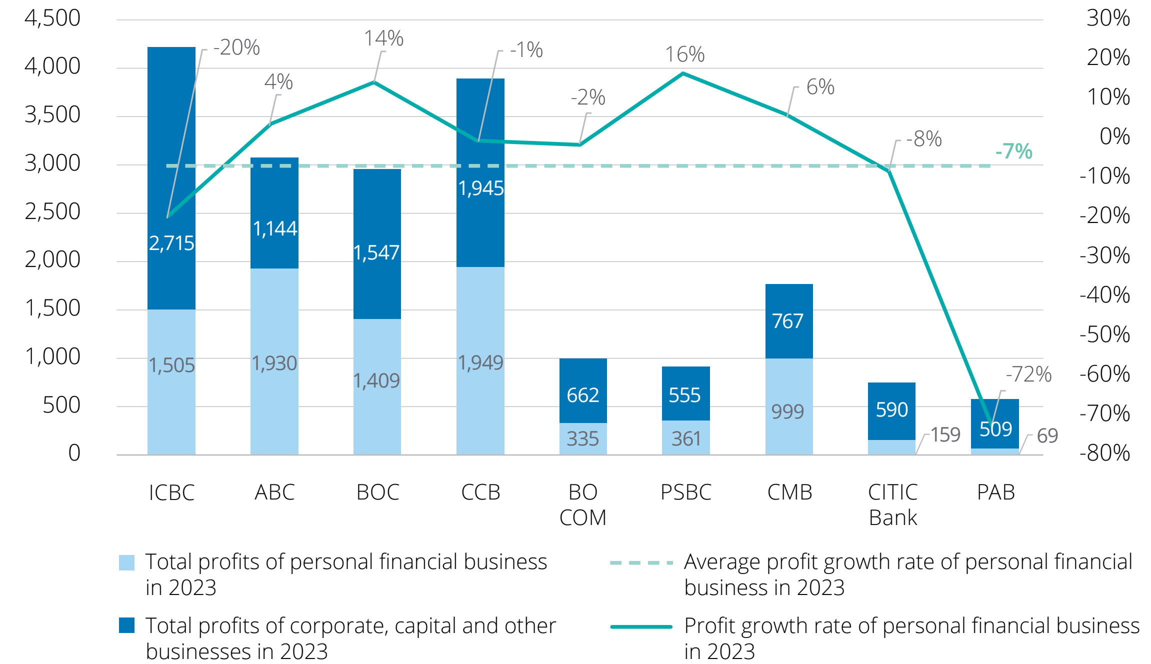


Note: IB did not disclose the information of personal financial business in its FY2023 annual report.

In 2023, The ten banks' average growth rate of retail profits was -7%. Specifically, PSBC recorded the highest growth rate of 16%; the growth rate of BOC was 14%; PAB and ICBC recorded a sharp retail profit decline, by 72% and 20 %, respectively. In general, the ten banks' retail profits and the profit proportions declined.

Figure 3: Retail Business Profits

Unit: RMB100 million



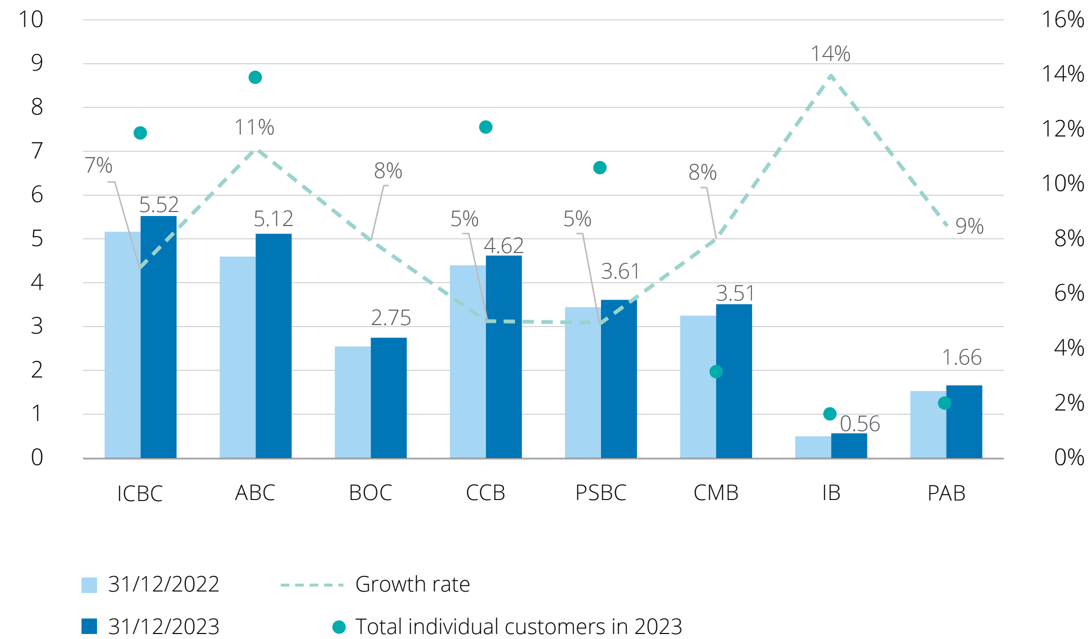
Note: IB did not disclose the information of personal financial business in its FY2023 annual report.

Mobile banking has been continuously iterated and upgraded, with growing user scale and activity

In 2023, all banks focused on supporting people's aspirations for a better life, continued to promote product innovation and fine management, and improved operation efficiency through Fintech. Their retail customer scale and activity grew continually. Mobile banking is an essential basis for banks to organize retail business and is constantly driven by the digital economy. By comprehensively leveraging big data technologies, banks intensified the development of digital mobile banking by building financial ecosystems, content ecosystems, user and security systems, and improving intelligent services. They refined mobile banking services to continuously optimize user experience. Mobile banking upgrades helped banks expand customers in rural areas, facilitating their retail business layout. According to the banks' FY2023 annual reports, except for CCB and PSBC, mobile banking users of ICBC, ABC, BOC, CMB, IB and PAB maintained a growth rate of over 6%, with IB's and ABC's growth rates reaching 14% and 11%. The mobile banking monthly active users (MAU) of ICBC, ABC and CCB exceeded 200 million. ICBC and ABC had 229 million and 213 million monthly active mobile customers. BOC's scale of mobile banking users was significantly smaller than other state-owned banks, but it furthered its retail digital transformation, increasing users by 8%. The MAU of the CMB APP and the CMB Life APP totaled 117 million, ranking first among joint-stock banks. PSBC's number of mobile banking users totaled 361 million, with MAU recording 69 million and the highest growth rate of 41%. Some banks disclosed the MAU of card APPs in their annual reports. Specifically, the CMB Life APP and BOCOM Go Pay APP had 41,975,500 and 25,707,400 monthly active users, respectively; CITIC Bank's Mobile Card Space APP recorded 19,875,800 million online monthly active users.

Figure 4: Number of Mobile Banking Users

Unit: 100 million



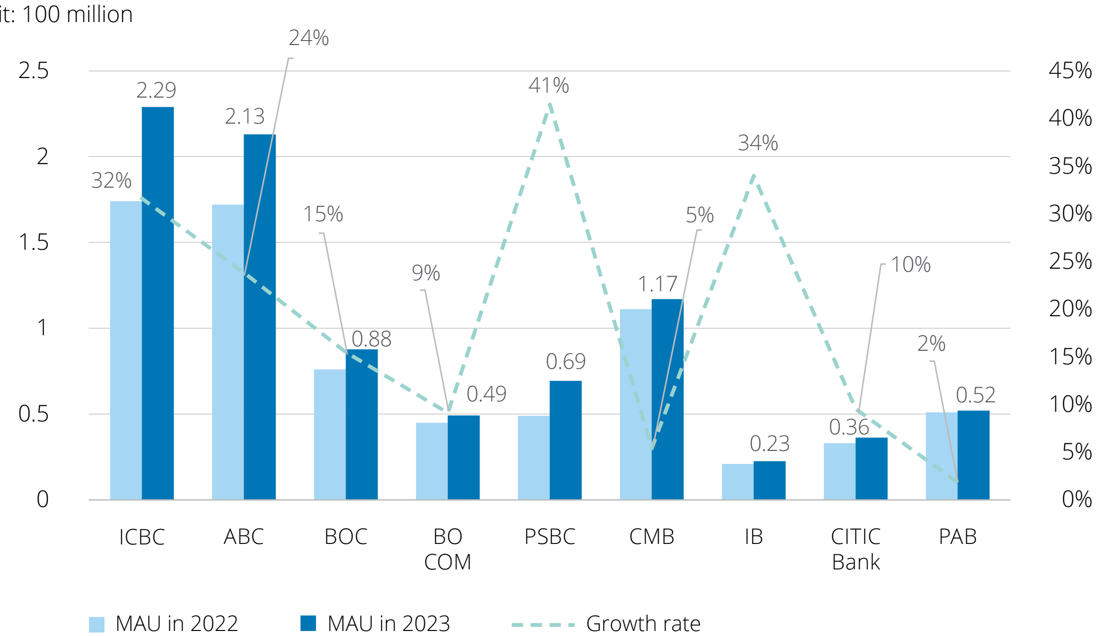
Note 1: The number of mobile banking users was the total number of mobile banking users and card APP users disclosed by the banks.

Note 2: BOC did not disclose the number of individual customers in 2023. BOCOM and CITIC Bank did not disclose the number of mobile banking users in 2023.

Note 3: ABC's number of mobile banking users was the registered customers of its individual mobile banking; IB and CMB's number of individual customers was their total retail banking customers.

Figure 5: Mobile Banking MAU

Unit: 100 million



Note: CCB did not disclose its MAU in 2022 and had more than 200 million MAU in 2023.

Online and offline channels strengthened to comprehensively improve financial service quality and efficiency

In 2023, with burgeoning Fintech, banks consolidated digital ecosystems, and progressively built expandable, multi-channel, online-offline integrated financial service ecosystems and operation models. In addition, banks continued to enhance the accessibility and inclusiveness of financial services to accommodate various financial service needs.

Online scenarios' activity improved; bank-enterprise cooperation advanced steadily

In the Internet era, banks provided customers with more diversified scenarios. They expanded online transaction channels and innovated online financial services by cooperating with payment institutions. Banks' online businesses showed good momentum for growth.

Table 1: Measures and Achievements in Expanding Online Scenarios and Channels

Bank	Measures and achievements
ICBC	• Had 552 million mobile banking customers and 229 million monthly active mobile customers, with an annual cumulative transaction amount of RMB99.6 trillion, both ranking first in the industry; • Digital operations achieved practical results. Online-offline integration advanced deeply, with a penetration rate of 93.0% for mobile banking in-store customers, representing a year-on-year increase of 3.3 percentage points. The joint combat capabilities of various channels have been enhanced, enabling "one-point access, all-channel response".
CMB	• The MAU of the CMB APP and the CMB Life APP reached 117 million; • The micro-finance loans approved and granted through the online channel accounted for 66.74% of the loans granted through all channels, representing a year-on-year increase of 7.13 percentage points. By upgrading the "Wealth Alpha+" platform for the wealth management business, CMB realized digital and intelligent operations throughout investment research, product selection and post-investment management, and further empowered key positions to improve professionalism.
CCB	• There were 447 million card-linked fast payment users, of which the number of "super users" with more than 20 transactions per year exceeded 200 million; • At the end of 2023, CCB had 543 million online individual users. Specifically, it had more than 200 million MAU and 26 million daily active customers of the "binary star" platforms, with 178 million financial transaction customers in 2023, maintaining the leading position in the industry.
ABC	• Leveraging the synergy of innovative online and offline banking services, ABC continuously increased the amount and expanded the coverage of loans to rural households, with the balance of Huinong E-loan exceeding RMB1 trillion. ABC integrated the agriculture-related financial scenarios and launched the ABC Huinong Cloud digital rural service platform, covering over 2,400 counties and districts; • The bank continuously improved the online loan product system "ABC E-Loan" by introducing online products such as "Science and Technology E-Loan" and "Torch Innovation Points Loan," and continued to improve its digital product service system. As of the end of 2023, the "ABC E-loan" balance exceeded RMB4 trillion.

Bank	Measures and achievements
BOC	• In 2023, the transaction amount of personal mobile banking reached RMB54.88 trillion, a year-on-year increase of 17.46%; the number of mobile banking's signed customers and monthly active customers reached 274.62 million and 87.76 million, respectively; • It vigorously expanded the online channels to rapidly develop online businesses. In 2023, the e-channel transaction amount reached RMB374.62 trillion, an increase of 10.31% year-on-year.
BO COM	• The BoCom Credit Card Official APP Ver. 7.0 was released to create a "heart-warming" interest-free installment service. Following the consumption trends, it gathered diversified e-commerce platforms covering computers and digital products, household goods, food and beverages, amongst others, to drive consumption. The app continuously improved user experience by acquiring customers through services, achieving an online business diversion rate of 98.09%. At the end of the reporting period, the APP's registered customers reached 77.4025 million and the number of MAUs was 25.7074 million.
PSBC	• The number of mobile banking users totaled 361 million. During the reporting period, the number of MAUs reached 69.32 million. The transaction amount totaled RMB16.01 trillion, a year-on-year increase of 9.28%; • It continued to improve the online channels, and launched version 5.0 of the PSBC Credit Card App to create an ecosystem that met customers' basic needs for clothing, food, housing and mobility, providing a more diversified and convenient online experience for retail customers. PSBC Credit Card App had 24,328.5 thousand users, up 46.48% from the prior year-end.
IB	• The number of mobile banking active customers was 56,076.7 thousand, representing an increase of 6,872.8 thousand over the prior year-end. The number of registered users of the "CIB Inclusive" platform was 178,163, an increase of 160.80% from the prior year-end; The counter replacement rate of online finance reached 96.53%; • It built a digital marketing system to optimize strategies for key customers of self-operated consumer loans. As of the end of 2023, the self-operated "Industrial Flash Loan" balance was RMB23.288 billion, an increase of RMB9.888 billion or 73.78% year-on-year.
PAB	• The bank leveraged big data's accurate identification ability to strengthen customer demand insights, and improved customer experience through the "AI + T + Offline" (AI bank + Remote bank + Office bank) mode. In 2023, the "AI + T +Offline" mode served more than 47 million customers; • Its AI account managers launched over 2,300 scenarios and served nearly 30 million customers. The one-time problem-solving ratio and the proportion of unmanned services exceeded 90%.
CITIC Bank	• It launched China CITIC Bank APP 10.0. Centering on its value premise, it developed two major tools for asset allocation (i.e., "healthy balance sheet" and "Happiness + pension account book") and the professional AI-enabled wealth management advisor that is available 7*24, helping users enjoy specialized wealth management advisory services online; • It prompted the application of the enterprise WeChat Account. At the end of 2023, the number of its enterprise WeChat Account followers reached 11,665.2 thousand, and customer satisfaction was above 95%.

In recent years, banks have applied big data to tap user demands and advance retail digital transformation. They innovated services and enhanced service quality and coverage to make them more accessible to customers. Multiple banks' channel transaction volume surged to new highs repeatedly.

Offline channels were further optimized; online-offline synergy enhanced

While online scenarios flourished, banks actively transformed their physical outlets. They shifted to intelligent outlet operations and optimized their outlet layout to improve efficiency. They also intensified the synergy of online channels and offline outlets to enhance their comprehensive service capabilities.

Table 2: Optimizing Outlet Layout and Building Intelligent Channels

Bank	Optimization of outlet layout	Building of intelligent channels
ICBC	• At the end of 2023, ICBC had 15,495 outlets, 21,023 self-service banks, 76,203 intelligent devices and 53,745 automatic teller machines ("ATMs"); • In 2023, 670 outlets were reorganized, with the outlet coverage rate in counties increasing to 86.9%; ICBC deepened the construction of low-carbon outlets and elderly service outlets, and decorated 1,045 outlets; It has set up 4,760 inclusive finance service points in rural areas, covering 1,523 counties across the country; • In 2023, it established 6,156 new ecological outlets themed on the "ICBC Sharing Station+" governance, life, wealth, public welfare, happiness, and inclusive finance, increasing the total number to more than 11 thousand.	• Over 200 outlets have introduced the centralized physical delivery service model for individual account opening and cancellation, deposits and withdrawals, and other scenarios on a trial basis. Online booking for local and foreign currency banknotes and small changes services was promoted throughout ICBC. It also comprehensively promoted the new task-driven treasury operation model; • It accelerated the empowerment of intelligent technology in business operations and the application of new technologies such as digital humans and big models. The first big model-based intelligent assistant for outlet employees was officially put into operation to improve outlet efficiency. The annual volume of intelligent business processing reached 320 million; • The functions and scenarios of self-service channels constantly expanded. ICBC promoted bank-government interconnection services such as electronic social insurance, tax and fee payment, smart medical insurance, credit report, and e-CNY at outlets' smart ATMs, creating "government service halls" near customers.
CCB	• CCB continued to optimize its outlet layout, with 48,133 ATMs, including 15,106 ATMs at county-level outlets; • It expanded service channels and networks, with 14,895 operating entities and 140 outlets and 1,120 self-service facilities in 80 of the 160 key counties that needed national assistance in rural revitalization.	• CCB had 43,434 smart teller machines, with 13,076 at county-level outlets; It adopted intelligent technologies such as Robotic Process Automation ("PRA") to improve the quality and efficiency of centralized operations, saving 5.20 million man-hours throughout the year; • It relied on the remote intelligent banking service platform to promote the "cloud-based production" operation model for resource sharing and reuse to efficiently respond to customer demands and build a customer service and operation hub across the bank. In 2023, CCB served 527 million customers across all channels.

Bank	Optimization of outlet layout	Building of intelligent channels
ABC	• ABC vigorously served rural revitalization. It maintained the total number of branch outlets, optimized the outlet layout, and continuously expanded the service channels in county areas; • ABC strengthened the service capabilities of branch outlets. It continued to improve elderly-friendly services at branch outlets, and provided door-to-door services for 250,000 elderly customers and other special groups.	• It continued advancing the construction of a unified platform for intelligent terminals, developed and piloted the smart low-counter system, optimized business functions and service processes, and precisely reduced low-efficiency equipment to continuously improve customer experience. As of the end of 2023, ABC had 54.9 thousand super counters, 53.7 thousand cash-type self-service devices and 3.2 thousand self-service terminals.
BOC	• BOC continually optimized outlet layout and improved the differentiated outlet management system. The bank constructed featured outlets for technical finance, green finance, inclusive finance and pension finance. BOC established 310 featured green finance outlets and over 2,800 featured outlets for inclusive finance.	• BOC continuously upgraded its mobile banking services and rapidly expanded its online businesses. In 2023, its e-channel transaction volume reached RMB374.62 trillion, an increase of 10.31% compared with the prior year; • It improved the digital risk control and anti-phishing monitoring capabilities of online channels. In 2023, BOC identified and shut down 816 phishing websites and application download links, and its "Cyber Defence" smart risk control and prevention system monitored 8.621 billion online transactions, up by 8.27% year-on-year.
BO COM	• The bank provided comprehensive financial services for 192 million retail customers through over 2,800 domestic outlets and 23 overseas branches (subsidiaries) and representative offices.	• "BOCOM On-cloud" provided online-offline integrated services, building a "cloud outlet, cloud teller, and cloud butler" system to meet customers' diverse service needs through a new online service mode (screen-to-screen services). In 2023, the "BOCOM On-cloud" remote video outlet delivered 600 thousand services, a year-on-year increase of over 10 times; It gradually launched service solutions such as "Cloud inter-bank" and "BoCom Jiaoxintong" to empower enterprises' capital management and digital transformation.
PSBC	• PSBC had 39,364 outlets covering 99% counties (cities), serving over 660 million individual customers; • China Post Group built 420,000 ULE stations and PSBC built over 300,000 creditworthy villages in 492,000 administrative villages nationwide.	• The bank developed the "cloud counter" new remote service model combining online and offline channels. The new model had been promoted to over 6,000 outlets and connected to approximately 8,000 devices such as ITMs (intelligent teller machines), STMs (smart teller machines) and Pads (portable Android devices); • PSBC had 134,959 self-service terminals, including 50,585 ITMs, which accounted for 96.37% of self-service terminals of non-cash businesses, and 70,725 internet-enabled mobile business expansion terminals.

Bank	Optimization of outlet layout	Building of intelligent channels
CMB	• CMB adopted the "control over total number of branches and optimization of existing branches" strategy to deploy its domestic branches. During the reporting period, it increased 25 business outlets; • CMB had 143 branches and 1,781 sub-branches in China, 2,226 self-service banks, 5,281 cash self-service devices and 7,603 visual counters.	• With "people + digitalization" as the core driving force, CMB fully leveraged Fintech, continued to enhance the service level of intelligent robots, and provided the most suitable solutions for customers through intelligent scheduling. In 2023, the remote online omnichannel manual service connection rate reached 97.26%, and the remote online omnichannel customer satisfaction rate was 99.10%.
IB	• IB had 2,085 outlets, 27 more than 2022, including 1,084 traditional sub-branches and 836 community sub-branches.	• IB upgraded the "five online platforms" and preliminarily built a "Digital Industrial" system covering "1 (mobile banking) +5 (Industrial Inclusion, Industrial Steward, Industrial Living, Qianda Money Manager, Bank-to-Bank Platform) +N (scenario ecological platforms)".
PAB	• PAB continued to promote the AI-enabled upgrade of its outlets and optimize its branch distribution and physical presence. It had a total of 1,201 outlets.	• With respect to digital stores, PAB upgraded the comprehensive service model of its branches, organized featured salons by leveraging the intelligent marketing tool "Pocket Banker," and acquired more than 150 thousand new customers.
CITIC Bank	• CITIC Bank had 1,451 outlets in 153 medium-sized and large cities in the Chinese mainland; • CITIC Bank had 1,529 self-service banks (including onsite and off-site self-service banks), 4,482 self-service terminals and 9,131 smart teller machines.	• CITIC Bank continued to improve customer services across channels and advanced the development of "AI+ manual" customer service systems for online banking, mobile banking, and online form filling to further improve customer response quality and efficiency. The bank established the online channel operation system and introduced diverse online channels with online banking at the core, realizing large-scale and differentiated customer contact.

Banks furthered consumption scenario construction and safeguarded retail risk bottom line

Consumer loans targeted quality customer groups and scenarios

In 2023, ICBC, ABC, CCB, BOCOM, PSBC, CMB, IB and CITIC Bank released their consumer loan data separately. Their consumer loans totaled RMB2,455.724 billion, an increase of RMB661.392 billion over 2022, or a year-on-year growth rate of 37%. With optimized consumer loan strategies, BOCOM's and ABC's consumer loan balances increased by 86% and 76%, respectively. Focusing on enhancing the coverage, availability, and satisfaction of financial services, BOCOM increased loan supply to better meet people's consumption credit needs. ABC actively responded to the national strategies for expanding domestic demand and promoting consumption; It increased the supply of consumer credit, strengthened the construction of consumer finance scenarios, and made significant breakthroughs in automobile, home decoration, and other key areas to improve the accessibility and convenience of personal consumption loans.

Table 3: Balance of Consumer Loans

Unit: RMB million

Bank	Balance at the end of 2023	Balance at the end of 2022	Growth rate
ICBC	328,286	232,442	41%
ABC	340,865	193,746	76%
CCB	421,623	295,443	43%
BOCOM	158,117	84,893	86%
PSBC	520,750	466,882	12%
CMB	301,538	202,225	49%
IB	85,984	67,888	27%
CITIC Bank	298,561	250,813	19%

Note: PSBC's balance of consumer loans was disclosed under "Other consumer loans" in the annual report.

Enhanced risk management of consumer loans

In the context of intensive economic construction, banks seized the development opportunities in the consumer credit market and strengthened customer-centered overall planning of personal loan business, promoting consumer finance as a key growth driver for retail business. They accelerated optimizing and innovating consumer loan products and upgraded consumer loan services to meet customers' financing needs and promote sustainable consumption recovery.

Banks' asset quality in the personal consumer loan business has changed variedly. CMB's nonperforming ratio of personal consumer loans increased by 0.01 percentage points from 2022; ICBC's, ABC's, CCB's and PSBC's nonperforming ratios dropped by 0.37, 0.21, 0.03 and 0.33 percentage points, respectively. Meanwhile, banks strengthened consumer loan risk control and monitoring. They refined risk management systems and strengthened post-lending risk monitoring and early warning to ensure the healthy development of the consumer loan business.

Table 4: Risk Control Measures and Nonperforming Ratio of Consumer Loans

Bank	Risk control	Asset quality	
ICBC	Comprehensively promoted the digitalization of credit risk management, explored multi-scenario application of big data, AI and other advanced technologies, and promoted the construction of a visual and multi-dimensional risk monitoring and early warning system; Continuously refined post-lending management, focusing on key tasks such as monitoring, collection, and disposal; Continued to iterate and upgrade the monitoring model strategy.	Nonperforming ratio of personal consumer loans was 1.34%	Down 0.37 percentage points from the end of 2022

Bank	Risk control	Asset quality	
ABC	Optimized early warning models and improved risk identification accuracy; Disposed of non-performing loans in diversified ways, and strengthened overdue loan collection by leveraging the advantages of the "remote telephone calls + on-site visits" and "automatic + manual" multi-level collection system; Actively carried out write-offs and asset securitization to improve the efficiency of disposal of non-performing loans.	Nonperforming ratio of personal consumer loans was 1.04%	Down 0.21 percentage points from the end of 2022
CCB	Paid great attention to post-lending monitoring of personal loans, and focused on borrowers' repayment ability, status of collateral and pledges, and changes in the value of collateral and pledges.	Nonperforming ratio of personal consumer loans was 0.86%	Down 0.03 percentage points from the end of 2022
PSBC	Built a digital risk control system and supported data-driven full-process credit extension management to realize early identification, warning, exposure and disposal of risks; Innovatively introduced a proactive credit extension model directly operated by the Head Office for risk control of retail banking businesses, achieving end-to-end intelligent operation of retail banking.	Nonperforming ratio of personal consumer loans was 1.81%	Down 0.33 percentage points from the end of 2022
CMB	Strictly reviewed credit risks of customers and focused on the customers with good credit records and stable income sources to prevent the risk of "joint debts"; Continuously intensified the access to data sources to enhance the risk identification accuracy of customer groups; Relied on the big data quantitative risk control technology to closely monitor the risk changes of customer groups and give early warning of risks.	Nonperforming ratio of personal consumer loans was 1.09%	Up 0.01 percentage points from the end of 2022

Online platforms and consumption scenarios improved to advance the credit card business

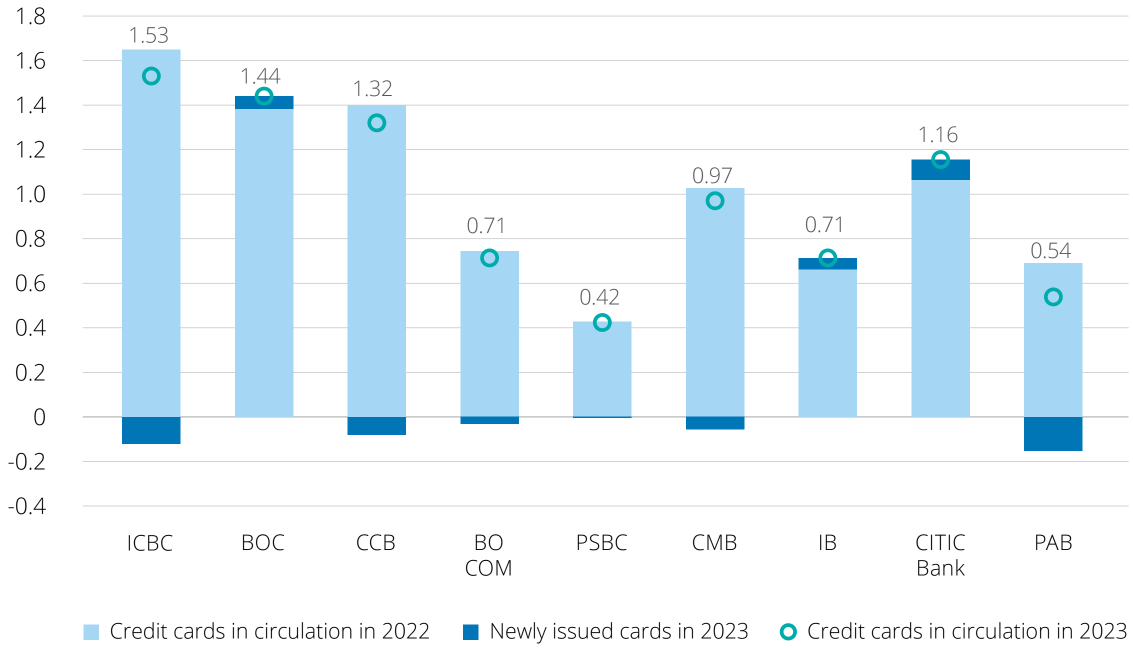
The credit card business is a main force driving the growth of banks' retail credit supply and a critical area of developing the credit business in recent years. The improvement of online platforms and consumption scenarios significantly drove the credit card business. However, credit card consumption shrank due to the difficulties in customer acquisition.

As of 31 December 2023, except for BOC, IB and CITIC Bank, the rest of the domestic banks' issuance of new credit cards stagnated. Their credit cards in circulation decreased compared with the prior year-end. Specifically, CITIC Bank issued 8,917.7 thousand new cards, an increase of 8.37%. As of 2023, ICBC, BOC, CCB, and CITIC Bank had more than 100 million credit cards in circulation; Among them, ICBC ranked first with 153 million cards.

In 2023, CMB's total credit card consumption reached RMB4.81 trillion, retaining first place despite a decrease of 0.44% year-on-year. Among the six state-owned banks, CCB ranked first with credit card consumption totaling RMB2.93 trillion, up 0.34% year-on-year; BOCOM ranked second with RMB2.81 trillion, down 8.09% year-on-year. PAB and IB recorded a sharp decrease in credit card consumption by 18% and 16.23%, respectively.

Figure 6: Number of Credit Cards in Circulation

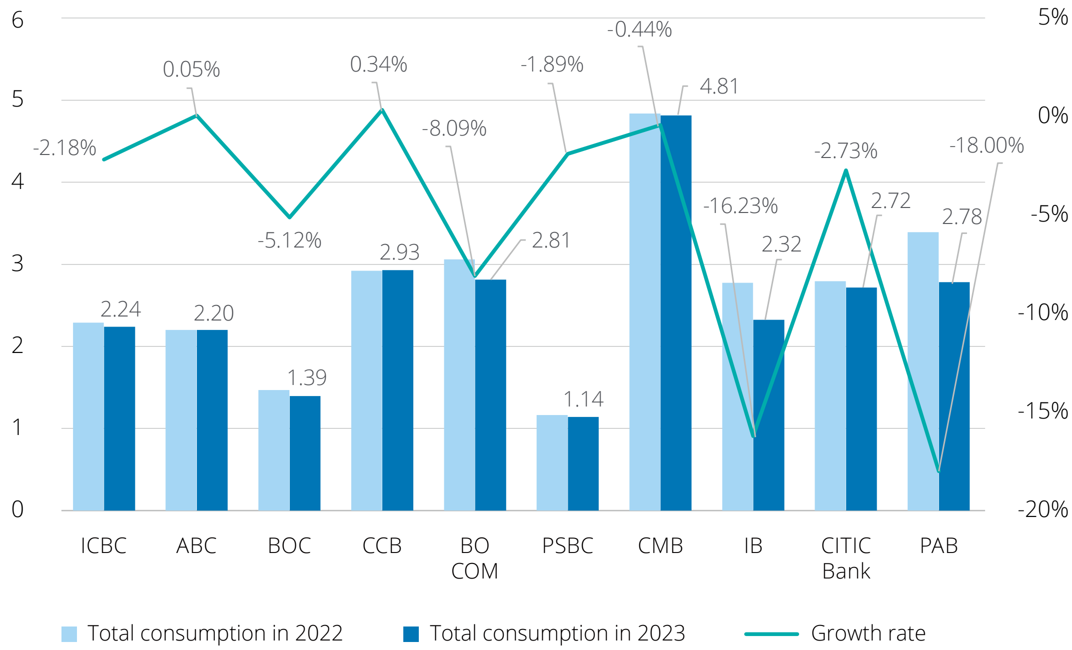
Unit: 100 million



Note: ABC did not disclose the number of credit cards.

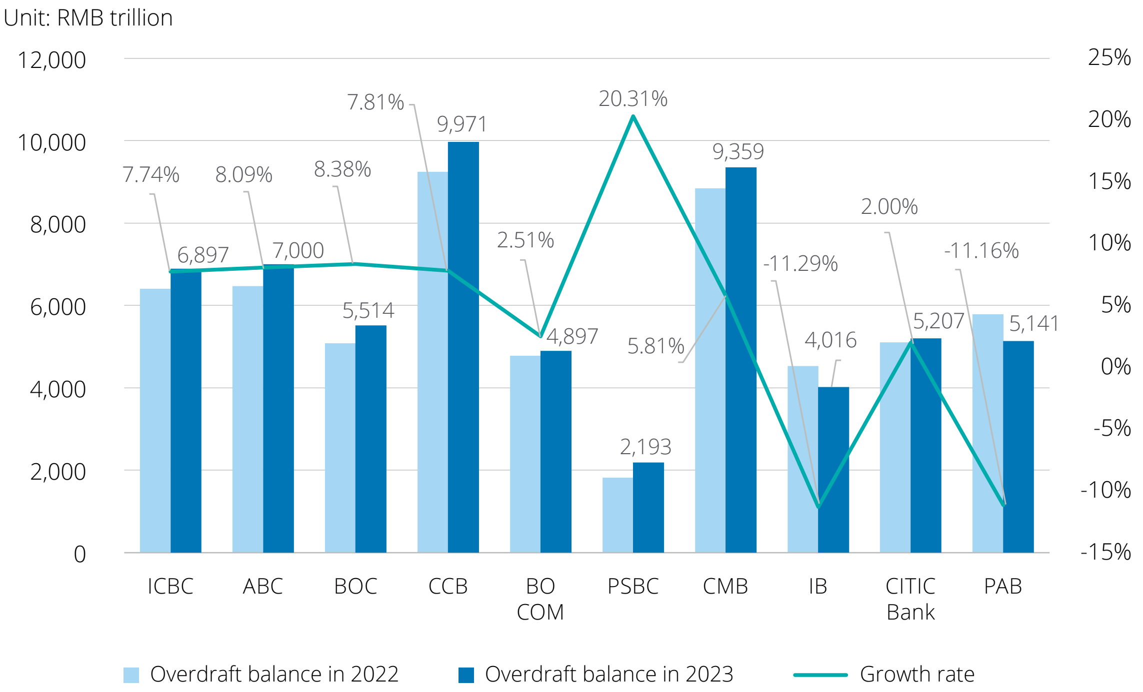
Figure 7: Total Credit Card Consumption

Unit: RMB trillion



In terms of credit card overdraft balance, as of 2023, CCB's overdraft balance was RMB997.1 billion, up 7.81% from the end of 2022, ranking first among state-owned banks; CMB's overdraft balance was RMB935.9 billion, up 5.81%, ranking first among joint-stock banks; PSBC recorded a significant increase of 20.31%; IB's and PAB's overdraft balances were RMB401.6 billion and RMB514.1 billion, respectively, down 11.29% and 11.16% from the end of 2022.

Figure 8: Credit Card Overdraft Balance



Wealth management saw steady progress; private banking achieved high-quality development

Common prosperity is China's major vision, creating significant opportunities for banks. With the constant improvement of residents' financial literacy and the gradual implementation of new asset management regulations and other policies, wealth management has become a priority for commercial banks to upgrade and advance their businesses. Private banking focuses on "what the country needs, what finance can provide, and what customers expect" to underpin and guide the development of wealth management. Banks actively deployed private banking and other wealth management businesses, substantially elevating wealth management's role in the retail business. While progressively transforming private banking, banks enhanced business collaboration with subsidiaries and third-party partners, fortified asset allocation capabilities, and promoted integrated acquisition of private and corporate customers to create a new growth curve of private banking customers.

State-owned banks are in a leading position regarding the asset management scale of retail customers, maintaining a relatively high AUM growth rate. As of 2023, ICBC's retail customer AUM totaled RMB20.71 trillion, ranking first among its peers; ABC's retail customer AUM reached RMB20.29 trillion; CCB's retail customer AUM exceeded RMB18.5 trillion; PSBC's retail customer AUM increased by RMB1.34 trillion to RMB15.23 trillion. In terms of growth rate, ICBC's AUM increased most by 10.99% year-on-year, followed by PSBC's 9.65%.

Joint-stock banks are actively seeking new drivers for business growth. Wealth management is critical to spurring their retail growth sustainability. In 2023, the four joint-stock banks' wealth management businesses proliferated, with their retail AUM growth rates averaging 11.53%. Specifically, CMB's retail customer AUM reached RMB13.32 trillion, ranking first among the joint-stock banks, representing a year-on-year growth rate of 9.88%; IB ranked second with the AUM totaling RMB4.79 trillion, representing the highest growth rate of 42.14%; CITIC Bank's and PAB's AUM reached RMB4.24 trillion and RMB4.03 trillion, respectively, with a year-on-year growth rate of 8.44% and 12.37%.

According to the data released in the domestic banks' annual reports, their private banking scale and customers expanded remarkably. Three banks' private banking customers exceeded 200,000 (only ICBC and ABC had over 200,000 customers in 2022). PSBC's annual report did not provide information on private banking customers, while the number of domestic banks' private banking customers increased, with five banks' growth rates exceeding 10%. Regarding the AUM scale, ICBC's AUM for private banking customers totaled RMB3.07 trillion (the only bank to exceed RMB3 trillion), representing a year-on-year growth rate of 16.90%. ICBC's, ABC's, BOC's and CCB's AUM for private banking customers exceeded RMB2 trillion. ABC recorded an AUM growth rate of 20.45%, much higher than other banks. ABC enhanced the professionalism of its wealth management consultant team by offering hierarchical, targeted and systematic training, strengthened digital and technology-driven operation of the private banking business, and launched a new-generation private banking business system incorporating client management and multiple other renewed subsystems, gradually improving its private banking marketing and service capabilities. PAB's private banking also developed rapidly and played a vital role in its retail business, recording a private banking AUM growth rate of 18.18% year-on-year in 2023.

Table 5: Retail Customers and Private Banking Customers

Unit: RMB trillion, 10,000 customers

Bank	Retail customer AUM	Retail customer AUM growth	Personal financial AUM (private banking)	YoY growth	Number of private banking customers	YoY growth
ICBC	20.71	10.99%	3.07	16.90%	26.29	16.30%
ABC	20.29	Undisclosed	2.65	20.45%	22.40	12.00%
BOC	14.29	9.92%	2.69	11.16%	17.37	8.83%
CCB	Over18.50	8.82%	2.52	12.00%	21.28	9.86%
BOCOM	5.00	8.27%	1.17	8.00%	8.36	8.57%
PSBC	15.23	9.65%	Undisclosed[Note1]	Undisclosed	Undisclosed[Note1]	Undisclosed
CMB	13.32	9.88%	Undisclosed	Undisclosed	14.88[Note2]	10.42%
IB	4.79	42.14%	0.86	6.43%	6.92	9.76%
CITIC Bank	4.24	8.44%	1.03	8.72%	7.40	10.78%
PAB	4.03	12.37%	1.92	18.18%	9.02[Note3]	12.05%

Note 1: PSBC did not disclose the AUM and number of private banking customers; its retail customers with assets reaching RMB100,000 totaled 51.48 million, and retail customers with assets reaching RMB500,000 totaled 4.96 million.

Note 2: CMB's private banking customers referred to retail customers with minimum total daily average assets of RMB10 million per month. The number of customers at the level of Golden Sunflower and above (those with minimum daily average total assets of RMB500,000 for each month) reached 4.64 million.

Note 3: PAB's standard for private banking customers is the average daily assets in any month of recent three months exceeding RMB6 million.

In addition to retail customers' asset scale, their number decides banks' retail finance advantages and potential, playing a "cornerstone" role in advancing the wealth management businesses.

Table 6: Number of Retail Customers in 2023 and 2022

Unit: 10,000 customers

Bank	Number of retail customers in 2023	Number of retail customers in 2022	Growth rate
ICBC	74,000	72,000	2.78%
ABC	86,700	86,200	0.58%
BOC	Undisclosed	Undisclosed	Undisclosed
CCB	75,700	73,900	2.44%
BOCOM	19,200	19,100	0.52%
PSBC	66,000	65,200	1.23%
CMB	19,700	18,400	7.07%
IB	10,128	9,175	10.38%
CITIC Bank	13,700	12,700	7.87%
PAB	12,543	12,308	1.91%

With a solid customer base, state-owned banks' numbers of retail customers remained stable in 2023. Specifically, ABC's retail customers reached 867 million, ranking first among its peers; ICBC recorded the highest YoY growth rate of 2.78%. Joint-stock commercial banks' growth rates were higher than state-owned banks, although their retail customer scales were smaller. Specifically, IB recorded a YoY growth rate of 10.38%; CITIC Bank, CMB, and PAB recorded a growth rate of 7.87%, 7.07%, and 1.91%, respectively; CMB's retail customers exceeded 190 million, and CITIC Bank's, PAB's, and IB's exceeded 100 million.

In 2023, China's banking sector faced increasing challenges as net interest margins continued to narrow due to lower market interest rates and efforts to support the real economy through reduced fees and interest rates. Banks also struggled to lower their liability costs. Annual reports revealed the retail segment's contribution to overall bank revenue decreased. Banks faced tough competition, higher customer acquisition costs, and similar retail products and services, making it difficult to stand out. To overcome these challenges, banks are focusing on offering unique products and services to gain a competitive edge and complete their business adjustments sooner.

Many banks highlighted digital transformation in their annual reports, using digital technologies to expand their retail businesses and manage risks. With the economy recovering and policies encouraging consumption, retail credit assets remain a key focus. Banks are committed to a customer-centric approach, aiming to enhance their retail offerings by expanding their customer base and improving service efficiency through digital operations. They are working to revamp their retail customer management models and achieve significant growth in this sector.

3.4

Fintech shows a strong momentum to embrace digital finance development opportunities

Amid the new technological revolution and industrial transformation, digital transformation in the financial sector is an inevitable trend. PBC released the *Fintech Development Plan (2019-2021)* and the *Fintech Development Plan (2022-2025)*. The Plans proposed various measures, such as innovating regulatory tools, developing pilot and demonstration projects, and promoting financial digital transformation projects, to guide financial institutions to fully leverage digital technologies and data elements to improve financial service quality and efficiency. Commercial banks are the principal entities in the financial system. Developing technical finance is crucial for banks to deliver the social responsibilities of implementing national strategies and supporting the real economy. It is also an inherent requirement for commercial banks to advance their transformation and development and contribute to China's financial strength.

Increased capital and talent investment into Fintech

Commercial banks have continuously scaled up digital construction efforts in recent years, especially in Fintech investment and talent reserve. According to the data disclosed in the ten domestic commercial banks' 2023 annual reports, Fintech investment accounted for more than 4% of their operating income, representing a growth rate of about 6%. State-owned banks were the backbone of Fintech investment. The four major state-owned banks' Fintech investments exceeded RMB20 billion. BOCOM's, PSBC's, CMB's and CITIC Bank's investments exceeded RMB10 billion. CITIC Bank's Fintech investment accounted for 5.90% of its operating income and increased by 38.90% year-on-year, both figures ranking first among its peers. Banks valued reserve of talent to ensure Fintech's sustainable development. ICBC had 36,000 Fintech personnel, the largest reserve among the banks. The technical personnel of ICBC, BOCOM, CMB, IB and CITIC Bank accounted for more than 8% of their total employees.

Table 1: Fintech Input in 2023

Unit: RMB100 million

Bank	Fintech investment	Growth rate	% in operating income	Fintech personnel
ICBC	272.46	3.90%	3.23%	36,000 Fintech personnel, accounting for 8.6% of the bank's total employees
ABC	248.50	7.06%	3.58%	13,150 technical personnel, accounting for 2.9% of the bank's total employees
BOC	223.97	3.97%	3.60%	14,541 employees in the IT line, accounting for 4.74% of the total employees
CCB	250.24	7.45%	3.25%	Invested over RMB120 billion in Fintech and increased Fintech personnel from 6,983 to 16,331
BOCOM	120.27	3.41%	5.64%	7,814 Fintech employees, up 33.30% YoY, accounting for 8.29% of the bank's total employees, up 1.91 percentage points
PSBC	112.78	5.88%	3.29%	IT headcount of the Head Office increased to 5,061, and that figure exceeded 7,000 across the bank
CMB	141.26	-0.30%	4.59%	10,650 R&D personnel, accounting for 9.14% of the bank's total employees
IB	83.98	1.78%	3.98%	7,828 technical personnel, up 16.85% YoY, accounting for 13.91% of the bank's total employees
PAB	63.43	-8.46%	3.85%	Undisclosed
CITIC Bank	121.53	38.90%	5.90%	5,626 technical personnel, up 9.93% YoY, accounting for 8.41% of the bank's total employees

Fintech empowered banks to improve operation and management quality and efficiency

Commercial banks have proactively promoted deep integration of Fintech and traditional financial services over the past few years to provide intelligent, diversified and ecosystem-based financial services. They improved Fintech infrastructure and innovated financial businesses. By incorporating Fintech into intelligent services, operations, and risk control, banks achieved more flexible operation and management, injecting vitality into their front-office businesses as well as middle- and back-office work.

Intelligent services

Commercial banks further expanded the Fintech application to all business lines and products. Fintech has empowered many service scenarios, such as payment & settlement, credit application, and investment & wealth management, continually upgrading these services to be accessible online and more intelligent. Common convenient channels include banks' independently developed mobile banking apps, WeChat mini programs, and various service channels built in cooperation with other institutions and enterprises. Banks actively upgraded their apps. For instance, in 2023, ICBC, ABC and PSBC released the latest version of their mobile banking apps.

Banks provided customers with more secure, convenient, timely, efficient, and comprehensive financial services through "remote intelligent banking." In the meantime, they improved operation efficiency, saved outlets' operating costs, and expanded outlets' service coverage to reach more potential customers. In 2023, ICBC had 229 million monthly active mobile users. ABC, BOCOM and IB recorded unprecedented growth in the number of intelligent service customers.

Table 2: Cases—Fintech Empowering Remote Customer Services

Bank	Intelligent service (remote customer service)
ICBC	• Striving to achieve intelligence, simplicity and humanization, ICBC launched innovative personal mobile banking (version 9.0), and focused on mega wealth, full financing, consumption promotion, strong intelligence, and better experience to create a panoramic digital financial service system; • At the end of 2023, ICBC had 552 million personal mobile banking customers, with more than 229 million monthly active mobile users, leading the industry in terms of customer base and activity.
ABC	• ABC launched the 5.0 version of mobile corporate banking. It refined the registration and login processes, significantly simplifying initial login; • As of the end of 2023, the "ABC E-loan" balance exceeded RMB4 trillion, and the MAU number of retail mobile banking amounted to 213 million.
BOC	• As at the end of 2023, the number of monthly active mobile banking customers reached 87.76 million. In 2023, mobile banking's total transaction volume reached RMB54.88 trillion, up 17.46% year-on-year; • For overseas individual customers, BOC released overseas personal mobile banking version 6.0, optimizing interface operation and feature navigation and introducing more functions to comprehensively improve user experience.
CCB	• CCB promoted intelligent search & recommendation, helping increase the pop-up click-through rate of the "Benefits Season" marketing campaign of mobile banking and "CCB Lifestyle" by 4.14 times; • CCB implemented intensive, platform-based and ecological operation models, and relied on enterprise-level platforms such as mobile banking, "CCB Lifestyle," "CCB Huidongni," "CCB Yunongtong" and "CCB e-Chain" to drive the mutual reinforcement and integrated development of financial and non-financial services.
BOCOM	• In 2023, customers served by "BoCom" WeChat Mini Program increased by 53.91% year-on-year to 36,418.7 thousand; • Customers served by BOCOM On-cloud amounted to 7,417.1 thousand, an increase of 34.78% year-on-year.

Bank	Intelligent service (remote customer service)
PSBC	• PSBC launched the mobile banking App 9.0, a "one-stop comprehensive service platform" and a "portable interactive companion platform." PSBC actively explored and innovated rural financial service models based on rural credit information and data systems, allowing farmers to apply for loans, use funds, and make repayments at any time via mobile banking; • During the reporting period, micro-loans granted online accounted for more than 95% of all micro loans. By using big data technologies, PSBC transformed credit extension from "passive" to "proactive" and provided customers with online "instant approval and instant disbursement" services. Its mobile banking asset quality was better than total assets, with the NPL ratio below 0.5%.
CMB	• The remote online omnichannel manual service connection rate was 97.26%, the remote online omnichannel manual service response rate within 20 seconds was 92.52%, and the remote online omnichannel customer satisfaction rate was 99.10%.
IB	• IB launched Mobile Banking 6.0, with the number of monthly active users increasing by 7.52% year-on-year to 22,526.2 thousand; The number of certified enterprise customers of "CIB Inclusive" increased by 26.48% from the end of 2022 to 36.4 thousand; "CIB Inclusive" satisfied more financing requirements, with the amount increasing 167.66% year-on-year and the balance increasing RMB39.814 billion to RMB69.195 billion.
PAB	• At the end of 2023, the registered customers of Ping An Pocket Bank reached 166,039.1 thousand, representing an increase of 8.6% from the prior year-end, and the MAU number reached 51,936.7 thousand; • The intelligent channels covered all business scenarios; The one-time problem-solving ratio and the proportion of unmanned services exceeded 90%.
CITIC Bank	• The bank launched Mobile Banking 10.0 and Mobile Card Space 10.0, releasing the capacity of online operations and remote channels at a faster pace.

Intelligent operations and risk control

The constantly evolving Fintech sector has empowered more areas than innovation and transformation of front-office businesses. Fintech significantly enhanced banks' middle- and back-office operation efficiency. Technology-enabled automatic data collection, analysis and processing tremendously reduced banks' manual work, shortening the data processing cycle, enhancing data timeliness and accuracy, and improving the efficiency of working processes. In addition, real-time data updates and accurate analysis results support banks' decisions more effectively, facilitating more efficient business operations.

ICBC advanced the building of the ICBC e-series risk control systems. It applied technologies to risk control, improved the "One Customer + N Products" multi-dimensional credit risk prevention and control system, and developed a full-process risk management system featuring "data-driven, intelligent warning, dynamic management, and continuous operation". ICBC combined digital risk control with loan management by experts and strengthened online and offline cross-validation to effectively identify risks. It achieved "active prevention, smart control, and comprehensive management" of risks, laying a solid foundation for the sustainable development of inclusive finance.

PAB stuck to industry-oriented operations, focusing on industry research and risk control. It considered customer bases and business structures to select industries, and implemented scientific and precise industry portfolio management. It emphasized controlling industry concentration based on its strategic focuses to reasonably disperse risks; In the meantime, it strengthened in-depth industry management and actively integrated with the country's modern industries. PAB gave full play to its comprehensive financial advantages to provide customers with high-quality services and promote the development of the country's modern industries.

Table 3: Achievements in Intelligent Operations and Risk Control

Bank	Intelligent operations	Intelligent risk control
ICBC	ICBC was the first among its peers to apply foundation model technology to scenarios such as seat assistant to ensure multilingual services during significant events such as the Chengdu FISU World University Games and the Asian Games Hangzhou; the annual service volume was 2.15 billion; the answering rate and intelligent diversion rate stayed ahead of peers. ICBC accelerated the construction of the "Digital Operation Center," established billion-level customer contact platforms such as the WeChat ecosystem, intelligent outbound calling, and outbound SMS, and created the most comprehensive media matrix in the industry, covering mainstream high-traffic platforms. ICBC expedited building the "Business Empowerment Center," with more than 700 million intelligent outbound calls in the year.	ICBC enhanced digital risk control, advanced building the ICBC e-series risk control systems, improved the "One Customer + N Products" multi-dimensional credit risk prevention and control system, developed a full-process risk management system featuring "data-driven, intelligent warning, dynamic management, and continuous operation," provided customers with financial advisory, risk control advisory, management consulting, and other professional consulting services, and relied on the "ICBC e-Security" big data risk control platform to help customers realize early identification and warning of risks.
ABC	ABC moved branches' data to cloud and established data cloud for subsidiaries; applied the massive data heterogeneous acceleration engine to reduce the aggregation and calculation time of billion-level data from 20 minutes to 3 seconds; transformed and upgraded individual fixed-term deposits, credit cards, credit products, investment & wealth management, and other core businesses and products; completed system migration and transformation for more than 800 million individual customers and 1.8 billion personal accounts, the largest migration in the banking sector.	ABC achieved significant marketing, risk control, and management results through data empowerment. It established 42 thousand internet high-frequency scenarios, and the number of monthly active users reached 213 million. Credit risks in key areas such as real estate and local government debts were generally under control and the quality of credit assets remained stable. At the end of 2023, the nonperforming loan ratio was 1.33%, a decrease of 0.04 percentage points from the end of 2022.
BOC	BOC furthered the building of corporate open banking, enriched the "BOC Corporate E-link" service scenarios, and launched four sub-brands, namely Cloud Accounting, Cloud Finance, Cloud Direct Remittance, and Cloud Payroll. The bank upgraded the one-stop corporate digital service platform "BOC Corporate e-Manager", and launched integrated "non-financial + financial" services, covering payroll and tax management and financial bookkeeping, to improve SMEs' operation and management efficiency. It upgraded the corporate treasury system and contributed to state-owned enterprises' treasury reform. It promoted information connectivity between governments, industrial parks, enterprises, and banks.	BOC's "Cyber Defense" smart risk control and prevention system monitored 8.621 billion online transactions, up 8.27% year-on-year. Its mobile banking was awarded "Mobile Banking with Best User Experience" in the 2023 China Financial Value Ranking of CBN and received the "Best Digital Risk Control" award in the 19th (2023) Digital Finance Joint Publicity Year.

Bank	Intelligent operations	Intelligent risk control
CCB	The "CCB Home" platform attracted more than 51 million individual users. CCB Housing managed 159.5 thousand apartments and operated 287 "CCB Home" long-term rental communities. CCB rolled out government-subsidized and public rental housing apps for government customers in 273 and 181 cities, respectively. It leveraged service scenarios to reach more customers and enhance its operation capabilities, and established a "1+1" financial service mechanism for housing rental communities, which cumulatively brought in more than 14 million new individual customers.	CCB continuously iterated and optimized the intelligent risk control systems such as "3R" and "Blue Chip", and promoted 30 application projects of intelligent risk control to empower enterprises, customers, government and internal management. It applied the Heterogeneous Graph Neural Networks ("HeteGNNs") algorithm, effectively improving early warning of enterprise risks by verifying historical data. The big data platform improved real-time data processing capabilities with the maximum daily processing volume exceeding 100 billion, supported targeted marketing, anti-gambling, anti-fraud, and other application scenarios, and managed clusters covering over 30 thousand physical nodes.
BOCOM	The Pujiang Xintongcheng Data Centre was put into operation up to the highest standards. BOCOM's multi-architecture cloud platform won first prize in the 2022 Fintech Development Awards held by the PBOC. A series of innovative applications of enterprise-level AI platforms are in full swing. The number of valid accounts increased by 8.01% year-on-year, and the number of private banking, OTO and middle-end customers increased by more than 5% for the third consecutive year.	BOCOM pushed forward the construction of enterprise-level structures and middle offices in an integrated manner. The marketing middle office reaches over 35 million customers daily; the risk control middle office is loaded with over 260 models; the operating middle office covers more than 1,600 tasks. The bank continued to promote AI applications in customer service, product promotion, risk prevention and control, and other scenarios. The integrated anti-fraud platform accurately intercepted over 70,000 suspicious transactions, amounting to more than RMB1.4 billion.
PSBC	PSBC developed the "cloud counter" remote service model featuring collaborative online and offline channels. The new model has been promoted to over 6,000 outlets and connected to approximately 8,000 devices, including ITMs (intelligent teller machines), STMs (smart teller machines) and Pads (portable Android devices). The video-based service system was applied in business scenarios such as due diligence, insurance, wealth management, lending, and credit cards to meet customers' demands for online financial services; It won the Outstanding Achievement Award at the Big Data Expo 2023. PSBC also integrated an intelligent video-based quality inspection system across all channels, with an accuracy rate of over 90%, enhancing the efficiency of quality inspection by four times and cutting labor costs by 75%.	PSBC comprehensively popularized intelligent risk control tools, such as digital customer profiles, intelligent analysis of statements, and multi-dimensional risk control monitoring, to effectively boost risk identification and monitoring capabilities. The NPL ratio of inclusive loans to MSEs fell by 0.07 percentage points from the prior year-end. It developed the "Intelligent Review Assistant" for intelligent risk control to improve the compliance and efficiency of legal review work. During the reporting period, PSBC submitted more than five big model-related patent applications, and actively participated in a number of external research projects.
CMB	CMB continued to build its big data risk control capabilities, implemented hierarchical management of customer groups with different needs, balanced returns and risks, and reduced operating costs. During the reporting period, the "Kaiyang Portal," a new generation of open operation service platform, completed intelligent transformation and application of over 400 operation processes, improving the efficiency of key businesses by 27%. Intelligent applications in various scenarios, such as intelligent customer service, intelligent process, quality inspection, and Conch RPA (Robot Process Automation), relieved CMB staff from repetitive, time-consuming work equivalent to a workload of over 17,000 full-time individuals.	During the reporting period, the intelligent pre-warning coverage rate of all on- and off-balance sheet businesses reached 100%. The "Libra" guarded transaction security, helping customers block telecommunications fraud. The percentage of non-cardholders' fraud and account takeover amounts was lowered to 0.1 in ten millionths. The corporate loans newly granted through the online risk control platform amounted to RMB303.56 billion, representing a year-on-year increase of 53.58%. By applying digital processes, CMB reduced the average time taken to grant an inclusive mortgage loan from one month to 2.7 days.

Bank	Intelligent operations	Intelligent risk control
IB	IB moved 81.07% of its application systems to the cloud. It renewed and upgraded the "five online platforms," and has initially built a "Digital Industrial" system covering "1 (mobile banking) +5 (Industrial Inclusion, Industrial Steward, Industrial Living, Qianda Money Manager, Bank-to-Bank Platform) +N (scenario ecological platforms)". It launched Mobile Banking 6.0, and the number of monthly active users increased by 7.52% year-on-year to 22,526.2 thousand.	IB leveraged big data technology to collect and integrate internal and external risk information, and analyzed and processed such information per certain rules to form warning indicators. Customers' potential risks can be detected in a timely manner by monitoring these indicators, enabling active pushing, tracking, feedback, and report generation of customer risk signals, effectively improving risk warning timeliness and accuracy.
PAB	PAB constructed an intelligent compliance system integrating "intelligent related transactions + compliance grid management + Ping An Compliance Journey." The standardized, large-scale and clustered intelligent models primarily empowered PAB's capabilities in controlling and managing money laundering and operational risks. PAB promoted the construction of the "Ping An Smart Eye" audit and supervision platform and deepened AI technology applications. At the end of 2023, issues identified through remote and continuous audits accounted for about 60%.	PAB upgraded the smart risk control platform, and created the "1 core enterprise + N associates" assembled risk control mode for supply chain scenarios to improve its automatic risk monitoring capability. At the end of 2023, PAB realized disbursement in seconds for more than 70% standardized businesses. With respect to retail risk control, PAB expanded model data sources, and promoted the construction of intelligent post-loan warning systems and retail model whole-process management platforms to enhance risk control perspectiveness, effectiveness, and accuracy. The smart special asset management platform enabled one-stop and whole-journey project management, improving the bank's refined management and automation capabilities for asset recovery and disposal. PAB upgraded the "Special-Asset-E" platform, deepened ecosystem-based operation, and conducted diversified marketing activities. The platform had more than 100 thousand registered users.

Create an intelligent service ecosystem through Fintech empowerment

In 2023, following the guidance of financial regulators, large commercial banks continued to support small and medium-sized banks' Fintech development. Facing the fluid and complex financial environment and evolving technologies, large commercial banks persistently exported mature risk control solutions and technical services to small and medium-sized banks, relying on their solid capital strength, advanced technical platforms, and extensive management experience, to help small and medium-sized banks improve risk management and innovate businesses.

Large banks' Fintech capabilities were further consolidated and elevated during this process. Meanwhile, large banks' technology and resource support helped improve small and medium-sized banks' ability in risk control, customer service, and product innovation and make up for their capital, technology, and talent deficiency. In addition, the increasingly deepened and diversified collaboration between large and small and medium-sized banks strengthens relationships within the banking system, laying a foundation for building an open and interconnected financial ecosystem. By establishing a sound Fintech ecosystem, the banking sector will better serve the real economy, respond to regulatory requirements, and mitigate financial risks, reliably bolstering the sustainable development of the economy.

Table 4: Example of Large Commercial Banks' Sharing Fintech Achievements

Bank	Example
ICBC	ICBC leveraged the advantages of its global clearing network to upgrade global cash management services such as "ICBC Global Pay," continuously improved the treasury service system, and helped build treasury systems for large and medium-sized customers. It has served more than 200 large group customers, maintaining a leading position in the industry. ICBC optimized cloud service products such as financial and asset management cloud, assisted small and medium-sized enterprises with their digital transformation, and provided digital financial services for more than 5,000 enterprises cumulatively. It offered risk prevention and control tools and services to over 400 peers, improving the industry's overall risk prevention and control level.
BOC	BOC rolled out the industry-leading asset management technology platform, and independently developed and successfully applied end-to-end IFRS 17 solutions. The bank participated in the formulation of six industry standards. BOC Financial Technology was included in the International Data Corporation's IDC China FinTech 50 list for the third consecutive year and passed the Test Maturity Model Integration (TMMi) Level 5 certification. The IFRS 17 product won the first prize in the 2023 "Innovation China" FinTech Innovation Competition. It launched version 6.0 of BOC International Mobile Banking app. As of the end of 2023, BOC International Mobile Banking app was available in 30 countries and regions, providing services in 12 languages.
CCB	Services of CCB's AI platform were invoked for 43.3 billion times, and the AI platform was awarded the "Best AI Technology Implementation" by The Asian Banker in 2023. CCB continuously developed financial image and text recognition products that can recognize more than 140 types of bills and documents, covering 75% of the total bills, helping improve the efficiency of bill review information input by 120 times; It won the first place in the Seal Title Text Detection of the 2023 International Conference on Document Analysis and Recognition (ICDAR 2023).
IB	IB advanced constructing the"1+N" financial technology ecosystem, relied on the "Industrial Cloud" to cover "N" scenario-based ecological services such as payment and settlement, sales of wealth management products, investment and financing, and digital RMB, actively provided digital transformation solutions for peers, and continuously promoted financial ecological products and business support software. IB's technical export platform has launched 325 small and medium-sized financial institutions and provided custodian services for 174 banks.

Opportunities and challenges for Fintech

China's economic landscape is becoming increasingly complex and severe, highlighting the necessity of economic transformation and upgrading and the crucial role of digital technologies. Data is reshaping the economic structure and social operation mode as a new production element. Innovating and applying digital technologies are decisive means to improve development quality and efficiency and switch the driving force for economic growth. In the meantime, Fintech faces unprecedented development opportunities. Deepening digital transformation will make financial services more convenient and efficient and create more personalized solutions. It will also bring new opportunities and challenges for Fintech.

First, financial institutions can leverage data to optimize decision making. Big data analysis and AI technologies can improve risk management and decision-making accuracy to provide customers with more suitable products and services. Second, Fintech's application lowers service costs and expands the scope of the services. Financial institutions can effectively reach more customers through digital channels and advance the development of inclusive finance. More importantly, Fintech can spur the development of green finance. Intelligent technologies can be applied to improve resource allocation and promote environmental protection to achieve sustainable development. With in-depth innovation and application of digital technologies, commercial banks are launching more Fintech-empowered online services and products. Banks can better understand customer needs and provide personalized services, enhancing customer experience and loyalty. In addition, commercial banks can exploit advanced data analysis tools and technologies to effectively identify and manage risks, protecting themselves from potential financial risks.

> Digital technology is a key driver for social development. It has brought broad development space and unprecedented challenges for commercial banks. Commercial banks must seize the opportunities to accelerate digital transformation to achieve sustainable development of finance and technology.

However, with expanding data volume and technology application, ensuring data security and users' privacy became a critical challenge for Fintech development. In addition, regulators must constantly update regulatory rules to accommodate the changes brought about by emerging technologies and prevent potential financial risks. Therefore, commercial banks face regulatory compliance challenges, data security, and technological updates. They must adapt to the rapidly changing environment, strengthen data protection capabilities, boost their core competitiveness in the digital era, and achieve comprehensive digital transformation.

3.5

Net value-based wealth management drives banks into a new era of asset management

In 2023, banks broadly concluded the net value-based transformation of wealth management, ushering in a new era of asset management. 2023 saw three major trends in the wealth management market. First, the wealth management market steadily recovered; joint-stock banks' wealth management subsidiaries' vitality heightened. Second, banks' risk appetite chilled with the focus on low-risk products. Third, banks' wealth management businesses were more specialized and inclusive; wealth management companies focused on "the five major tasks" (i.e., technical finance, green finance, inclusive finance, elderly finance, and digital finance) to support the real economy.

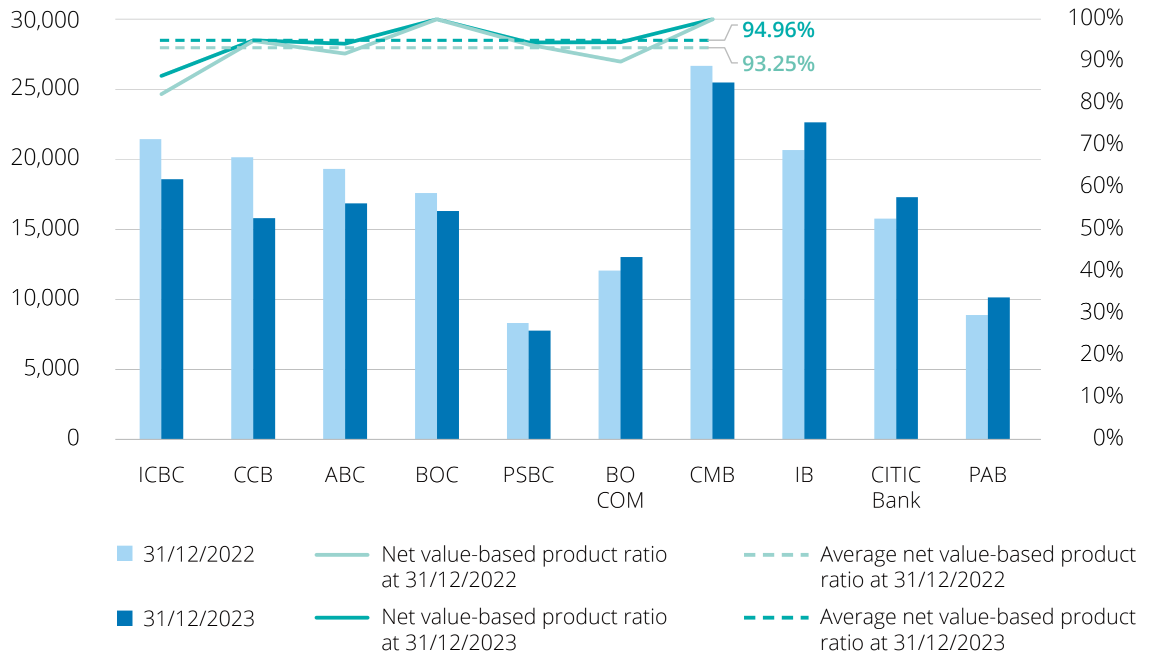
Wealth management market slowly recovered; wealth management subsidiaries' vitality heightened

In 2023, as the "redemption" wave in the wealth management market faded and the bond market strengthened, the wealth management market steadily improved. According to the *Annual Report on China Banking Wealth Management Market (2023)* released by the China Banking Wealth Management Registration & Custody Center, by the end of 2023, the scale of existing banking wealth management products was RMB26.80 trillion, down 3.07% year-on-year. According to the Asset Management Association of China, by the end of 2023, the net value of publicly-offered funds totaled RMB27.60 trillion, more than the banking weal management product scale. By the end of 2023, the scale of net value-based wealth management products reached RMB25.97 trillion, accounting for 96.93%, up 1.46 percentage points from the beginning of the year.

In 2023, the ten domestic commercial banks' scale of weal management products was RMB16.39 trillion, down 4.11% year-on-year. IB, CITIC Bank, and PAB did not disclose the data of net value-based products, while the rest of the domestic banks' net value-based products, on average, accounted for 94.96%, up 1.71 percentage points year-on-year. CMB and BOC had 100% net value-based products.

Figure 1: Wealth Management Product Scale and Net Value-based Product Ratio at the End of 2023 and 2022

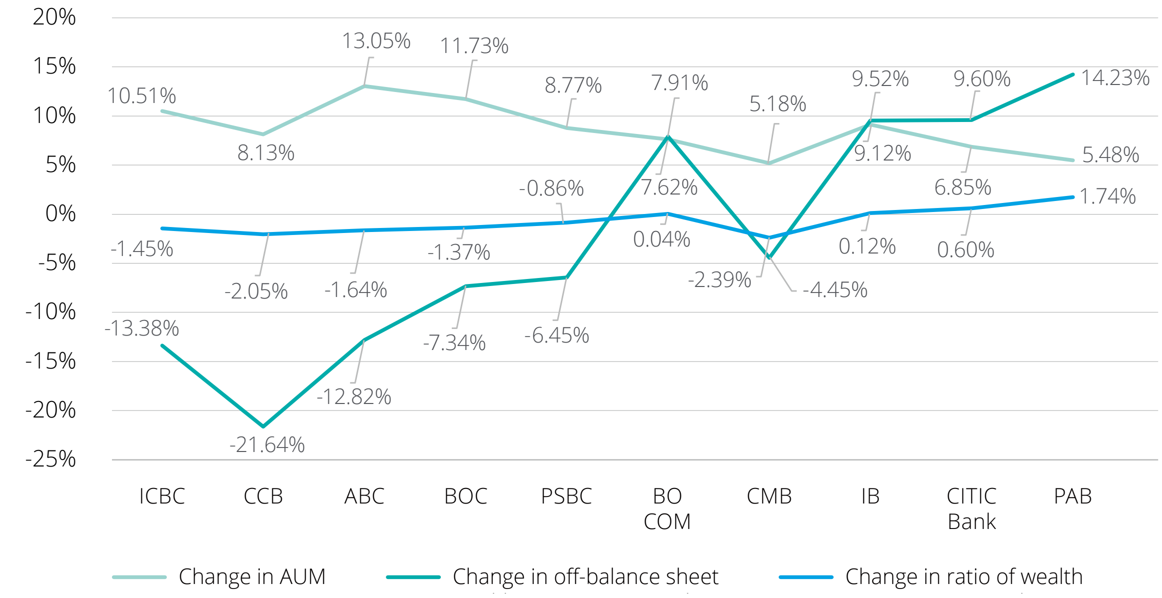
Unit: RMB100 million



Note: The financial data were sourced from the banks' 2023 and 2022 annual reports. IB, CITIC Bank, and PAB did not disclose the data of net value-based products.

Joint-stock banks' wealth management scale exceeded that of state-owned banks in 2023. Specifically, CMB's, IB's, and CITIC Bank's wealth management product scales were RMB2.55 trillion, RMB2.26 trillion and RMB1.73 trillion, respectively. Among the state-owned banks, BOCOM's wealth management scale expanded slightly, but the others contracted remarkably; CCB's scale decreased by 21.64%; ICBC's and ABC's scales fell by more than 12%. Some joint-stock banks' wealth management scales swelled. Joint-stock banks took the top three places in terms of growth rate. PAB's wealth management scale grew significantly by 14.23%, followed by CITIC Bank's 9.60% and IB's 9.52%. Joint-stock banks valued broadening the consignment channels and actively explored new business opportunities, so their wealth management businesses were scaled up. According to the *2023 Banking Wealth Management Consignment Review* released by PYStandard, IB Wealth Management, CMB Wealth Management, and BOCOM Wealth Management had 1,034, 910, and 778 new products under consignment, respectively, outmatching other banks.

Figure 2: Changes in AUM, Off-Balance Sheet Wealth Management Scale, and Wealth Management Product Ratio in AUM Recorded at the End of 2023



Note: The financial data were sourced from the banks' 2023 and 2022 annual reports; AUM = deposit balance + wealth management product scale

The ten domestic banks' AUM growth remained stable. At the end of 2023, their average AUM growth rate was 8.64%. Their customer deposits grew faster than the AUM, with an average rate of 9.52%. Regarding the AUM structure, state-owned banks' average deposit and wealth management proportions were 93.12% and 6.88%, respectively. Generally, state-owned banks' wealth management scale was small. On average, joint-stock banks' wealth management accounted for 25.14% of their AUM. IB recorded the highest wealth management proportion of 30.27%. As the wealth management concept becomes increasingly popular, banks' wealth management business will be critical to driving the AUM. Therefore, banks are vigorously increasing the proportion of wealth management business in the AUM.

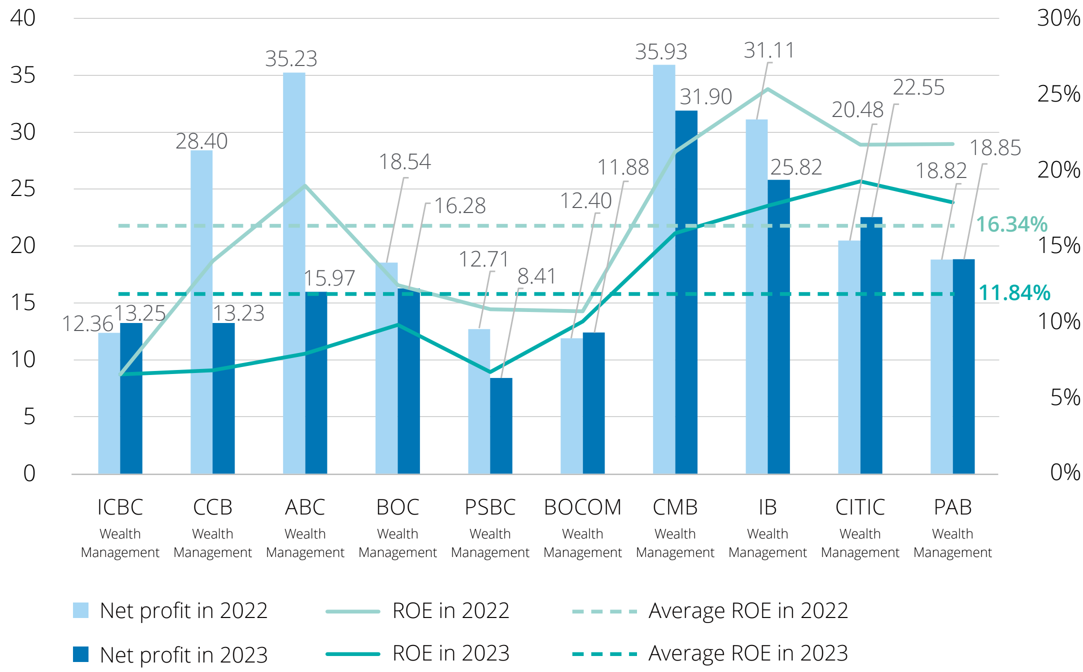
Banks' income did not increase despite the rising number of wealth management subsidiaries

In 2023, banks slowed establishing wealth management subsidiaries. By the end of 2023, 31 wealth management companies were founded, of which six were established by state-owned banks, 11 by joint-stock banks, eight by city commercial banks, one by rural commercial bank, and five were joint ventures. On 1 January 2024, CZBank Wealth Management was approved for establishment. Hence, all 12 national joint-stock banks had a wealth management subsidiary. According to the *Annual Report on China Banking Wealth Management Market (2023),* by the end of 2023, wealth management companies' product scale reached RMB22.47 trillion, up 1.01% year-on-year, accounting for 83.85% of the total wealth management market scale.

In September 2023, the ratio of financial products with net value falling below RMB1 in total financial products rose again due to the bond market fluctuations. Banks' wealth management products were less appealing to investors. However, publicly offered funds outperformed wealth management. Most wealth management companies' net profits significantly declined due to the stock and bond market shocks. In 2023, the net profits of the ten domestic banks' wealth management companies decreased by 20.76% (their 2022 net profits grew by 18.07%). CCB Wealth Management's and ABC Wealth Management's net profits fell by over 50%. Expect for ICBC Wealth Management, the ROEs of the other nine banks' wealth management companies decreased. The ten wealth management companies had an average ROE of 11.84%, down 4.5 percentage points from 2022's 16.34%. ABC Wealth Management recorded the largest ROE decline of 11.05%. Although the wealth management companies showed stable operational performance, they failed to generate satisfactory income for investors. According to the *Annual Report on China Banking Wealth Management Market (2023)*, the wealth management market cumulatively generated RMB689.1 billion of revenue for investors in 2023, down 20.67% from 2022's RMB880 billion. Specifically, banking institutions contributed RMB173.9 billion of investors' revenue, down 46.22% year-on-year, and wealth management companies contributed RMB524.2 billion, up 0.85% year-on-year. Wealth management companies increased, but their net profits dropped. According to Guosen Securities' analysis, the net profit decline can be attributed to the short duration of the wealth management products, insufficient high-yield assets, and agent banks' strong bargaining power.

Figure 3: Wealth Management Subsidiaries' Net Profit and ROE Ratio in 2023 and 2022

Unit: RMB100 million



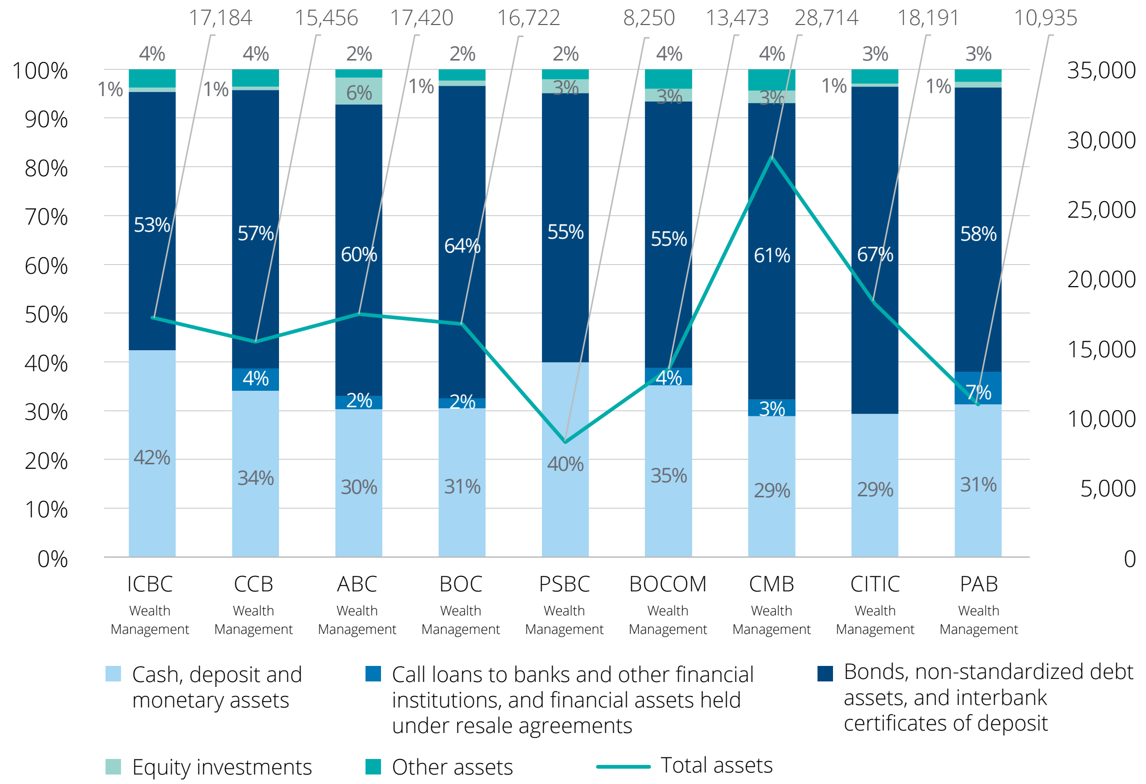
Note: The financial data were sourced from the banks' 2022 and 2023 annual reports.

As wealth management companies emphasized net value-based wealth management, market competition entered a new stage. Improving investment management capabilities to satisfy investors' diverse preferences will be the key to maintaining profitability and ROE growth. Banking wealth management's investments are generally conservative due to the conventional banking asset management culture and weakened investors' risk appetites.

According to nine wealth management subsidiaries' business performance reports, their investments still concentrated on low-risk cash and debt assets, with debt assets accounting for the highest proportion. The nine wealth management subsidiaries' debt asset investments accounted for 58.87% on average, up 7.85 percentage points from 2022's 51.02%; their average proportion of cash asset investments was 33.56%. In 2023, wealth management companies and investors pursued stable income, so the proportion of equity products dropped. The nine wealth management subsidiaries' investments in equity assets, on average, accounted for 2.00%, down from 2022's 2.40%.

Figure 4: Balance of Wealth Management Products by Investment Categories (under the Penetrating Principle) at the End of 2023

Unit: RMB100 million



Note: The financial data were sourced from the wealth management subsidiaries' performance reports for the second half of 2023. IB Wealth Management did not release such a report.

Impacted by the upsurge of financial product redemption, wealth management companies prioritized deploying low-risk and low-fluctuation products. However, equity investment is an irresistible trend. Banking wealth management will guide more funds into the equity market. Wealth management companies must strengthen investment research, systems & mechanisms, products, and channels, building strong investment research ability and a long-term equity investment research system to boost the equity investment scale and proportion. Wealth management companies may increase equity investments in sci-tech enterprises that align with the supply-side structural reform and financing structure optimization, and expand fixed-income investments in non-investment grade bonds and debt assets. In the meantime, they should follow the policy guidance to promote the third pillar of old-age insurance. In addition, wealth management companies shall improve stratified investor services and enhance investor education to guide investors to look at market changes comprehensively, treat net value fluctuations of wealth management products rationally, and cultivate long-term investment habits.

Standardized product performance presentation; policy-encouraged private pension plan; intensified regulation

In 2023, the wealth management market players and regulators jointly promoted the steady development of wealth management businesses. With the implementation of the new asset management regulations, the supervision over banking wealth management was tightened to maintain stable market growth.

In January 2023, the *Circular on Matters Concerning Regulating the Management of the Cash Management Category of Wealth Management Products* jointly issued by CBIRC and PBC came into effect. It aims to regulate the business operations of cash management products and prevent disordered growth of non-standard products and risk accumulation to stabilize market expectations and promote standardized and sustainable business development.

In May 2023, the NAFR and its Asset and Wealth Management Institution Supervision Department were officially established. This department undertakes off-site monitoring, risk analysis, and regulatory evaluation of trust, wealth management, and insurance asset management companies. It indicated that regulators would pay more attention to implementing penetrating supervision over asset management products. This will enhance transparency within the asset management sector, boost investors' confidence, and facilitate stable financial market operations.

In November 2023, the China Banking Association released the *Code of Conduct for Presenting Historical Performance of Wealth Management Products*. It raised more requirements for product performance presentation. For example, except for cash management products, companies must present at least one month's performance for all other products; For wealth management products with an operation period between one and six years, companies must provide the performance information in all fiscal years since the products launch. Wealth management products' historical performance is crucial for investors' decisions. Regulating historical performance presentations is conducive to fully disclosing information and exposing risks to ensure investors' right to know, promote the healthy development of the wealth management industry, and foster a fair, reasonable, and orderly market environment.

Prudential management, investor protection, compliant operation, and risk control are fundamental to advancing wealth management businesses and will be the regulatory focus. The continuous improvement of regulatory systems, mechanisms, and guidelines will drive the sustainable development of the wealth management industry.

Old-age wealth management has broad development space in an increasingly aging society and will be a pillar business of wealth management companies. China has introduced a series of policies to support old-age finance since 2022. In April 2022, the General Office of the State Council issued the *Opinions on Promoting the Development of Private Pensions*, marking a new era for developing the third pillar of old-age insurance. In November 2022, the CBIRC released the *Circular on Issuing the Interim Administrative Measures for the Private Pension Business of Commercial Banks and Wealth Management Companies*, urging commercial banks and wealth management companies to develop private pension business in a compliant manner and maintain the people-centeredness of financial work to substantially meet people's diversified old-age financial demands and promote the sound development of the third pillar.

On February 10, 2023, the first batch of private pension wealth management products was released. ICBC Wealth Management, ABC Wealth Management, and PSBC Wealth Management have launched seven public-offering, net value-based private pension products. According to the *Annual Report on China Banking Wealth Management Market (2023)*, by the end of 2023, six wealth management companies issued 23 private pension products, amassing sales of over RMB1.9 billion; Specifically, eight were issued by ICBC Wealth Management, five by BOC Wealth Management, four by ABC Wealth Management, three by PSBC Wealth Management, two by CCB Wealth Management, and one by BlackRock CCB Wealth Management; 17 sales banks opened over 280,000 private pension accounts for investors.

Strict regulation has propelled banks to intensify compliance management of wealth management. This is conducive to solidifying the concept of "putting internal controls first and adhering to the compliance orientation" in the wealth management industry, forming an excellent industrial ecosystem, and promoting healthy competition and high-quality development. Policies will continually drive the stable development of the private pension wealth management business, creating a sound ecosystem and market environment to promote high-quality development of the old-age insurance system and bring more satisfactory financial services.

Table 1: Wealth Management Regulations Issued between 2021 and 2023

Time	Issued by	Policy
May 2021	Former CBIRC	*Interim Measures for the Management of the Sale of Wealth Management Products by Wealth Management Companies*
June 2021	Former CBIRC, PBC	*Circular of the People's Bank of China on Matters Concerning Regulating the Management of the Cash Management Category of Wealth Management Products*
September 2021	Former CBIRC	*Circular on Launching the Pilot Program of Old-age Wealth Management Products*
September 2021	Ministry of Finance	*Provisions on Accounting Treatment Concerning Asset Management Products (Draft for Comment*
December 2021	Former CBIRC	*Administrative Measures for Liquidity Risks of the Wealth Management Products of Wealth Management Companies*
May 2022	Ministry of Finance	*Provisions on Accounting Treatment Concerning Asset Management Products*
August 2022	Former CBIRC	*Administrative Measures for the Internal Control of Wealth Management Companies*
December 2022	Former CBIRC	*Circular on Issuing the Interim Administrative Measures for the Private Pension Business of Commercial Banks and Wealth Management Companies*
November 2023	China Banking Association	*Code of Conduct for Presenting Historical Performance of Wealth Management Products*

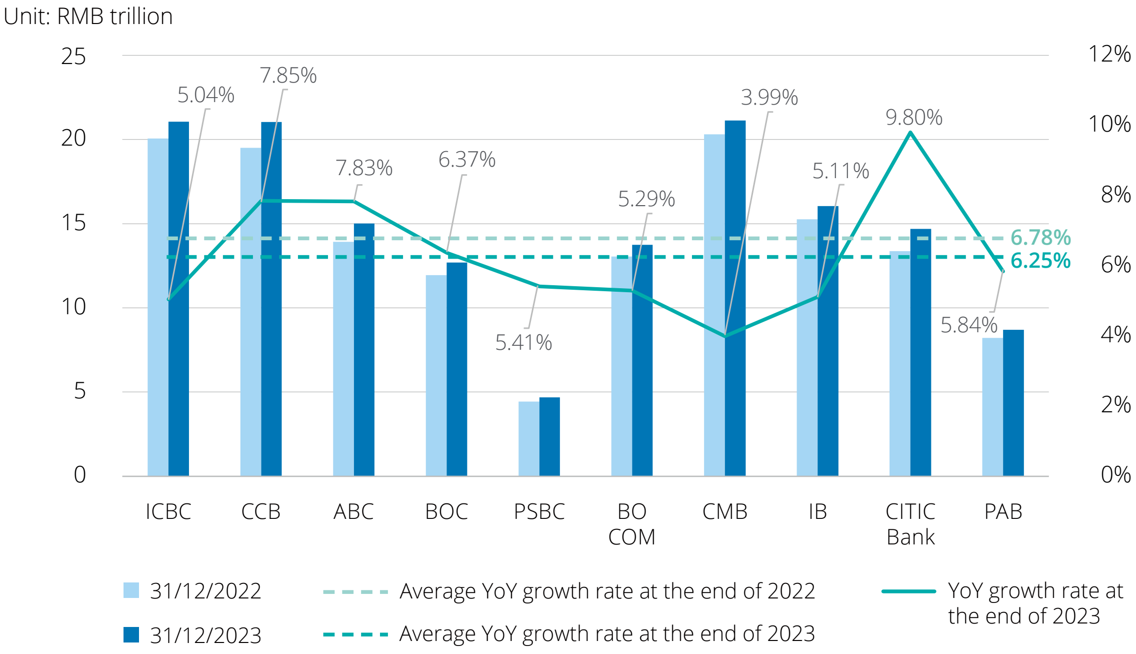
Assets under custody expanded rapidly to release the value of custody service platforms

Benefiting from the rapid development of asset management businesses, banks' assets under custody (AUC) maintained rapid growth. As part of the wealth management value chain, custody services have become the key driver for commercial banks' light banking-oriented transformation.

As of the end of 2023, the ten domestic banks' AUC totaled RMB148.76 trillion, an increase of RMB8.70 trillion from 2022. Their average growth rate was 6.25%. The six state-owned banks' AUC totaled RMB88.22 trillion, accounting for 59.30% and representing a growth rate of 6.42%; the four joint-stock banks' AUC totaled RMB60.54 trillion, accounting for 40.70% and representing a growth rate of 5.91%.

The top three domestic banks in terms of AUC scale were CMB, ICBC, and CCB. Regarding the development speed of custody services, the top three banks were CITIC Bank, CCB and ABC, with growth rates of 9.80%, 7.85% and 7.83%, respectively.

Figure 5: Scale of AUC at the End of 2023 and 2022



Note: The data were sourced from the banks' 2022 and 2023 reports.

Wealth management market effectively supported the real economy

Under the proactive and net value-based regulatory guidance, banks pursued high-quality development of wealth management, implemented the requirements of "enhancing the political and people-centered nature of financial work," and adhered to integrity and active innovation, continually improving the effectiveness of wealth management serving economic and social development. They deepened transformation to maintain stable and healthy growth of wealth management businesses. According to the *Annual Report on China Banking Wealth Management Market (2023)*, as of the end of 2023, the banking wealth management market size reached RMB26.80 trillion, with 31,100 new wealth management products issued, raising total funds of RMB57.08 trillion and generating a total income of RMB698.1 billion for investors.

In October 2023, the Central Financial Work Conference proposed improving the "five major tasks" of technical finance, green finance, inclusive finance, elderly finance, and digital finance. Banks actively guided wealth management funds to serve the real economy, focusing on the financing needs of quality entities and projects in green, sci-tech innovation, infrastructure, and energy industries.

Table 2: Banks' Asset and Wealth Management Viewpoints

Bank	Viewpoint
ICBC	Leveraging professional investment advantages to improve the quality and efficiency of the real economy. ICBC Wealth Management continuously strengthened the major assets allocation and diversified investment capabilities, deepened investment-research linkage, and explored high-quality assets. It increased investment in sci-tech innovation, advanced manufacturing, green and low-carbon development, and key regions, and kept increasing the funding for modern industry systems and their proportion.
CCB	The Group adhered to the mega wealth management strategy and focused on the four major strategic axes of "inclusiveness, intelligence, professionalism, and dedication" to actively build a wealth management system that integrates operational mechanisms, service models, and systems and platforms. It deepened the coordination between parent banks and subsidiaries and the cooperation with high-quality institutions in the market. It built an investment research supporting system covering full time sequences and all types of assets, a selection mechanism focusing on high-quality institutions and products, and a professional transmission chain spanning "investment research – investment advisory – customer service."
ABC	The bank further promoted the development strategy of "One Main Body with Two Wings" for retail banking (namely, customer construction as the main body and unswervingly promoting broad wealth management and digital transformation as the two wings), continuously improved the ability to provide refined services for customers, strengthened broad wealth management and digital transformation, and strove to enhance services in areas such as rural revitalization, new urban residents, and old-age finance.
BOC	Actively serving the real economy and managing wealth for people. The bank provided individual and institution investors with local and foreign currency products of all asset categories, diversified investment strategies, and services covering the entire investment cycle. This included constantly innovating and issuing products with various characteristics and themes, such as "green," "elderly care" and "technology."
PSBC	The bank faithfully implemented regulatory requirements, including the new asset management regulations, and strategically and proactively explored the path for wealth management transformation. Upholding the mission of "serving the people, creating wealth value, supporting the real economy, and promoting industrial upgrade," the bank followed the standards of first-class asset management companies to build public offering-oriented investment research, high-standard internal control, product-centered risk management, and stable, efficient and intensive operation supporting systems, embarking on the new phase of regulated, professional and market-oriented wealth management.
BOCOM	The bank strove to meet the needs of residents for wealth management and asset allocation, constantly enhanced the capacity for high-quality custody products, and expanded the public fund custody business. Regarding the "three pillars" of old-age insurance, the bank increased custody products and optimized services to consolidate its advantage in the pension custody business. By focusing on key industries encouraged and supported by national policies, such as sci-tech innovation as well as "specialized and innovative" enterprises, the bank improved the comprehensive service system and expanded the custody business for private equity funds.
CMB	In terms of wealth management products, the bank integrated the advantageous resources of its partners, attached importance to the fundamental stable products, and captured periodic investment opportunities. Regarding fund products, the bank increased the offering of short-term debts and "fixed income+" products to improve customers' experience in comprehensive income. In terms of insurance products, the bank continued to enrich its product offerings, covering major insurance types such as pension, health, accident, and property, to satisfy customers' needs.

Bank	Viewpoint
IB	Regarding investment research, the bank implemented the "region + industry" strategy, deepened prospective studies of fundamentals, strengthened technology system construction, promoted data-based research tools, and improved data standardization to create a professional, industrialized, and platform-based modern investment research system to accommodate the investments of massive funds of the wealth management businesses. In addition, the bank issued "fixed-income + preferred shares" and other low-volatility wealth management products with embedded options to enrich the product lines.
CITIC Bank	The bank strictly followed the national strategic guidance, and stayed committed to its original aspiration of serving the real economy. It continued to develop Fintech, focused on promoting the virtuous circle among technologies, industries and finance, and scaled up support for technical innovation sectors such as new energy, new materials, new generation of IT, and biomedicine. It vigorously developed green finance and explored the policy-supported green investment opportunities. It actively served the national pension finance strategy and built a one-stop elderly care service system. It also strengthened efforts in developing inclusive wealth management, expanding sales to customers in counties, towns and villages.
PAB	Ping An Wealth Management actively fulfilled its social responsibility, leveraged its professional advantages in asset management, and guided wealth management funds to serve the real economy. In 2023, the balance of capital invested in the real economy exceeded RMB260 billion, and the investments in ESG and green financial assets exceeded RMB49 billion.

In 2023, China's banking wealth management market strengthened as the early-year wave of redemptions subsided. The market saw a more profound transition to net value-based products and more diverse development. New policies were introduced to regulate the sector's growth. Fixed-income products became popular, significantly aiding the market's recovery. Wealth management institutions actively launched new products and aligned with China's strategic goals by focusing on rural revitalization, green industries, inclusive finance, financial services for the elderly, and digital technology.

The market is expected to grow steadily, with institutions adopting more distinct development strategies. Wealth management companies must prioritize investor education, enhance financial technology capabilities, expand sales channels, optimize product offerings, and improve investment management skills. They should focus on consolidating critical tasks and research and development in crucial areas to drive the transformation and upgrading of wealth management services.

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Hot Topics

4.1 The key to success for banks in the era of foundation models

Trends insight: identification of key words

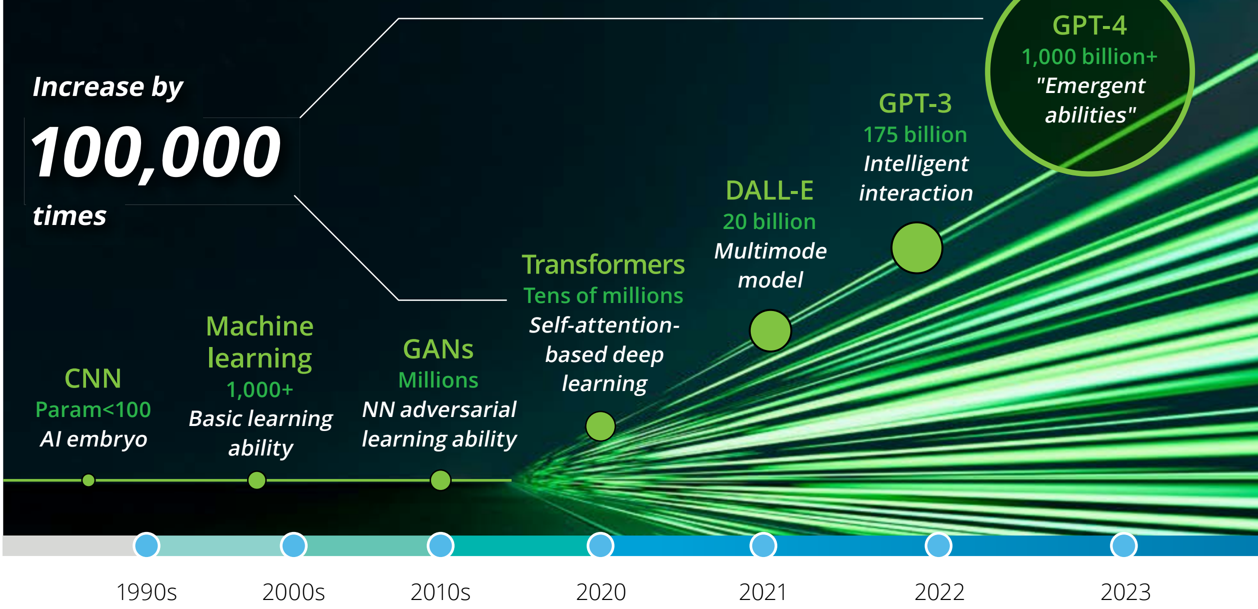
A foundation model is an advanced, large-scale machine learning model trained on vast datasets, capable of being fine-tuned for various applications. The rise of foundational models has significantly accelerated AI development. A notable example is OpenAI's release of ChatGPT in November 2022, a conversational AI based on the GPT-3.5 architecture. ChatGPT has quickly gained popularity, attracting one million users within five days, showcasing the broad appeal and potential of foundation models. By March 2023, OpenAI launched GPT-4, a more powerful iteration capable of solving complex problems, performing logical reasoning, engaging in multi-turn dialogues, and creating innovative designs.

In February 2024, OpenAI unveiled Sora, an innovative generative AI capable of producing videos from text, marking a new milestone in AI technology.

Essence of intelligence – changes in parameters

The essence of AI lies in its ability to mimic human brain functions, with parameters serving as the "memory cells" of the brain. A higher number of parameters in a foundation model signifies more learning from training data, enhancing the model's complexity and intelligence. Over time, the number of parameters has expanded significantly. Around 2010, models with millions or even tens of millions of parameters were regarded as "foundation models."

Figure 1: Changes in Parameters of Foundation Models



Source: Deloitte Analysis

Data expansion – modal changes

Models are often associated with sensory modes that represent human communication and perception channels, primarily including natural language (text data), visual signals (images or videos), and auditory signals. In a narrow sense, foundation models typically refer to natural language processing (NLP) models that use deep learning algorithms to understand and generate text. For instance, Microsoft's BEiT-3 model, launched in August 2022, enables image, text, and image-text modeling, marking a significant step towards multimodal AI. As a result, the definition of foundation models has expanded to encompass computer vision (CV) and multimodal models. The transition from GPT-3.5 to GPT-4 further advanced foundation models from single-mode to multimodal capabilities. This cross-mode integration enables foundation models to understand and generate content across various formats, making them applicable to more complex scenarios.

Application expansion – product changes

General-purpose foundation models, trained on public literature and internet data, can handle multiple tasks and are applied across various industries. However, they require sufficient professional knowledge and industrial data to be effective. Industry-specific foundation models, built upon general models and trained with specialized knowledge, excel in addressing professional challenges within specific fields.

Companies involved in technology, internet, and AI, start-ups, and scientific research institutions are actively developing these foundation models. In 2023, "Large-scale AI Models" ranked among the top ten buzzwords in Chinese media. By the end of the year, 61 generative AI services had registered with the Cyberspace Administration of China, a number that rose to 117 by March 2024.

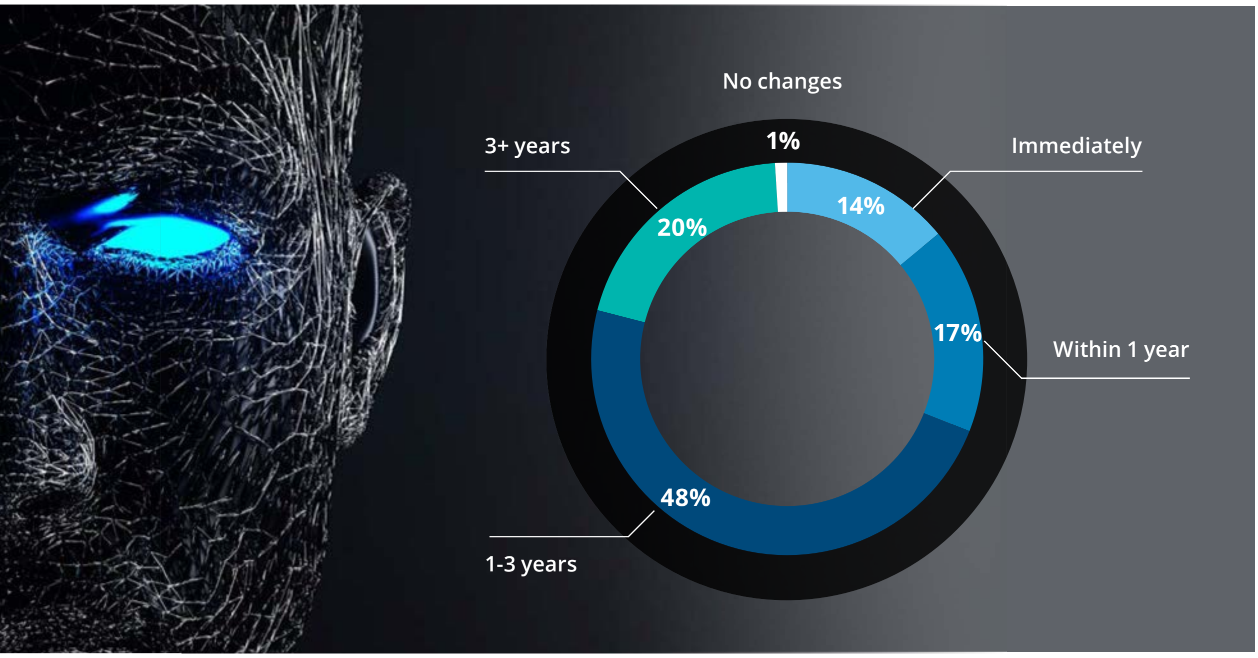
Following the trends: new technology / direction / opportunities / challenges

The potential of foundation models makes them extensively applicable in the banking sector, but there are challenges.

Increased input in foundation models

In the fourth quarter of 2023, Deloitte conducted the "State of Generative AI in the Enterprise" survey, covering 16 countries and regions across six industries. Deloitte interviewed more than 2,800 directors and C-suite executives, who possessed varying levels of GAI expertise

Figure 2: Executives Survey: When Will GAI Transform the Enterprise



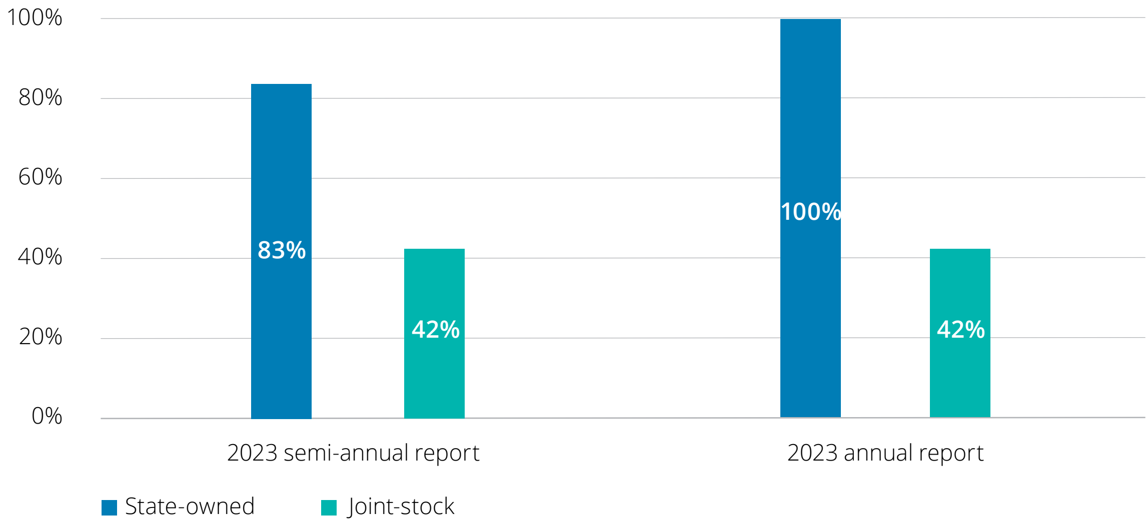
Source: Deloitte Analysis

and were involved in GAI projects within their organizations. The survey revealed that 73% of participants regarded adopting AI and foundation models as critical to their businesses, identifying foundation model technology as essential for securing a competitive advantage. Additionally, 31% of respondents anticipated that foundation models would revolutionize the industry within the coming year.

The banking sector is a pioneer in applying foundation models, as it possesses all the necessary elements: vast data resources, diverse application scenarios, efficient organizational structures, advanced technical capabilities, robust capital reserves, and an open-minded approach. Annual reports serve as a crucial tool for banks to communicate their financial status, business performance, and corporate image to shareholders, investors, and the public. These reports are a barometer for banks' business strategies and development plans. The 2022 and 2023 annual reports of six state-owned banks, 12 joint-stock banks, and 43 listed banks[1] in China revealed their active engagement in the foundation model race.

ABC was the first to outline its foundation model development strategy in its annual report. The 2022 report emphasized Fintech innovation, with a commitment to exploring the technical trends of large-scale AI models and their applications in finance. In March 2023, ABC introduced ChatABC, the financial industry's first ChatGPT foundation model application. Fifteen banks mentioned their foundation model initiatives in their 2023 semi-annual reports, including ICBC, ABC, BOC, BOCOM, PSBC, CMB, PAB, IB, CZBank, CITIC Bank, Bank of Beijing, Bank of Shanghai, Bank of Ningbo, Zhongyuan Bank, and Bank of Changsha. CCB and China Minsheng Bank disclosed their foundation model investments and applications in their 2023 annual reports for the first time.

Figure 3: Proportion of State-owned and Joint-stock Banks Mentioning Foundation Model in Annual Reports



Source: Banks' 2023 semi-annual and annual reports

Note: SPD Bank, Hua Xia Bank, China Bohai Bank, and China Guangfa Bank had not yet released their 2023 annual reports as of the date this report was completed.

[1] Six state-owned banks: ICBC, ABC, BOC, CCB, BOCOM, and PSBC; 12 joint-stock banks: CMB, SPD Bank, CITIC Bank, China Everbright Bank, Hua Xia Bank, China Minsheng Bank, China Guangfa Bank, IB, PAB, CZBank, Hengfeng Bank, and China Bohai Bank; 43 listed banks: Bank of Beijing, Bank of Changsha, Bank of Shanghai, Bank of Ningbo, Zhongyuan Bank, Bank of Jiangsu, Bank of Zhengzhou, Bank of Chongqing, Bank of Qingdao, Chongqing Rural Commercial Bank, Shengjing Bank, Huishang Bank, Bank of Tianjin, Bank of Jinzhou, Harbin Bank, Zhongyuan Bank, Bank of Gansu, Jiangxi Bank, Bank of Jiujiang, Bank of Guizhou, Jinshang Bank, Weihai City Commercial Bank, Luzhou Bank, Guangzhou Rural Commercial Bank, Jiutai Rural Commercial Bank, Dongguan Rural Commercial Bank, Bank of Nanjing, Bank of Guiyang, Bank of Chengdu, Qilu Bank, Bank of Suzhou, Xiamen Bank, Shanghai Rural Commercial Bank, Zijin Rural Commercial Bank, Suzhou Rural Commercial Bank, Wuxi Rural Commercial Bank, Jiangyin Rural Commercial Bank, Bank of Ruifeng, Changshu Rural Commercial Bank, Rural Commercial Bank of Zhangjiagang, Qingdao Rural Commercial Bank, and Bank of Lanzhou

Challenges in commercial application

Although enterprises showed enthusiasm for foundation models, management is not confident in foundation models' commercial application, according to Deloitte's report. Deloitte's survey showed that only 26% of executives believed AI and foundation models could create significant competitive advantages for enterprises over the short term. A similar situation existed in China's banking sector – foundation model investments started a year ago but have not yet brought significant upgrades for employees or customers; no "Killer" AI application has emerged. Deloitte believes China's banking sector faces various challenges in promoting innovative application of cutting-edge technologies, primarily reflected in the following three contradictions.

Quick start but slow progress

The banking sector, a prime example of a data-intensive industry, has shown a keen interest in foundation model technology. In May 2023, the first domestic financial foundation model was unveiled, outpacing the introduction of such models in the medical, manufacturing, and government affairs sectors. By October 2023, there were over 240 domestic foundation models with more than one billion parameters, including 20 financial foundation models, which exceeded the count in the medical, scientific research, industrial, and media sectors.

Despite this, the progress of financial foundation models has been sluggish. For instance, only 17 out of 59 Chinese listed banks had initiated building foundation models in 2023, representing a penetration rate of 29%. Many small and medium-sized banks adopted a "wait and see" approach, anticipating clearer regulatory guidance and more mature technology and products. Additionally, the application of foundation models in financial institutions is still in the early stages of exploration, R&D, and trial. Commercial banks, in particular, are exercising caution, with nearly 70% of their foundation models in the phases of internal testing, joint modeling, and capacity building.

High evaluation score but low practical effect

Since the onset of the foundation model competition in 2023, domestic AI models, both general-purpose and specialized, have been rigorously compared to GPT-3.5 and GPT-4, achieving progressively higher evaluation scores. A notable example is the C-Eval open-source evaluation in September, where Intellifusion's "Yuntianshu" foundation model secured the top position, with GPT-4 in tenth place and Zhipu AI's ChatGLM-6B sixtieth. Nonetheless, the deployment of domestic foundation models remains underwhelming. Among the top 100 products on the Apple China region App Store, none are domestic foundation model products, whereas ChatGPT consistently ranks within the top ten in the U.S.

Chinese language models undergo evaluation using the C-Eval, CMMLU, and AGIEval test suites, which gauge their proficiency in Chinese language, as well as their large-scale multi-task comprehension and human-like abilities. Foundation models can achieve high scores through training tailored to the evaluation criteria, thanks to the availability of open-source evaluation datasets. However, a lack of a universally accepted dataset for evaluating financial application experience presents a challenge. This absence hampers the accurate assessment of financial models, thus affecting their iterative development and evolution.

Numerous applications but few sophisticated scenarios

"Foundation model + application scenario" is the true materialization of enterprises' digital and intelligent development. Banks lead in GAI application. As of the end of March 2024, 17 domestic banks' 2023 semi-annual and annual reports disclosed their GAI applications, covering various front-, middle- and back-office scenarios.

Yet, financial foundation models are primarily used to enhance operational efficiency. The majority of applications are in middle-and back-office functions such as customer service, risk management, operations, and IT. In contrast, there are limited applications in critical front-office tasks like customer engagement and marketing. Front-office use is typically confined to basic capabilities, such as content creation and material production. Furthermore, foundation models facilitate only simple interactions, primarily through dialogues. Consequently, they have not been deeply integrated into business processes to drive transformation and fully unlock their commercial potential.

Figure 4: Domestic Listed Banks' GAI Applications in 2023

	Front-office			Middle-office				Back-office		
	Customer	**Marketing**	**Market**	**Product**	**Customer service**	**Risk control**	**Operation**	**Technology**	**HR**	**Finance**
ICBC			Investment research assistant		Service knowledge operation assistant, intelligent complaint handling	Rules and regulations Q&A	Outlet staff's business Q&A assistant, digital employee			
CCB		Marketing content generation, voice-based visit record generation, image generation	Investment research summary and comment generation		Intelligent service ticket generatio	Customer (list companies) survey report generation				
ABC					Service knowledge base - recommending answers and assisting with search		Assisting with search in knowledge base			
BOC							Internal knowledge service	Coding assistance		
BOCOM					Customer service Q&A		Office assistant			
PSBC				Customizing card surface	Digital customer service agent, intelligent complaint classification	Intelligent legal assistant	Counter business knowledge Q&A, Enterprise WeChat conversation insight	R&D assistant (assisting with demand analysis/UI design/code generation/ system testing)		
平安银行 PAB	Interactive data analysis, unstructured data insight	Profile picture generation, holiday poster generation, personalized marketing content creation			Consumer protection and complaint reduction	Retail loan review and approval, AI car examination	Digital operation management			
CITIC Bank							Intelligent operation	Code generation		
Bank of Beijing						Enterprise information query, compliance Q&A	Automatic process			
Bank of Shanghai							Knowledge retrieval Q&A	Code assistance		

Source: 2023 semi-annual and annual reports, and public information

Key to success: refining core factors to address changes

Banks, regardless of their current status of applying the foundation model technology, should actively embrace the technical development trends and grasp the opportunities to succeed in the AI revolution. Deloitte's AI investigation reports showed that amid the upsurge in the foundation model technology, enterprises' core competitive factors are strategic positioning, verticalized scenarios, talent teams, risk management, and data foundation. Therefore, banks must refine the core factors to adapt to new technology and succeed flexibly.

1 Core factor 1: strategic positioning – compass for development

Banks must build a well-organized strategic guiding system to gain the upper hand in the competitive market and ensure long-term development. They must have a clear development vision to unite the whole bank to elevate data and AI capabilities and cultivate differentiated competitiveness. In the meantime, in-depth research on market demand and technical development trends and keen insights into industry dynamics are the keys to maintaining advanced strategies and dealing with rapid changes. Optimizing the organizational structure and blueprinting application scenarios facilitate the execution of strategies, which is a decisive step to materialize banks' visions.

2 Core factor 2: verticalized scenarios – impetus for business transformation

The application of foundation models is by no means achieved overnight. It is a "micro innovation" driven by constant efforts. Banks should analyze the core business processes and examine each link to identify the hidden "pain points" affecting operating efficiency and quality enhancement. They should foresightedly conceive the ideal effect of foundation model empowerment to capture the application scenarios that seem to be trivial but can exert far-reaching effect. Banks should incorporate foundation models into every aspect of the business processes through diversified ways of interaction, thereby progressively promoting the transformation of the entire business model.

3 Core factor 3: talent team – foundation for construction

Banks must gather and cultivate a talent team that knows the industry well and masters cutting-edge technologies to steadily promote the application of foundation models, because an excellent team of technical talent can continuously optimize algorithms, which are the cornerstone of AI models. In addition, a talent team of diverse backgrounds can gain deep insights into business processes, industrial pain points, and data performance, thus reducing the communication costs of applying foundation models and actualizing foundation models' commercial value.

4 Core factor 4: risk management – guarantee for steady progress

Banks must proactively manage risks and comprehensively evaluate foundation models to effectively address risks and challenges while enjoying the technology's dividends and ensure the industry's health and stable development. To address the foundation model-related issues such as low fault tolerance, regulatory requirements, data privacy protection, and data security, banks should integrate AI risk control into their comprehensive risk management systems, strengthen communication and cooperation with regulators, and attend closely to the requirements of laws and regulations. In addition, as a "black box" technology, foundation models' non-transparent decision-making process may cause data abuses and models' bias. Therefore, banks should build a foundation model evaluation system to improve models' transparency and interpretability to ensure safe and effective application.

5 Core factor 5: data foundation – cornerstone for ability improvement

The exploitation of high-quality public data has approached saturation, and the increase in foundation models' computing power has stalled. Consequently, the primary force propelling improvements in foundation models' performance has shifted to deep mining and effectively utilizing extensive, high-value private data. In data-centric industries like banking, constructing a robust "data barrier" is crucial to transforming data assets into an indispensable competitive edge. The main challenge lies in systematically integrating internal semi-structured and unstructured data, extracting latent knowledge, and performing data cleansing, labeling, and enhancement to augment data quality, accessibility, and compliance, thereby bolstering the data supply for foundation models. Furthermore, banks must establish a forward-looking, enterprise-level knowledge operation system, with a knowledge graph as its core tool, to facilitate structured organization, correlation, and reasoning of knowledge, thereby enhancing the adaptability and precision of foundation models' reasoning abilities.

The foundation model era has arrived with frequent technical innovations. Disruptive powerful foundation models have galvanized enterprises' development and innovation vitality. In the long run, deep integration of foundation model technology into banks' digital construction will be the general trend. Banks are currently exploring ways to leverage the opportunities and build a "foundation model +" empowering system.

Banks should actively embrace this era, unswervingly enhance their core competitiveness, and vigorously promote the industry to be more efficient, intelligent, and safer, creating a new chapter of development.

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Internal control compliance 3.0 – building compliance data assets and configurable management systems

4.2

Background

In March 2021, the Fourth Session of the 13th NPC deliberated and adopted the Outline of the 14th Five-Year Plan (2021-2025) for National Economic and Social Development and the Long-Range Objectives Through the Year 2035 of the PRC, confirming the development direction of digital transformation. In January 2022, the CBIRC issued the *Guiding Opinions on the Digital Transformation in Banking and Insurance Sectors*. It put forward guiding ideology, basic principles, and work objectives, raising higher standards and more specific requirements for banks' digital transformation.

Regulators continued to strengthen risk management for financial institutions. More regulatory rules were introduced, which became increasingly strict and extensive. Banks face enormous challenges in internal control and compliance management. With rising internal control and compliance costs, banks urgently need to transform the traditional internal control and compliance management mode. In practice, banks' digital transformation, especially the building of an intelligent internal control and compliance system, involves management mechanisms, business processes, technical support, and talent teams. This requires banks to scientifically make strategic plans, comprehensively examine data assets, and flexibly establish functional modules. In the meantime, they must provide solid technical support and foster knowledge transfer capability to execute the plans.

Table 1: Internal Control and Compliance Regulations Introduced between 2021 and 2024 for the Banking Sector

Year	Document	Issued by	Document No.
2021	*Fintech Development Plan (2022-2025)*	PBC	Yin Fa [2021] No. 335
	Circular on Launching the Campaign of the "Year of Internal Controls and Compliance Management" of Banking and Insurance Industries	Former CBIRC	Yin Bao Jian Fa [2021] No. 17
	Circular on Issues Concerning Enhancing Internal Control over the Capital of Central Enterprises	SASAC	Guo Zi Fa Jian Du [2021] No. 19
	Guidelines for Corporate Governance of Banks and Insurance Institutions	Former CBIRC	Yin Bao Jian Fa [2021] No. 14
2022	*Circular on Paying Higher Attention to Key Audit Areas to Control Audit Risks and Further Effectively Identify Financial Frauds*	Ministry of Finance	Cai Kuai [2022] No. 28
	Circular on Further Increasing the Effectiveness of Internal Control over the Financial Reporting of Listed Companies	Ministry of Finance CSRC	Cai Kuai [2022] No. 8
	Guiding Opinions on the Digital Transformation in Banking and Insurance Sectors	Former CBIRC	Yin Bao Jian Ban Fa [2022] No. 2
	Administrative Measures for the Internal Control of Wealth Management Companies	Former CBIRC	Order of CBIRC [2022] No. 4
2023	*Circular on Strengthening the Internal Control Construction for Listed Companies and Enterprises Intending to Go Public and Promoting Internal Control Evaluation and Audit*	Ministry of Finance CSRC	Cai Kuai [2023] No. 30
	Circular on Matters Relating to Improving the Construction and Supervision of the Internal Control Systems of Central Enterprises in 2023	SASAC	Guo Zi Ting Jian Du [2023] No. 8
	Administrative Measures for Insurance Sales Behavior	NFRA	Order of NFRA [2023] No. 2
	Administrative Measures for Prevention and Control of the Risks of Being Involved in Criminal Cases Faced by Banking and Insurance Institutions	NFRA	Jin Gui [2023] No. 10
	Measures for the Operational Risk Management of Banking and Insurance Institutions (Draft for Comment)	NFRA	N/A
	Administrative Measures for Personal Information Protection Compliance Audits (Draft for Comment)	Cyberspace Administration of China	N/A

Year	Document	Issued by	Document No.
2024	*Administrative Measures for Fixed Asset Loans*	NFRA	Order of NFRA [2024] No. 1
	Administrative Measures for Working Capital Loans	NFRA	Order of NFRA [2024] No. 2
	Administrative Measures for Personal Loans	NFRA	Order of NFRA [2024] No. 3
	Circular on Enhancing Full Lifecycle Financial Services for Technology Enterprises	NFRA	Jin Fa [2024] No. 2

Intelligent internal control and compliance 3.0

Breaking the traditional management logic to transform internal control and compliance management

In recent years, the core management of banks has transitioned from overseeing and counterbalancing links to real-time dynamic monitoring. Internal control and compliance now contribute to value creation, efficiency improvements, early risk warnings, and broader management scope, propelling banks toward their second growth curve. As explained in "Public Finance: The Evolution of Commercial Banks," this second curve commences when the current growth trajectory nears its peak, providing banks with ample resources and time to navigate the initial development phase. Consequently, the second curve is poised to take over when the first one starts to decline.

Transitioning the traditional internal control and compliance management to the intelligent Internal Control Compliance 3.0 era entails

1. Implementing full life cycle compliance management to broaden the scope of internal control and compliance oversight.

2. Continuously optimizing processes and organizational structures to enhance the efficiency of internal control and compliance management.

3. Effectively capturing internal control and compliance knowledge to swiftly respond to market demands and regulatory changes.

4. Reducing human resource inputs to decrease costs.

The differences between traditional and intelligent internal control and compliance management mainly lie in working mode, data scope, risk monitoring, data source, and inspection method.

Figure 1: Internal Control and Compliance Management: Traditional vs Intelligent

	Traditional	Intelligent
Working mode	Valuing processes	Valuing data & automation and knowledge & insights
Data scope	Limited scope for data acquisition	Real-time full access to all relevant internal data; integration of internal and external regulations
Risk monitoring	Post-event inspection	Whole-process risk monitoring; Knowledge-based risk perception system
Data source	On-demand data acquisition; Ununified data standards and processes; Poor reusability	Automatic acquisition; Unified data resource pool; Good reusability; Combined regulatory knowledge with data
Inspection method	Inspection method subject to inspectors, thus requiring them to have rich experience	Internal control and compliance assistants conducting inspections with a fixed working mode; Generating internal control and compliance knowledge; Integrating with the digital system; Strong continuous learning ability

Source: Deloitte's *Intelligent Compliance Solves Content Audit Problems*

Banks have explored various ways to improve their internal control and compliance management through digital transformation. Regarding control management, banks can build an "internal control engine" connecting various business systems to obtain data from the systems through the interfaces, verify data rules, and send the verification results to the systems. This will link the businesses, processes, and data of the business systems to achieve constant real-time monitoring and visible monitoring results. Regarding compliance management, banks can leverage their massive compliance data to develop an AI consulting function to assist compliance and business personnel in interpreting regulatory requirements, regulatory punishment, and internal regulations and giving early warning based on the identified internal and external compliance problems; it can provide professional support throughout the compliance management process.

Multiple ingredients propel the transformation of internal control and compliance

The rapid development of information technology, deepening of informatization, and continuous improvement of industrial standards provide favorable conditions for the transformation of internal control and compliance management, to achieve intelligent risk monitoring, identification, evaluation, prevention, and disposal. Big data resources are solid foundations for constructing an intelligent internal control and compliance system; Fintech is an important enabler; talents are executors; business departments are key support.

Figure 2: Ingredients Underpinning Intelligent Internal Control and Compliance

Ingredients

Big data

Data provides the **basis** for internal control and compliance analysis, including various types of internal and external data that form a knowledge base.

Fintech

Intelligent technology is a critical **enabler** for the transformation to intelligent internal control and compliance, which effectively assists employees in achieving efficient, comprehensive and accurate internal control and compliance supervision.

Talents

Talents are **executors** of intelligent internal control and compliance management; They can maximize the efficiency of the intelligent system by virtue of their professionalism in internal control and compliance and their intelligent technology sensitivity.

Business dept

Business departments are **key support** for internal control and compliance management. They contribute significantly to the closed-loop construction of internal control and compliance management and the building of internal control and compliance scenarios.

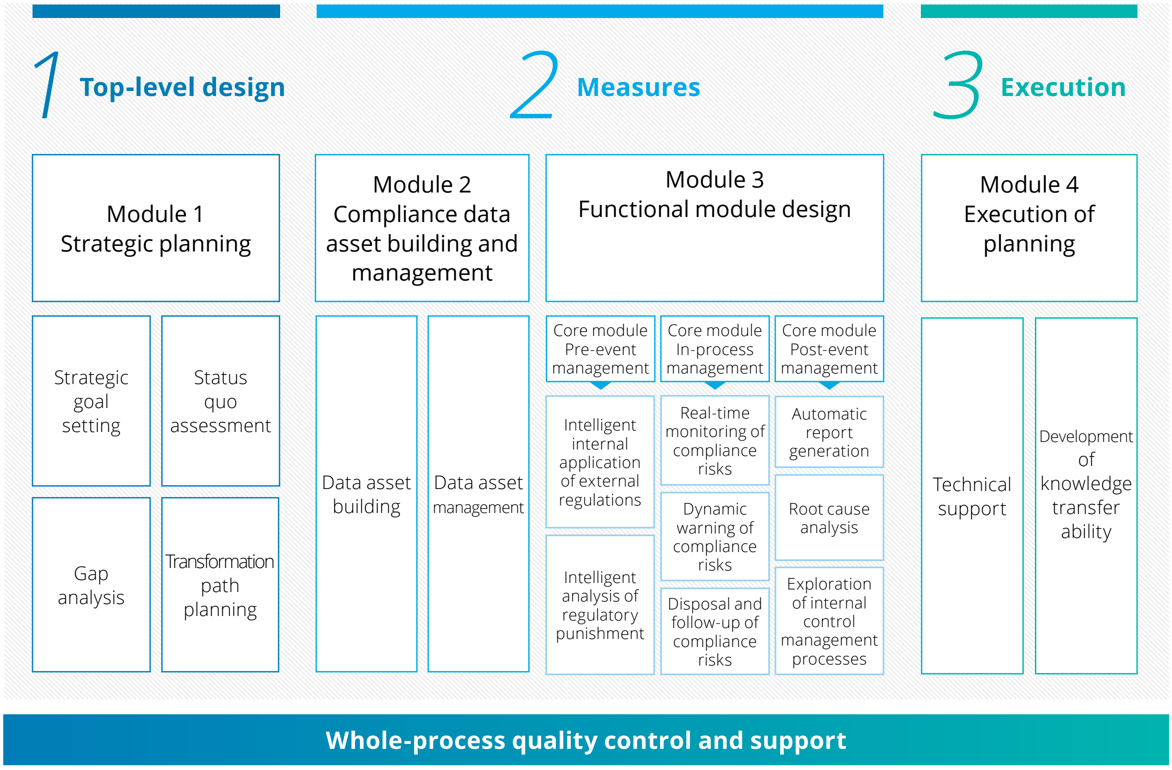
Source: Deloitte Analysis

Overall plan for intelligent internal control and compliance

Intelligent planning is essential for transforming internal control and compliance, requiring close integration with all business segments to promote business operations.

Considering the status quo of banks' internal control and compliance management and relevant regulatory requirements, Deloitte developed a construction framework for an intelligent internal control and compliance system to assist financial institutions in transforming to intelligent internal control and compliance management.

Figure 3: Intelligent Internal Control and Compliance System Construction Framework



Source: Deloitte Analysis

Top level design: blueprinting

Setting strategic goals and assessing the current status of internal control and compliance management; analyzing the transformation gap to confirm the key points and difficulties of constructing an intelligent internal control and compliance system and working out the transformation path.

Key point 1: setting strategic goals

- Setting the overall strategic goal and stage-specific goals

Key point 2: assessing the current status

- Learning about the current status to evaluate the internal control and compliance management capabilities

Key point 3: analyzing the transformation gap

- Analyzing the gap between the current state and intelligent state / industrial benchmark / optimal status

Key point 4: working out the transformation path

- Confirming the key construction content, resource input, responsible personnel, and implementation plan

- Prioritizing the construction content based on the construction costs, complexity, value contribution, and application difficulty, to advance the intelligent compliance system construction in a planned and progressive manner

Key measures

Compliance data asset building

Leveraging automatic data management tools to comprehensively manage data assets and understand data in a more intuitive, agile and intelligent way, thus laying the foundation for financial institutions' diversified compliance data applications

Key point 1: Checking data assets
- Thoroughly examining available compliance data assets and confirming the scope of compliance data

Key point 2: Five-dimensional diagnosis based on application scenarios
- Assessing the current status and analyzing the gap of compliance data asset management from the perspectives of regime, organization, activity, value, and technology

Key point 3: Construction and articulation of label system
- Building a basic label system to support data structuralization; collecting, sorting and classifying various information; clarifying the relationship between different types of information

Key point 4: building of knowledge graph
- Building a knowledge graph and storing it in the graph database to visually and efficiently display data and data relationships

The primary data assets of internal control and compliance functions (such as compliance risk, anti-money laundering management, internal control, operational risk, case prevention, employee behavior management, consumer protection, and internal control evaluation) include relevant external regulations, internal rules, risk lists, monitoring indicators, risk events, periodic reports, and special reports.

Figure 4: Example – Basic Data Assets of internal Control and Compliance

Procedures	Internal use of external regulations	Identificat	Control	Monitorin	Disposal	Report Example
Compliance risk	External regulations Internal rules	Risk lists Regulatory tickets	Risk control measures Annual work plan	Risk monitoring indicators Indicator monitoring records	Risk event disposal scheme Risk event disposal results	Compliance management annual report Special reports of risk events ......
Anti-money laundering management	External regulations Internal rules	Risk lists Regulatory tickets	Customer due diligence requirements Suspicious transaction monitoring criteria	Suspicious transaction monitoring records Blacklists	Risk event disposal scheme Risk event disposal results	Anti-money laundering management annual report Special report of risk events ......
Internal control	External regulations Internal rules	Process inventory sheets Risk lists	Internal control manuals Flow charts	Risk monitoring indicators Indicator monitoring records	Risk event disposal scheme Risk event disposal results	Internal control annual report Internal control training report ......
Operational risk	External regulations Internal rules	Risk lists Regulatory tickets	Risk control measures Operation standards and processes	KPI risk indicators RCSA	Risk event disposal scheme LDC	Risk management annual report Special reports of risk events ......
Case prevention	External regulations Internal rules	Risk lists Regulatory tickets	Risk control measures Annual work plan	Monitoring indicators Indicator monitoring records	Disposal of events Rectification scheme	Case prevention annual report Special reports of cases ......
Employee behavior management	External regulations Internal rules	Risk lists Regulatory tickets	Risk control measures Spectrum of abnormal behavior characteristics	Abnormal behavior monitoring indicators Indicator monitoring records	Employees' violation records Disposal of risk events	Employee behavior management annual report Special reports of risk events ......
Consumer protection	External regulations Internal rules	Risk lists Regulatory tickets	Consumer protection review opinions for product launch Consumer protection review opinions for marketing and publicity	Customer information collection records Customer information use records	Complaint handling and filing materials Disposal of major events	Consumer protection annual report Complaint annual report ......
Internal control evaluation	External regulations Internal rules	Evaluation scope Evaluation criteria	Risk control matrix Flow charts	Working papers Confirmation of facts	Internal control defect lists Rectification scheme	Internal control evaluation annual report Rectification report ......

Source: Deloitte Analysis

Compliance data asset management

Data asset management is a task of continuous and systematic operation that requires long-term investment. A data asset management framework shall be built encompassing strategy management, organizational structure, institutional system, platform tools, and a long-term mechanism. The framework covers data standards, quality, security, development, model, value evaluation, data asset circulation and operation, and serves as a guarantee mechanism for accumulating and applying data assets.

Figure 5: Supporting Measures for Compliance Data Asset Management

Strategy management

- **Strategy planning:** Identifying stakeholders; evaluating capabilities and confirming long-, medium-, and short-term plans; identifying key business areas, data scope and activity priorities; evaluating the scale of invested resources
- **Strategy execution:** Assessing the gap; breaking down strategic plans; formulating phased execution routes; determining responsible persons and participants; carrying out process management
- **Strategy evaluation:** Establishing a data strategy evaluation mechanism and model; determining the target completion rate, cost rationality, and measurement of benefits; periodical summary; adjusting and optimizing the strategies and management process

Organizational structure

- **Decision-making level:** I.e., the data decision maker (the CIO or CDO of the organization), who is responsible for making data asset management decisions, strategies, and evaluation mechanisms
- **Organizing and coordinating level:** I.e., the virtual data asset management committee, which is responsible for overall management and coordination of resources and deciding specific evaluation indicators for data asset management
- **Data asset management level:** I.e., the data asset management office, which is responsible for building and maintaining the organizational structure, formulating a data asset management institutional system and long-term mechanism, regularly inspecting and summarizing data asset management, and reporting to the organizing and coordinating and decision-making levels
- **Execution level:** I.e., business departments and IT department, which are responsible for implementing data asset management of data projects and participating in relevant activities

Institutional system

- **General regulation:** Clarifying the objectives, organizations, and responsibilities of data asset management from the perspectives of the decision-making and organizing and coordinating levels, which covers data strategies, roles & responsibilities, and accountability system
- **Management measures:** Clarifying the objectives, principles, processes, supervision, evaluation, and optimization of data asset management activities from the perspective of the data asset management level
- **Execution rules:** Clarifying the standards, norms, and processes for implementing various activities based on the relevant requirements of the management measures from the perspective of the data asset management and execution levels
- **Operation specifications:** Further specifying the work procedures, operation manuals, and template files to be followed from the perspective of the data asset management execution level

Platform tools

- **Planning:** Establishing a data accountability system by arranging roles and executing authority management, which supports demand management and evaluation of data asset status (including data asset scale, distribution, reliability, and security)
- **Execution:** Increase and modification of standards and norms, data development, task arrangement, task operation and maintenance
- **Inspection:** Tracking data model consistency, application of standards and norms, processing of problem data, and data security response results
- **Improvement:** Marking problems one by one and generating improvement suggestions, checking and gathering data to form a knowledge base, quantifying the improvement process, and executing closed-loop management

Long-term mechanism

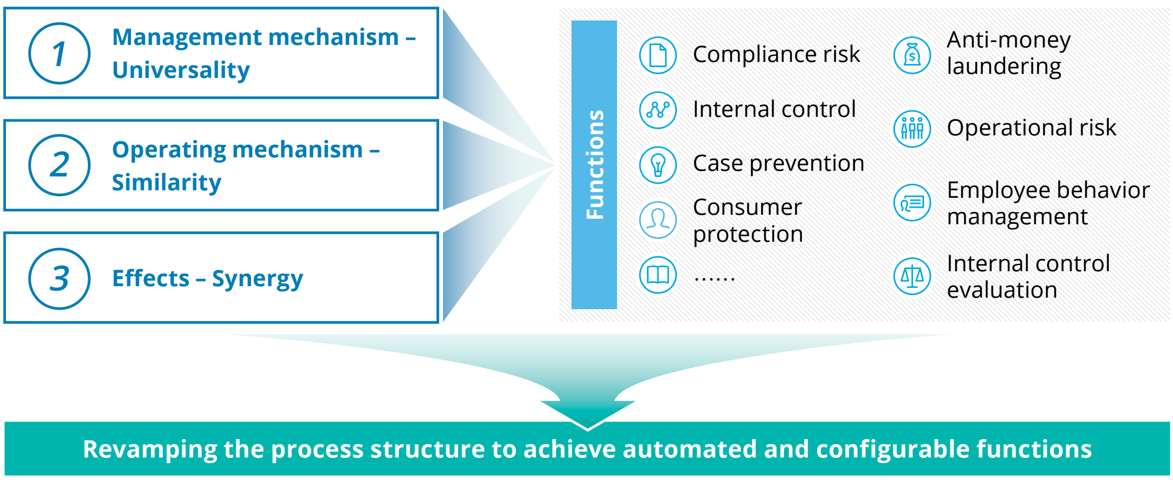
- **Training and publicity:** Setting training courses, internal and external exchange of experience, and sharing excellent cases
- **Performance appraisal:** Designing evaluation indicators, organizing regular inspections, and checking related salaries
- **Incentive mechanism:** Establishing development paths, incorporating the paths into the existing promotion mechanism, and setting relevant awards
- **Audit mechanism:** Setting up an audit team to audit job responsibilities, institutional systems, and data activities.
- **Data culture:** Optimizing data service modes, improving data literacy, and cultivating digital skills

Data source: CCSA TC601's *Data Asset Management Practice White Paper (V6.0)*

Function module design

The structure of internal control and compliance functions, including compliance risk, anti-money laundering management, internal control, operational risk, case prevention, employee behavior management, consumer protection, and internal control evaluation, can be re-engineered. These functions share universal management mechanisms, operate with similar processes, and generate synergistic effects.

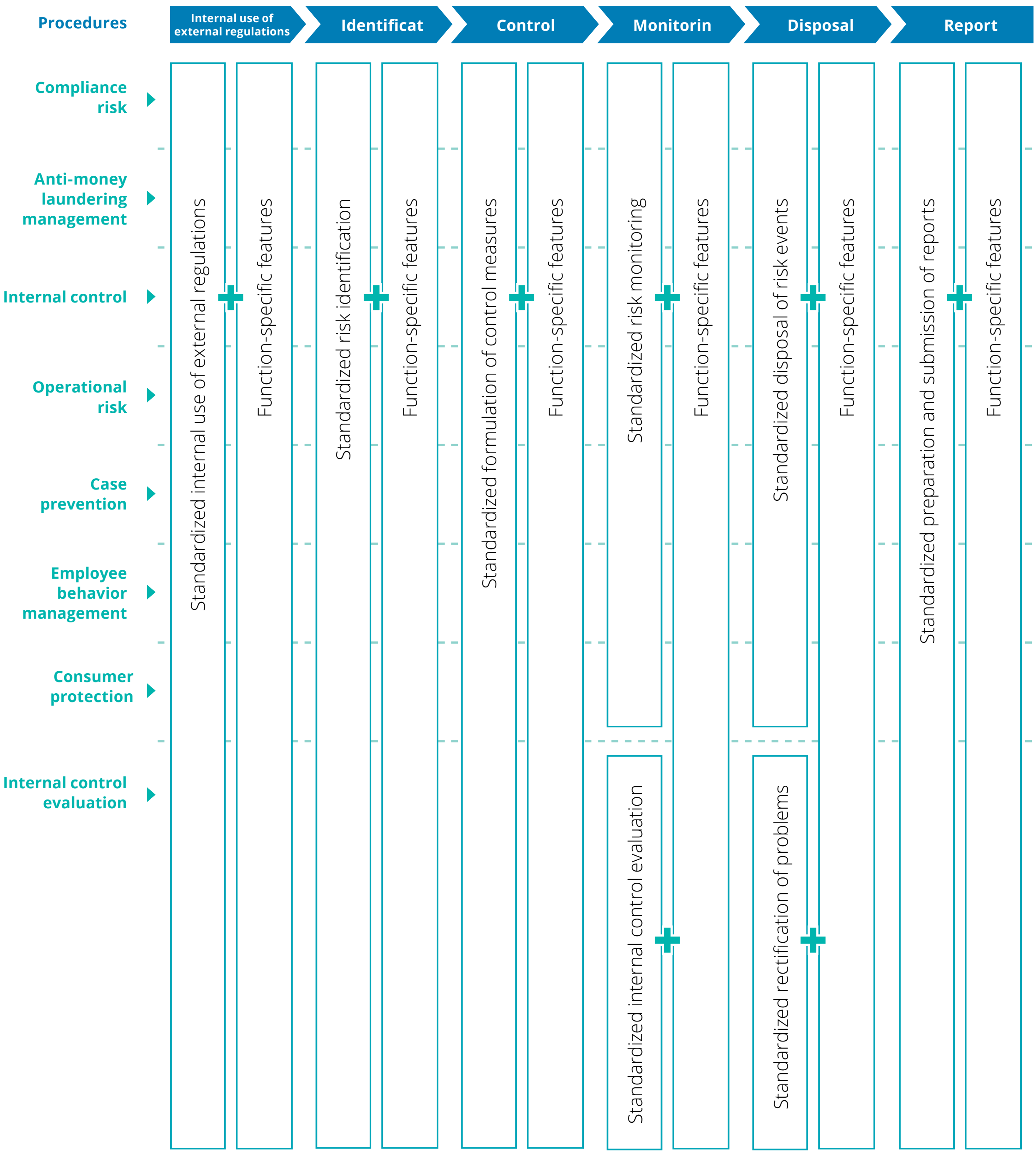
Figure 6: Function Module Design



Before reconstruction: The management tasks of internal control and compliance functions are performed independently. The common processes of similar management links are not integrated, resulting in process redundancy, low efficiency, and waste of resources.

After reconstruction: The management links are sorted out to form standardized processes. Moreover, the management links have function-specific features to meet the regulatory requirements and management needs. Revamping the process structure will improve management efficiency.

Figure 7: Revamped Process Structure



Execution of transformation

Planning and implementation of intelligent internal control and compliance system

The key to banks' successful intelligent transformation of internal control and compliance lies in their ability to provide comprehensive technical guidance and knowledge transfer throughout the process.

Technical guidance for planning and implementation

- Technical guidance plays a core role in implementing the plans for an intelligent compliance system. Banks must monitor the implementation in real-time and comprehensively assess the implementation effects to reform the organizational structure, positioning, team capability model, internal control and compliance system, value and culture concept, and evaluation and incentive mechanism.

Knowledge transfer ability cultivation

- Banks should set up a sound knowledge transfer system for the intelligent transformation to cover work discussion, technical precipitation, training, post-implementation effect evaluation, and regular reviews.

- Banks should make targeted training plans at the different stages of the intelligent transformation, specifying the training content, time, lecturers, methods, and participants, to progressively transfer knowledge.

With the rapid deployment of advanced technologies (such as 5G, cloud computing, AI and IoT) throughout the banking sector, the development of Fintech, and China's financial regulatory and policy orientation, banks will more extensively incorporate technologies into their internal control and compliance management to accommodate their business development and management needs.

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4.3 Interpretation of the interim regulations on accounting treatment for banks' data resources

Regulatory background

On 2 December 2022, the State Council issued the *Opinions on Building Basic Systems for Data to Better Give Full Play to the Role of Data Resources*. On 9 December, the Ministry of Finance issued the *Interim Provisions on the Accounting Treatment Related to Enterprises' Data Resources (Draft for Comment)* ; On 21 August 2023, the *Interim Provisions on the Accounting Treatment Related to Enterprises' Data Resources* (hereinafter referred to as the "Interim Provisions") was officially released, which came into effect on 1 January 2024. The Interim Provisions clarify the applicable accounting standards as well as presentation and disclosure requirements for enterprises' data resources, providing a useful reference for calculation and disclosure of enterprises' data resources and measurement and embodiment of the value of data elements. It demonstrated China's determination to use data as a production factor and promoted the construction of the digital economy governance system. China Appraisal Society, National Data Administration, and the Ministry of Finance subsequently issued relevant guiding policies.

Top-level policy

2 December 2022 "Twenty Provisions for Data" issued

The CPC Central Committee and the State Council issued the *Opinions on Building Basic Systems for Data to Better Give Full Play to the Role of Data Resources*

It proposed: Actively explore feasible paths for including data resources into the balance sheets; expedite the process of including data resources into the balance sheets; provide a strong driving force for releasing data elements' value and market potential.

Drafts for comment

9 December 2022 ***Interim Provisions on the Accounting Treatment Related to Enterprises' Data Resources (Draft for Comment)***

It pointed out that the current accounting treatment for data resources should follow the Accounting Standards of Business Enterprises, and that data resources should be divided into "data resources for internal use of enterprises" and "data resources for external transactions of enterprises" by the way the economic benefits are achieved.

Official release

August 2023 ***Interim Provisions on the Accounting Treatment Related to Enterprises' Data Resources officially released***

It has clarified data resources' recognition scope and applicable standards for accounting treatment and came into effect on **1 January 2024**.

Supporting policy

September 2023 ***Guiding Opinions on Evaluation of Data Assets*** **by China Appraisal Society**

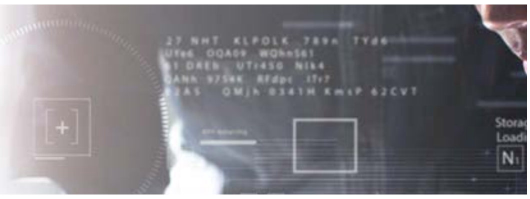
December 2023 ***Data Elements*** **×** ***Three-year Action Plan*** **by National Data Administration**

January 2024 ***Guiding Opinions on Enhancing the Management of Data Assets*** **by Ministry of Finance**

Following the Interim Provisions, enterprises will deal with three major changes for including data resources into the balance sheets.

Three changes

1. **Change in value orientation:** The balance sheet will be one of the tables assessing digitalization. This will drive enterprises' digitalization and construction of data culture.



2. **Change in accounting disclosure:** Ownership confirmation and disclosure are key links. Therefore, banks must confirm the ownership and value of the data resources and help people who use the accounting data understand the disclosed content to enhance the value of financial statement disclosure.

3. **Change in business, data and financial management processes:** The preconditions for converting data into assets include classifying data resources, establishing a milestone mechanism for data resource research and development, and guaranteeing data quality. Therefore, enterprises' business, data and financial management processes will change significantly.

What remained unchanged:

1. **Stable standards:** Data resources shall follow the accounting rules for intangible assets and inventories as well as the current Accounting Standards for Business Enterprises. Such rules and standards remained unchanged.

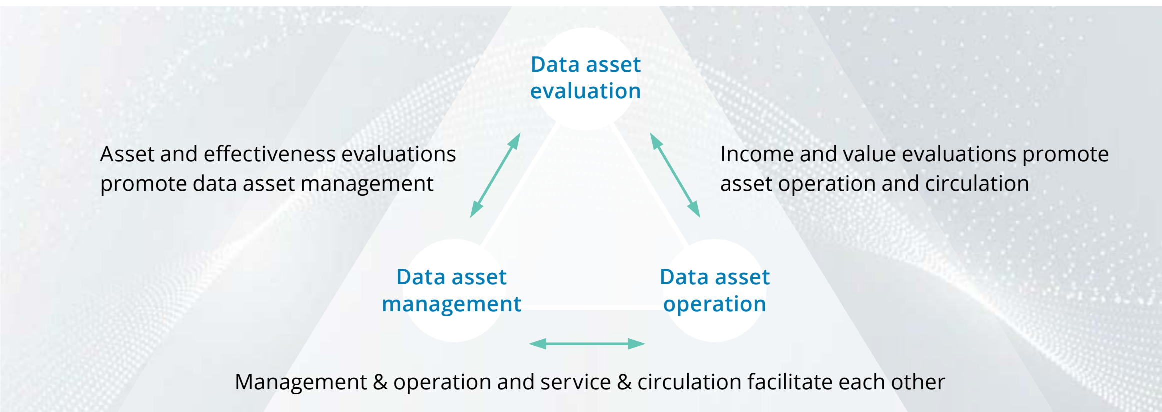
2. **No retroactive adjustment:** The Interim Provisions, effective from 1 January 2024, adopt prospective application, i.e., data resource-related expenses that have been included in profit or loss before the effective date will not be adjusted.

Accounting treatment of data resources – ten core issues and solutions

Positioning of including data resources into the balance sheets

Banks should understand that including data resources into the balance sheets will promote the change of thought from **delivering data to delivering value**, and that enhancement of business value is the ultimate goal of data management. They should sketch a bank-wide value blueprint for data resources. The data architecture will guide and regulate all data assets-related business management activities, forming a management-operation-evaluation trinity system. In addition, the data asset catalog, data security framework, and data quality management scheme established in the early data governance stage will provide an efficient and high-quality advancement path for data assetization.

Figure 1: Evaluation-Management-Operation Trinity System of Data Assets



Relationship between on-balance sheet data assets and data assetization

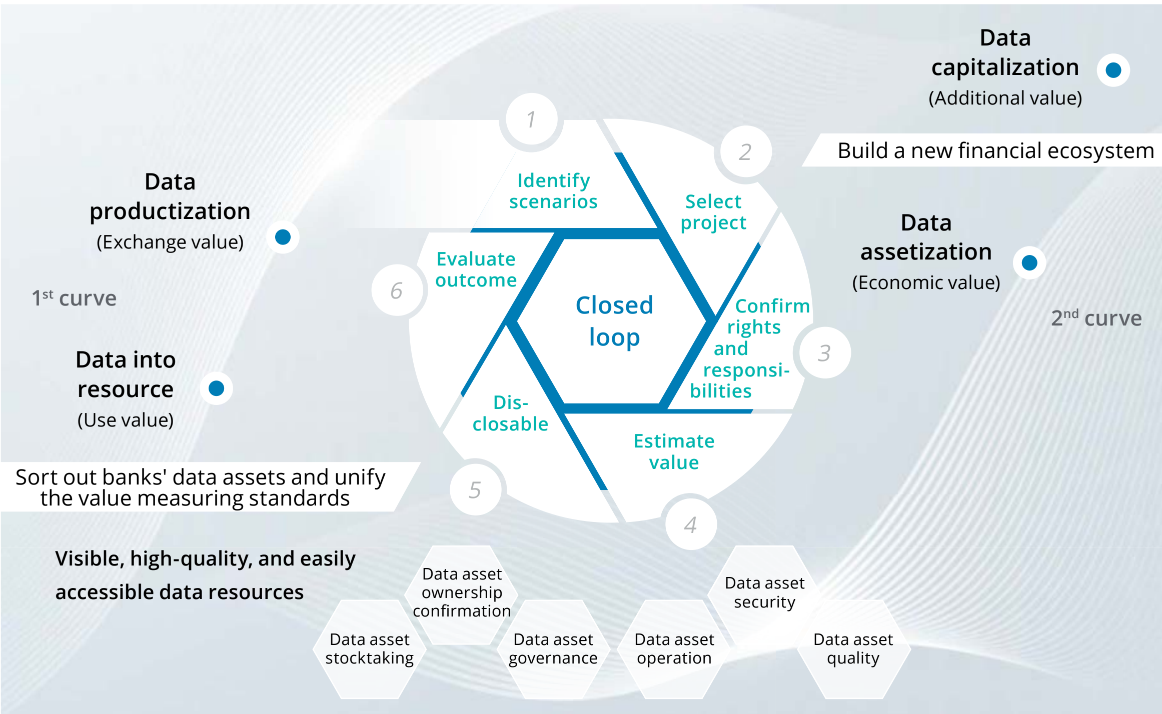
Banks have converted data into resources to tap its use value and productized data to obtain its exchange value. In the future, banks should consider assetizing and capitalizing data to realize its economic value and explore its additional value. This process involves a closed loop and two curves – data assets will go through the first curve, the closed loop, and the second curve.

1. 1st curve: Further regulate data asset management and unify the measurement standards for data value;

2. Closed loop: The management closed loop for including data assets into the balance sheets: identify eligible scenarios, select suitable projects, confirm data rights and responsibilities, estimate data value, determine whether the data is disclosable, and evaluate the quality of data assets to facilitate the optimization of subsequent scenarios. Closed loop management is conducive to banks' identification of data asset quality.

3. 2nd curve: Including data assets into the balance sheet to accelerate data application, monitoring the data assetization process, and facilitating the achievement of strategic business goals. For example, banks conduct multidimensional analyses of business indicators (such as inclusive loan balance and details of commercial loans issued) to generate operation decisions. They can also leverage analysis algorithms and models to generate high-level applications, such as customer lists of fund sales and anti-telecom fraud correlation mining graphs.

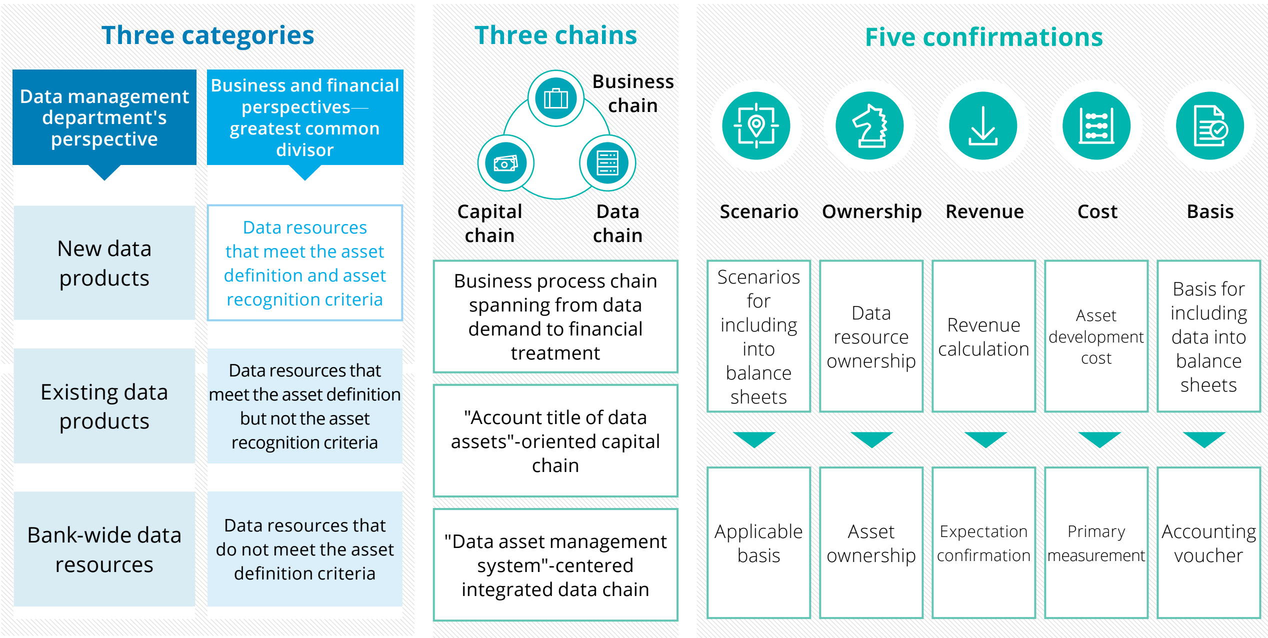
Figure 2: Two Curve and Closed Loop Management of Data Assets



Value and revenue of including data assets into the balance sheets

Integrating data resources into balance sheets represents a pivotal opportunity for banks to achieve data assetization. This step fosters a cohesive understanding of data value and enables monitoring of the intelligent and digital transformation process, thereby propelling strategic development and satisfying shareholders' expectations. This approach also aligns with the "five major tasks" outlined by the Central Financial Work Conference. Including data resources into the balance sheets facilitates banks' precise marketing, product innovation, operation efficiency, risk control, cost management, and establishment of a financial ecological chain. Banks may count data into the balance sheets by the "Three Categories, Three Chains, and Five Confirmations" principle.

Figure 3: "Three Categories, Three Chains, and Five Confirmations" Principle



"Three categories" of data assets

Banks should first sort out their data and recognize bank-wide data resources, existing data products, and new data products. Banks' business, data and financial teams can further recognize the data resources into three categories: 1) Data resources that meet the asset definition and asset recognition criteria; 2) Data resources that meet the asset definition but not the asset recognition criteria; 3) Data resources that do not meet the asset definition criteria.

Integrated business, capital and data chains

Banks' business chain covers the data demand and project initiation, procurement and development, outsourcing, and accounting treatment stages. The capital chain records the capital flow and related expenditures during the formation of data resources. The data chain indicates data attributes, transfer modes, and unified management of data assets. By integrating the three chains, banks will better understand and use data resources.

Scenario, ownership, revenue, cost, and basis confirmation

To include data assets into the balance sheets, banks must: 1) confirm eligible scenarios to acquire applicable basis; 2) confirm the ownership of data resources; 3) confirm revenue – predict the revenue at the beginning of the project and adjust revenue deviation during the project; 4) Confirm costs – determine the sources of asset development costs and record the costs by the sources; 5) Confirm the basis – accurately collect all relevant vouchers to be used as accounting basis.

Recognition and confirmation of data resources

The "Five Confirmations" is an essential task. Ownership, revenue, and cost confirmation is the prerequisite for including data assets in the balance sheets. Data resources must meet the following conditions to be included in the balance sheets: identifiable and possessed or controlled by the bank; their economic benefits are likely to flow to the bank; the application effects are measurable; and the development costs can be reliably allocated.

Determination of data ownership

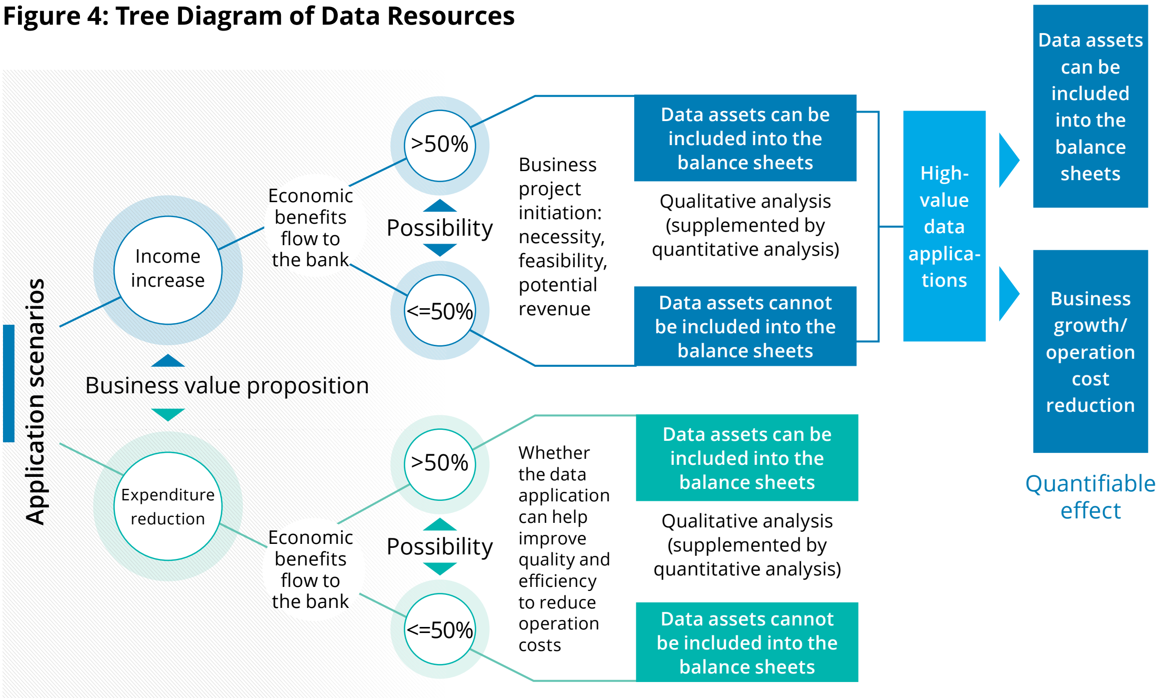
Banks must consider the interactive relationships with other banks to determine data ownership, including: 1) the banks independently generated the data and own the data; 2) the data are generated during collection, input, or interaction between two parties, and their ownership and right-to-use are specified in the relevant certificate of authorization or contract; 3) the data are purchased from a third party and their ownership and right-to-use are specified in the contract.

Banks can track the data sources, check the data assets, control data quality from the source, and examine how the data are obtained to preliminarily identify the data that can be assetized.

Cost measurement of on-balance sheet data resources

It is crucial to consider the possibility of the data resources' economic benefits flowing to the bank. In general, the "likely" standard indicates a probability of over 50%. Banks can analyze the application scenarios and the flow of data resources' economic benefits to determine whether the data can be counted into the balance sheets through a tree diagram.

Figure 4: Tree Diagram of Data Resources



Cost confirmation must be based on reliable measurement. Therefore, we suggest that banks establish a cost system for the development of data projects to allocate costs based on working hour records (similar to the records of working hours, reimbursement, and indirectly apportioned unit labor cost in project management) and keep all evidence of external data purchases such as invoices and contracts.

The servers, lakehouse platforms, basic software, and development tools shared by data asset R&D projects should be reasonably allocated to the projects and accurately included in the cost of data assets.

Accounting treatment and supporting documents for to-be on-balance sheet assets

Account title update

Add "Data resources" under the titles "Inventory", "Intangible assets", and "Development expenses" to support the entry of data assets.

Accounting rule update

1. **Preliminary measurement of intangible assets:** costs that can be directly attributed to usable intangible assets shall be included in the intangible (data resource) costs, and other costs shall be included in the current period's profit or loss; research expenses shall be recognized in the current period's profit or loss, and eligible development expenses shall be recognized as intangible costs.

2. **Subsequent measurement of intangible assets:** Determine intangibles' useful life based on the business model, limits of authority, and update frequency; reasonably amortize the costs; review the useful life and amortization method of intangibles at the end of each year; conduct impairment tests annually; recognize it into impairment loss and make relevant impairment provision if the recoverable amount is less than the book value.

3. **Data resources that empower banks' external services:** if the intangibles' (data resources) useful life is limited, the amortization amount shall be recognized in the current period's profit or loss or the costs of the assets (by the benefit principle). Meanwhile, banks should recognize revenue for the consideration obtained from customers based on the *Revenue Standards.*

Moreover, we suggest that banks keep all evidence for accounting treatment, such as the project initiation report, revenue and cost estimation report, labor cost records, procurement contracts, and reimbursement vouchers.

Financial report and disclosure of data assets

Data assets in financial reports

Banks should present data assets in the balance sheets based on the principle of materiality and their actual situations, and add "Data resources" under the account titles "Inventory", "Intangible assets", and "Development expenses" for the assets confirmed.

Mandatory disclosure

Banks shall disclose data assets in accordance with the accounting standards for intangibles and inventories. Suppose the data asset evaluation results have a significant impact on the financial statements. In that case, banks shall disclose the source of the evaluation basis, the assumption prerequisites and limitations for the evaluation conclusion, the selection of evaluation methods, and the sources, analysis, comparison, and calculation of all crucial parameters.

Voluntary disclosure

Voluntary disclosure covers application scenarios, raw data, processing and maintenance, application status, major transactions, expiration of authority, and limits of authority, among others.

Department collaboration

We suggest banks improve the collaborative mechanism for the data management, information technology, and financial departments. Banks' financial personnel should actively participate in data asset management, cost accounting, and benefit evaluation to accurately include data assets in the balance sheets and generate an industry demonstration effect.

Figure 5: Data Resource Management – Division of Work

Including data assets into the balance sheets

Financial department

- Adding the account title; accounting rules and use instructions;
- Ledger of on-balance sheet data asset and preliminary measurement to ensure adequate measurement basis;
- Subsequent measurement of data assets: decide asset impairment on the balance sheet date, estimate investment in continuous iteration and upgrading, and timely adjust book value;
- Terminating data asset recognition: deciding assets' ownership termination, unavailability, and complete transfer on the balance sheet date; timely terminating recognition of written-off data assets
- Information disclosure: systematically demonstrating the company's data asset R&D, data governance, function of data in business, and other data related matters.

Procurement of data assets

R&D of data assets

Departments with data demands

Procurement of data assets:

- Clarifying the usage scenarios, expiration dates, availability status, and expected revenue of purchased data;
- Assisting in external data sourcing and compliance assessment.

R&D of data assets:

- Raising and discussing data demands; conducting feasibility analysis of data products;
- Evaluating data application scenarios and expected revenue;
- Assisting in economic benefit evaluation.

Data procurement department

- Compliance assessment of purchased data;
- Purchase contract management; specifying the company's data rights, data delivery methods, and other matters.

Data asset R&D department

Procurement of data assets:

- R&D methods, R&D investment, and cost management of purchased data;
- The company's rights, reprocessing, and liquidity management of purchased data.

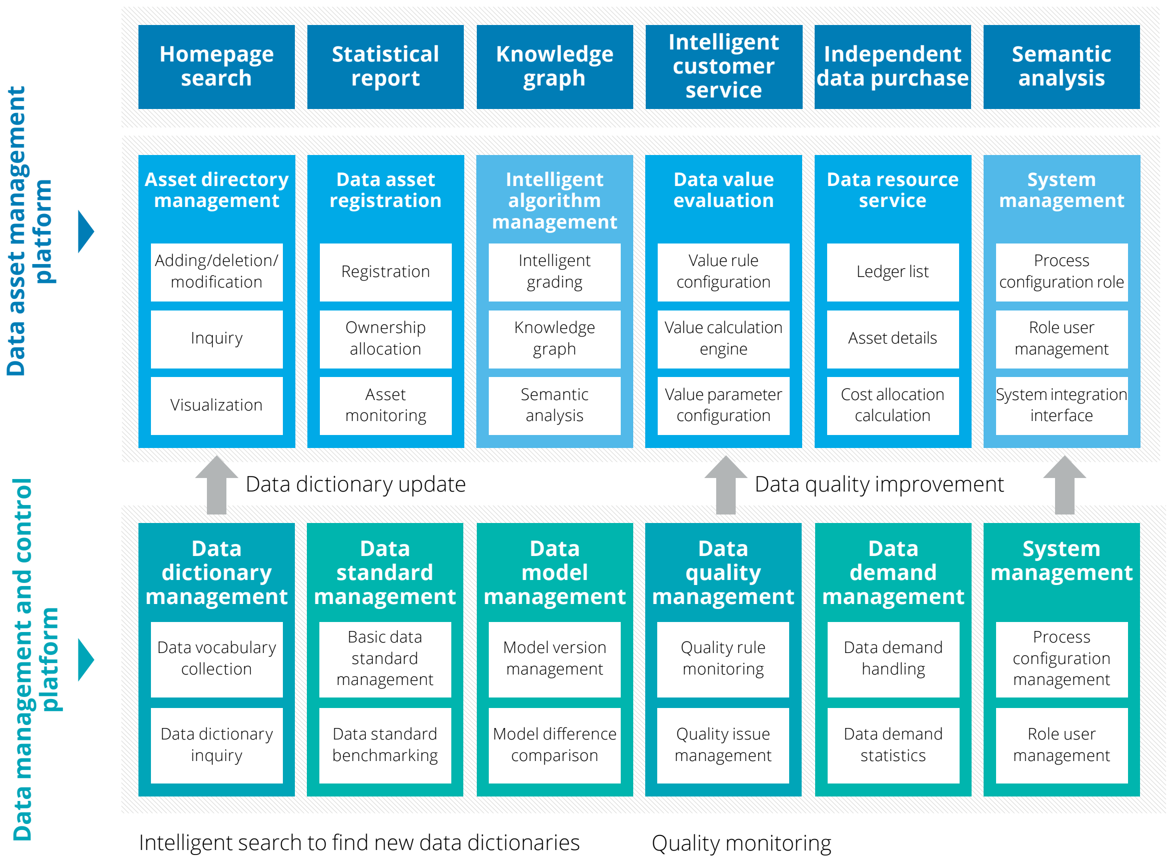
R&D of data assets:

- Specifying data development milestones;
- Data asset R&D cost collection, outsourcing cost management, R&D expense approval, etc.;
- Establishment and daily maintenance of data asset ledgers;
- Availability assessment of data assets;
- Assisting in data asset impairment, renovation, and exit evaluation.

Automated processing of on-balance sheet data asset

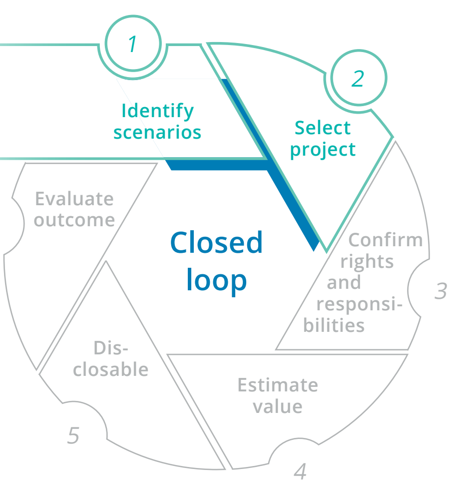
We suggest that banks **develop a sound data asset management platform and connect data procurement, technology, contract and data asset management, and the financial system to realize automated processing of data assets.**

Figure 6: Example of Data Resource Management Platform



Accounting treatment path of data resources

We suggest banks follow the "Three Categories, Three Chains, and Five Confirmations" principle and the "Six-step Method" to advance closed-loop management of including data resources in the balance sheets.

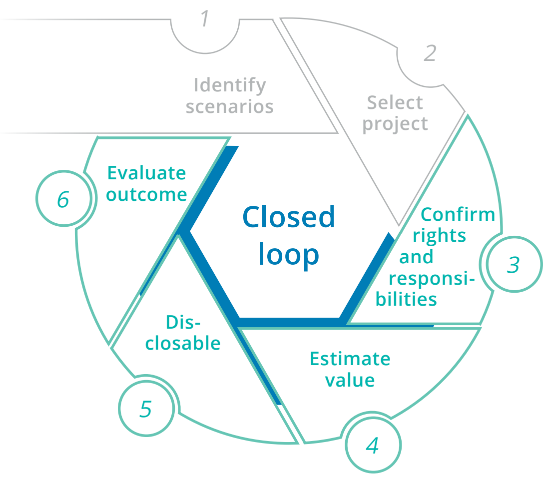


Step 1: Identify scenarios

The relevant business department, information technology department, and data management department will take the lead in identifying scenarios where data can effectively empower business, determining value propositions, and recognizing rewarding data applications to facilitate the realization of business value.

Step 2: Select projects

The relevant business, information technology, data management, and financial departments will jointly select technical projects and identify potential income. If the bank has not inventoried relevant data, it must sort out the data resources to determine whether reasonable accounting treatment can be conducted for the data assets.



Step 3: Confirm rights and responsibilities

The legal, data management, and financial departments will undertake this task jointly. The data management department will provide a list and the legal department will give reasonable explanations and register the confirmed ownership.

Step 4: Estimate value

The financial and data management departments will jointly perform cost allocation based on the vouchers retained and internal supporting materials, and evaluate data asset quality and value.

Step 5: Disclosable

The financial department will be responsible for including data resources in the balance sheets, reporting, and disclosing data assets, which the senior management shall review.

Step 6: Evaluate outcome

The data management department will incubate data products, modify value proposition, compare the estimated profits and the value generated in subsequent data applications, and summarize and reflect on the results, to promote a virtuous cycle of data application.

Since the issuance of the *Guidelines for the Data Governance of Banking Financial Institutions* in 2018, banks have made continuous efforts in enhancing data governance. While adequately managing the existing data resources, banks may adopt the "Six-step Method" for the management of including data resources into the balance sheets to obtain double effects. The specific tasks in each step shall be based on banks' scale, type, and data management mode. This is a challenge and an opportunity for banks.

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4.4 Utilization of preferential tax policies for inclusive finance

To thoroughly implement the spirit of the 20th CPC National Congress, the State Council advocated continuously deepening the financial supply-side structural reform, advancing high-quality development of inclusive finance, and encouraging financial institutions to develop products and services to accommodate the production and operation characteristics and development needs of small and micro enterprises and self-employed individuals. As of the end of 2023, the balance of inclusive loans to small and micro businesses was RMB29.06 trillion, up 23.27% year-on-year (13.13 percentage points higher than the average growth rate of all loans); the average interest rate of newly issued inclusive loans was 4.78%, down 0.47% year-on-year; agriculture-related inclusive loans totaled RMB12.59 trillion, up 20.34% year-on-year. Inclusive loans maintained rapid and high-quality growth.

In 2023, regulators optimized the policy tools for promoting the development of inclusive finance. The Ministry of Finance and the State Taxation Administration made four announcements, extending the effective period of several preferential tax policies for small and micro businesses, self-employed individuals, and farmers to 31 December 2027. These favorable policies effectively supported banks in establishing a sustainable, inclusive finance development system. While enjoying the preferential policies, banks must remain vigilant against tax risks that may arise from policy abuse, strengthen ex-ante management, and prevent ex-post loopholes. The following section will focus on the practical issues and controversies relating to these tax incentives as well as feasible optimization solutions.

Policy background

In August 2023, the Ministry of Finance and the State Taxation Administration released the *Announcement on Relevant Tax Policies Supporting Financing for Micro and Small Enterprises* (Announcement of the Ministry of Finance and the State Taxation Administration [2023] No. 13) and the *Announcement on the Policy of Exempting Value-added Tax on Interest Income Obtained by Financial Institutions from Loans to Micro and Small Enterprises* (Announcement of the Ministry of Finance and the State Taxation Administration [2023] No. 16). According to the two announcements, the VAT exemption for financial institutions' interest income derived from micro-loans to small and micro enterprises and self-employed individuals and the exemption of stamp duties on loan contracts with small and micro enterprises will be effective until 31 December 2027.

In September 2023, the Ministry of Finance and the State Taxation Administration released the *Announcement on Extending the Enterprise Income Tax Policy for Supporting Rural Financial Development* (Announcement of the Ministry of Finance and the State Taxation Administration [2023] No. 55) and the *Announcement on Extending the Policy of Value-added Tax Exemption for Interest Income Derived by Financial Institutions from Loans to Farmers* (Announcement of the Ministry of Finance and the State Taxation Administration [2023] No. 67). According to the two announcements, the VAT exemption for financial institutions' interest income derived from micro-loans to farmers and the tax preference of including 90% of the interest income into the total income when calculating the taxable income will be effective until 31 December 2027.

These policies aim to further financial support for small and micro enterprises, self-employed individuals, and farmers to facilitate their sustainable development and promote financial advancement in rural areas.

Table 1: Summary of the Four Announcements

	No. 13	No. 16	No. 55	No. 67
Business scenario	Interest income derived by financial institutions from offering micro loans to small and micro enterprises and self-employed individuals		Interest income derived by financial institutions from offering micro-loans to farmers	
Favorable policy	1) VAT exemption 2) Stamp duty exemption on loan contracts (excluding self-employed individuals)	Two VAT exemption options: 1) The interest income from each microloan offered by a financial institution to a small enterprise, a micro-enterprise or a self-employed individual shall be exempted from VAT if the interest rate is not higher than 150% (inclusive) of the LPR; the interest income from a microloan with an interest rate higher than 150% of the LPR shall be subject to VAT in accordance with existing policies. 2) Among the interest income from each microloan offered by a financial institution to a small enterprise, a micro-enterprise or a self-employed individual, the portion of interest income, calculated at a rate lower than 150% (inclusive) of the LPR, shall be exempted from VAT; the portion calculated at a rate higher than 150% of the LPR shall be subject to VAT in accordance with existing policies.	90% of the interest income will be included in the total income when calculating the taxable income	VAT exemption

		No. 13	No. 16	No. 55	No. 67
Applicable condition	Identification of eligible borrowers	**Small and micro enterprises:** Micro and small enterprises refer to those meeting the conditions set out in the *Provisions on the Classification Standards for Small and Medium-sized Enterprises* (Gong Xin Bu Lian Qi Ye [2011] No. 300). Specifically, 1) the total assets and number of employees shall be the actual figures when the loan is issued; 2) The operating revenue shall be the aggregate amount in the 12 calendar months before the loan is issued; where the operating period is shorter than 12 months, the operating revenue shall be calculated by the formula below: Annual operating revenue = operating revenue obtained by an enterprise during the actual operating period / the number of actual operating months × 12 **Self-employed individuals:** No clear definition in current policies		Farmers refer to: 1) residents living within the administrative areas of townships or towns (excluding county towns) on a long-term basis (one year or longer); 2) residents living within the administrative villages under the jurisdiction of county towns on a long-term basis and residents who have no registered permanent residence of a locality but have lived in the locality for one year or longer; 3) employees of state-owned farms and self-employed individuals in rural areas (the announcement No. 67 does not cover self-employed individuals). The collective households of authorities, organizations, schools, enterprises and public institutions of the state-owned economy within the administrative areas of townships or towns (excluding county towns) and within the administrative villages under the jurisdiction of county towns and residents who have registered permanent residence of a locality but have left their hometown with their whole family to make a living elsewhere for one year or longer shall not be considered as farmers, regardless of whether they keep the contracted land or not. Farmers shall be counted on the basis of a household and they may engage in agricultural or non-agricultural production and operations. The loans for a farmer shall be determined based on the borrower's identity when the loans are granted.	
	Criteria for micro loans	1) Loans issued if the total credit of the borrower does not exceed than RMB1 million (inclusive) 2) A loan of no more than RMB1 million (inclusive) under the loan contract offered to an enterprise or business whose outstanding loan is also no more than RMB1 million, if it does not have a line of credit	1) Loans issued if the total credit of the borrower does not exceed than RMB10 million (inclusive) 2) A loan of no more than RMB10 million (inclusive) under the loan contract offered to an enterprise or business whose outstanding loan is also no more than RMB10 million (inclusive), if it does not have a line of credit	A loan of no more than RMB100,000 (inclusive) granted to a farmer whose outstanding loan is also no more than RMB100,000 (inclusive)	1) Loans issued if the total credit of the borrower does not exceed than RMB1 million (inclusive) 2) A loan of no more than RMB1 million (inclusive) under the loan contract offered to a farmer whose outstanding loan is also no more than RMB1 million, if it does not have a line of credit
	Criteria for interest rates	N/A	Interest rate not higher than 150% (inclusive) of the LPR	N/A	N/A

Observations and analysis

1 Identification of eligible borrowers

Small and micro enterprises

The micro and small enterprises in the announcements No. 13 and No. 16 refer to those meeting the *Provisions on the Classification Standards for Small and Medium-sized Enterprises* (Gong Xin Bu Lian Qi Ye [2011] No. 300). The total assets, number of employees, and operating revenue are the three main identification indexes. Specifically, the total assets and number of employees shall be the actual figures when the loan is issued; the annual operating revenue shall be the **"aggregate amount in the 12 calendar months before the loan is issued"**.

In practice, banks determine whether the borrowers are eligible small and micro enterprises based on the borrowers' financial statements. The "operating revenue" index is generally the figure of the previous calendar year. Suppose a borrower applies for a loan in the middle of the year. In that case, the calculation of its operating revenue will deviate from the "aggregate amount in 12 calendar months before the loan is issued," as stipulated in the tax law. Therefore, financial data collection and management is a challenging task for banks.

Banks must periodically report to regulators their data on loans to small and medium-sized enterprises. Banks also follow the *Provisions on the Classification Standards for Small and Medium-sized Enterprises* (Gong Xin Bu Lian Qi Ye [2011] No. 300) to determine eligible borrowers for small and micro enterprises. Therefore, banks mostly search for those marked as loans for small and micro enterprises in the credit system to enjoy the tax incentives under the announcements No. 13 and No. 16. However, according to the administrative penalties announced by the NFRA in the first half of 2023, multiple large and medium-sized banks made mistakes in statistics of loans for small and micro enterprises. For instance, they included personal commercial loans into inclusive loans for self-employed individuals and small and micro enterprises; they also included large and medium-sized enterprises into small and micro enterprises. Therefore, if the tax incentive applicability is determined based on the regulatory statistics and there are mistakes in identifying small and micro enterprises, banks will inevitably face tax risks.

Self-employed individuals

The four announcements did not specify the identification criteria for "self-employed individuals." In practice, banks implemented different standards. Some banks strictly enforce the standard, requiring borrowers to provide the "Business License for Self-employed Individuals" as the evidentiary material. Some banks conduct field visits to verify the borrowers' identity. As mentioned above, some banks were punished for including personal commercial loans into inclusive loans for self-employed individuals. Therefore, banks should carefully consider the identification criteria for self-employed individuals, solidify the criteria, and record the identification results to avoid potential regulatory and tax risks.

2 Identification of micro loans

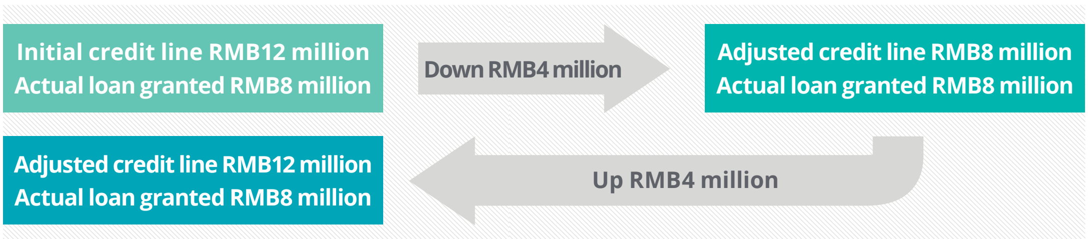
The four announcements specified micro loan limits which should be checked based on each single borrower. If no line of credit is applicable for a loan, the bank should check the amount in the loan contract and the borrower's outstanding loan. However, in practice, a borrower's line of credit and outstanding loan may change as the borrower's credit status and capital needs changed. The announcements did not clarify the standards for calculating the line of credit or outstanding loan. For instance, following the relevant provisions in announcement No. 16, banks should pay attention to the impact of business scenarios with variable credit limits on the applicability of the preferential tax policies.

Figure 1: Tax Implications of a Raised / Fluctuating Line of Credit

Scenario 1 A higher credit line

No.	Tax considerations
1	Is the interest income from the newly added loan of RMB4 million eligible for the tax incentives?
2	How will the new credit line (RMB12 million) affect the original loan (RMB8 million)? 1) Is the interest income from the original loan still eligible for the tax incentives? 2) If the interest income from the original loan is no longer eligible for the tax incentives from the day when the credit line is adjusted, should the bank perform a retroactive adjustment for the benefits it has enjoyed before the credit line change?

Scenario 2 Fluctuating credit line



No.	Tax considerations
1	When the credit line is adjusted to RMB8 million, will the interest income from the loan of RMB8 million become eligible for the tax incentives from the date of adjustment?
2	When the credit line is raised to RMB12 million again, will the interest income from the loan of RMB8 million still be eligible for the tax incentives from the date of adjustment?

Banks mainly consider aligning their data with the regulatory, statistical standards to determine eligible microloans. However, as banks have increasingly diversified business scenarios of inclusive loans, the business data statistical rules may deviate from the tax statistical standards. The deviations may become more complicated. This raised higher requirements for banks' routine tax management.

Taking announcement No. 16 as an example, when the credit line fluctuates between below RMB10 million and above RMB10 million, banks must consider the impact of the adjustments on the applicability of the tax incentives. First, banks must consider whether the loan is eligible for the incentives after the adjustment. Second, they must consider if they should conduct a retroactive adjustment for the benefits they have enjoyed. In addition, banks must dynamically manage loans without a credit line on the "single borrower" basis and check the borrower's outstanding loan to determine if it is a microloan, or the bank may judge directly based on the single loan balance. In practice, as the existing policies did not provide unified identification criteria for microloans, the identification standards of different local tax authorities varied. Therefore, banks must fully consider the identification differences of various tax authorities and systematize the branches' execution standards.

In early 2024, the PBC announced that the identification criteria for inclusive loans to small and micro enterprises would be raised from at most RMB10 million for a single borrower to RMB20 million. Accordingly, banks must adjust the identification logic in their credit systems. The criteria for enjoying the tax incentives have not changed with the regulatory criteria. Banks should consider improving the credit system to determine micro-loans under different criteria. We have noticed that some banks have to manually conduct a secondary screening. If the criteria for tax incentives are aligned with the regulatory criteria in the future, should banks consider both criteria when extracting data? If banks extract data through the credit system, they must flexibly set up parameters to accommodate the different identification criteria of tax authorities.

3 Loan rate standards

Announcement No. 16 specified that the loan rates eligible for the tax incentives must not be higher than 150% (inclusive) of the LPR, and offered two options for calculating tax-deductible income. However, the LPR may change periodically, so the loan rates may be above, below, or equal to LPR150% during the loan contract period. The impact of the LPR adjustments on the applicability of the tax incentives is similar to the impact of credit line fluctuations. It is crucial for banks to accurately comprehend tax laws and regulations and keep all relevant materials to evidence their eligibility for enjoying favorable tax policies during external or internal tax inspections.

Reflections and Suggestions

In summary, the four announcements aim to promote the operations and development of financial institutions, small and micro enterprises, self-employed individuals, and farmers through fiscal and tax instruments. However, in terms of provisions related to borrower identification criteria, credit lines, a single borrower's outstanding loan, as well as LPR changes, whether dynamic management and retrospective adjustment need to be implemented needs to be further optimized and clarified, which poses a great challenge to the management of banks' preferential tax policies. We advise banks to strengthen efforts in the following aspects to fully enjoy the tax incentives while avoiding tax risks.

1. Department collaboration

In practice, banks primarily rely on the business departments (such as the crediting department) to determine borrowers' identity and microloans. Financial and tax personnel cannot verify eligible loans one by one because they cannot spare that time and are not fully informed of the businesses. Therefore, the front-office departments must accurately collect relevant information. In particular, when there are discrepancies between the regulatory and tax criteria for identifying borrowers and microloans, the business departments must carefully judge and accurately collect relevant information according to the tax policy requirements to facilitate the banks' risk control. We recommend that banks' financial and tax departments and business departments fully communicate and discuss regulatory criteria changes, workflow control, information collection methods, and criteria identification logic to enhance tax compliance.

2. System support

The four announcements have laid down provisions on borrowers' identity, microloans, and interest rates. Microloan businesses are characterized by small amounts and large numbers of loans and complex borrower backgrounds. Therefore, banks need a supporting system to identify eligible loans and calculate tax-free interest income. Notably, the borrowers' credit line may change, they may have multiple loans during the same period, and the LPR may be adjusted; thus, it is a big challenge for banks to preset rules in the system to deal with such occasions. We recommend that banks regularly review the system rules based on the regulatory changes, taxation criteria, and industrial practical cases and perform walk-through tests to detect system defects, to avoid tax errors and maximize tax benefits.

3. Retaining evidence

According to the four announcements, banks shall calculate the interest incomes eligible for tax exemption separately, submit tax returns with the competent tax authorities, and retain the tax-free evidentiary materials for further reference. Some local tax authorities have paid more attention to inspecting enterprises' qualifications for enjoying tax incentives over the past two years, particularly identifying borrowers' identity. Generally, the front-office departments keep and maintain the borrowers' identity and credit line information, loan receipts, and other relevant materials. We suggest that banks set up clear rules for retaining and preserving the original materials obtained by the business departments and the system records to cope with tax inspections.

The four announcements are China's policy orientation for promoting sustainable and high-quality inclusive finance development. Banks should comprehensively improve tax management to fully exploit the preferential tax policies for inclusive finance and enhance tax management benefits.

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4.5 Quality and efficiency improvement in banking and insurance institutions' related party transaction management

The Chinese banking and insurance industries are seeing increasingly more risk exposures of related party transactions as they rapidly progress. Many related party transactions involved illegal transfer of interests in recent years. Some of them have caused severe business crises for the banking and insurance institutions, reflecting their inadequate management of related party transactions. These cases have drawn extensive attention from the public. Therefore, regulators introduced multiple measures to regularize banking and insurance institutions' related party transactions from various aspects, covering the identification of related parties, determination, approval, and disclosure of related party transactions, and transaction restrictions.

Strict regulation

Various regulators

Regulators have been consistently updating regulations and gradually improving the supervision system for related party transactions in recent years to prevent illegal transfer of interests. In 2014, CSRC and the Hong Kong Exchanges and Clearing Limited (HKEX) respectively issued the *Special Provisions on the Information Disclosure of Commercial Banks* and the revised *Listing Rules and Guidance*. In 2022, the revised *Special Provisions on the Information Disclosure of Commercial Banks* further specified the requirements and threshold amount for disclosure of related party transactions. In January 2022, CBIRC released the *Administrative Measures for Related-Party Transactions of Banking and Insurance Institutions* (hereinafter referred to as the "Measures"), stressing the "substance over form" and penetration principles. The Measures detailed provisions on management of related parties as well as management, approval, reporting and disclosure of related party transactions, establishing a sound regulatory framework for related party transactions.

Figure 1: Regulations on Related Patty Transactions

2004

CBRC – *Administrative Measures for Related-party Transactions between Commercial Banks and their Insiders and Shareholders* (repealed)

It clarified the principle for commercial banks' related party transactions, identification, reporting and commitment of related parties, definition and categories of related party transactions, the establishment of a related party transaction committee, approval procedures and decision-making avoidance system, prohibitive provisions, internal audit and information disclosure requirements, and legal liabilities.

2006

Ministry of Finance – *Accounting Standards for Business Enterprises No. 36 – Related Parties Disclosures*

It clarified the definition and judgment principle of related parties, basic requirements for related party disclosure, classification of related party transactions from the accounting perspective, and disclosure requirements for related party transactions.

2007

CSRC – *Administrative Measures for Information Disclosure of Listed Companies*

It specified definitions of related parties and related party transactions, provisions on related party reporting, and deliberation procedures and decision-making avoidance system of related party transactions.

2014

CSRC – Special *Provisions on the Information Disclosure of Commercial Banks*

It stressed strengthening the supervision of information disclosure in high-risk areas and improving disclosure quality; Unified information disclosure standards and strengthened the coherence between various regulations; Simplified disclosure content and improved disclosure pertinence and effectiveness.

HKEX – *Listing Rules and Guidance (Revised in 2014)*

It specified the "0.1%" criteria for full exemption. Financial assistance provided to or received from a connected person is fully exempt if: the assistance provided is in proportion to the equity interest; the assistance received is not secured by the assets of the listed issuer's group and the listed issuer must set an annual cap for the continuing connected transactions.

2018

CBRC – *Measures for the Equity Management of Commercial Banks*

It regulated the behavior of shareholders (especially major shareholders), tightened penetrating review of shareholder qualifications, and enhanced investigation and punishment for violations, to protect the legitimate rights and interests of shareholders, depositors and other clients of commercial banks.

2022

CBIRC – *Administrative Measures for Related-Party Transactions of Banking and Insurance Institutions*

It requires banking and insurance institutions to clarify and fulfill their management responsibilities, set up an accountability mechanism, enhance the functions of the related party transaction control committee, establish a cross-department management office, and specify the leading department and relevant posts to effectively identify related parties and manage related-party transactions.

CSRC – *Special Provisions on the Information Disclosure of Commercial Banks (Revised in 2022)*

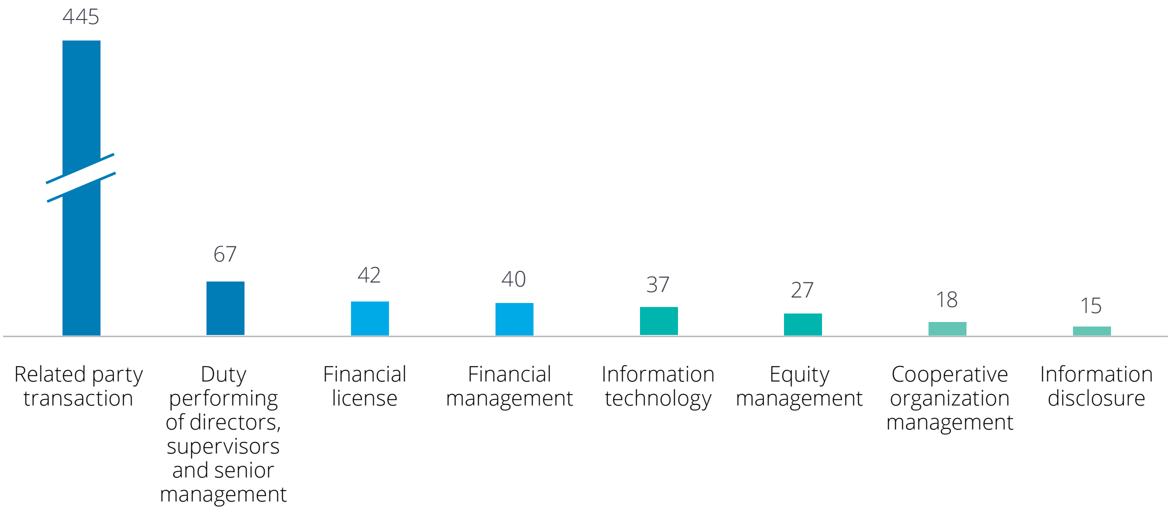
Related party transactions with a value of more than 0.5% of the net assets should be disclosed. If the transaction amount exceeds RMB30 million and accounts for more than 1% of the net assets, the transactions must be disclosed and submitted to the Board for review.

Source: Ministry of Finance, CBIRC, CSRC, and HKEX

Regulatory punishment

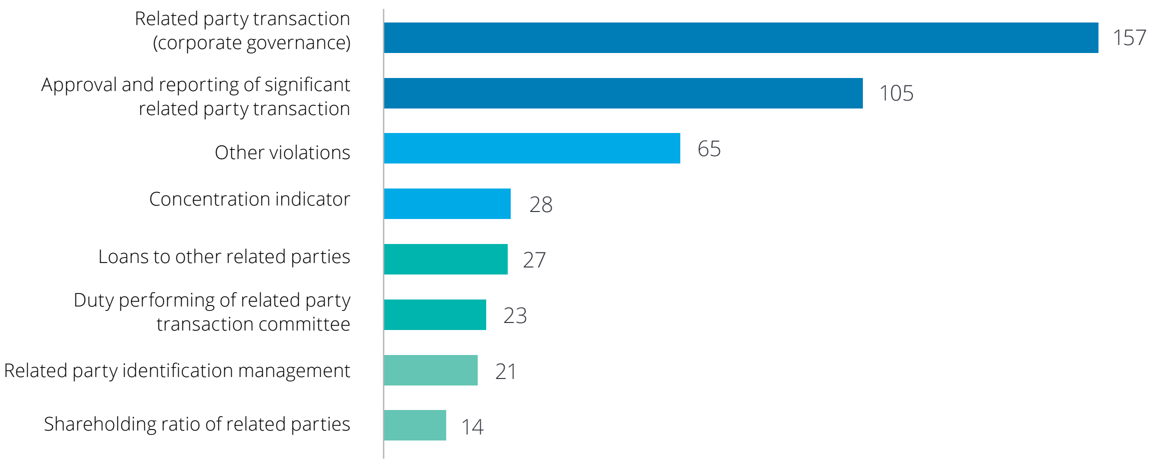
In 2023, the NFRA and its suboffices issued 5,367 fines amounting to RMB6.4 billion. More than 1,000 fines were for financial institutions' corporate governance violations, among which over 400 were related to related party transactions, significantly higher than 2022's 161 and 2021's 186. According to preliminary statistics, the total amount of related party transaction-related fines exceeded RMB50 million in 2023.

Figure 2: Distribution of Corporate Governance Fines in the Banking Sector in 2023



Source: Financial Regulatory Research Institution

Figure 3: Fines Related to Related Party Transactions



Source: Financial Regulatory Research Institution

Related party transactions have become the focus of regulatory inspection and punishment. In particular, the fines to small and medium-sized banks continually increased. Rural commercial banks' related party transactions have a higher risk of regulatory punishment because: 1) these banks have shareholders of complex backgrounds and the actual controllers can substantially interfere and impact the banks; 2) their related party transaction processes are non-compliant and transaction management is insufficient without a sound management mechanism and effective management methods and tools. For example, one rural commercial bank was fined RMB600 thousand for conducting significantly related party transactions without the board of directors' approval; another rural commercial bank was fined RMB700 thousand due to insufficient management of significantly related party transactions.

Challenges in related party transaction management

① Rigorous regulatory compliance requirements

Facing different regulators' requirements, regional small and medium-sized banks are likely to make mistakes. It is also a challenge for large banks. A primary reason is that they have not established a sound related party transaction management system and have no clear management standards. For instance, different regulators have distinct disclosure standards for related party transactions: The NFRA requires that banking and insurance institutions must report and disclose any significant related party transactions within 15 working days after signing the transaction agreement; CSRC has established the disclosure thresholds of RMB300 thousand, RMB3 million (accounting for 0.5% of the net assets), and RMB30 million (accounting for 5% of the net assets); there are annual disclosure requirements from the accounting perspective. Many banks have not clearly distinguished different regulators' requirements, resulting in inaccurate data classification and insufficient approval and disclosure of related party transactions.

② Sound related parties standards

Inadequate related party management in banking and insurance institutions remains pervasive. Identification of related parties must be complete, accurate, and up-to-date. However, many banking and insurance institutions practice hard because they have not determined suitable identification rules and scope based on the regulatory requirements, lack effective management methods and tools, and fail to update identification rules on time-based on the latest regulatory criteria.

③ Complicated related party transactions management

Various regulatory requirements posed significant challenges for related party transaction management. The NFRA requires banks, insurance companies, trust companies, and other non-banking financial institutions to follow different transaction classification and management standards. CSRC has categorized related party transactions into eight types based on the "transfer of resources or obligations" standard. From the accounting perspective, related party transactions are classified into 11 types based on the "transactions with related parties" standard. Many banking and insurance institutions have not precisely classified and managed related party transactions based on different regulatory criteria. They merely collect and maintain related party transaction data by a single regulator's criteria. Therefore, they are likely to fail the expectations of different regulators.

④ Advanced data quality Challenges

Banking and insurance institutions value data governance in process of compliance digitalizaition. However, they lack unified data management standards for diversified businesses, leading to unstable business data quality. For instance, some banks cannot execute unified management of business data, because their retail banking business is not as respectable as the corporate business regarding data accuracy, integrity, and compliance. In addition, some banks have different levels of detail in management-oriented and business-oriented product mappings, leading to transaction data extraction difficulties and errors and adding to the complications of collecting and monitoring related party transaction data.

⑤ Efficient reporting mechanism

The unstable quality of underlying data leads to poor quality in regulatory reporting, unpunctual reporting, and other relevant problems. Banking and insurance institutions have gradually realized the importance of implementation compliant management of related party transactions and actively design resources to strengthen management and reduce violations.

However, in addition to the aforementioned data quality issues, many other problems depress banking and insurance institutions that have not implemented comprehensive digital management, such as incomplete data processing, unreasonable report generation logic, and inappropriate reporting due to nonautomatic reporting mechanisms.

Deloitte solutions

Based on our proven compliance insights, Deloitte proposed the following suggestions for banking and insurance institutions to effectively improve and systematically optimize the management mechanism for related party transactions, to meet the requirements of different regulators.

Refine management based on different regulators' requirements 1

Banking and insurance institutions should carefully interpret and analyze the regulations of the NFRA, CSRC, the Ministry of Finance, and HKEX, and accordingly establish differentiated management mechanisms. First, they should systematically sort out and compare different regulations to determine their similarities and differences. Second, they should set up clear criteria for the identification of related parties, determination of related party transaction types, and disclosure of transactions according to the requirements of different regulators, and establish corresponding management processes and work mechanisms. For instance, following the NFRA's requirements, banking and insurance institutions should set up a related party transaction management office to be responsible for the review, disclosure, and reporting of transactions. CSRC requires them to establish disclosure thresholds and reporting procedures to ensure timely reporting of related party transactions. By refining the management work based on their understanding of various regulators' requirements, banking and insurance institutions can meet regulators' expectations more efficiently and accurately.

Sort out related party identification rules 2

Banking and insurance institutions should strengthen internal management, upgrade management tools, and improve related party identification methods and management processes. First, they should establish clear identification criteria, generate a related party list, and specify related posts to ensure timely, comprehensive and accurate identification of related parties. Second, they should develop and apply intelligent tools and leverage algorithmic logic to interpret the latest related party data, to improve identification accuracy and timeliness. Banking and insurance institutions should periodically clean, verify, and modify related party data to continuously enhance data accuracy and integrity. In addition, they should intensify internal training and management and make all staff understand and abide by the identification rules.

Clarify determination rules and approval mechanisms for related party transactions 3

Banking and insurance institutions should establish clear standards for determining related party transactions. They must determine the nature (including the relevant business type and transaction scope) of related party transactions according to the regulations of the NFRA and other regulators. Second, they should establish an efficient mechanism to provide transparent and standard approval procedures and ensure reasonable management. Meanwhile, they should establish a sound internal review and supervision mechanism and strengthen in-process and post-transaction examination to detect and rectify misconduct during the approval procedures.

Clarify governance standards for related party transaction data 4

Banking and insurance institutions should actively optimize data governance for related party transactions. They should clarify data governance organizations and their responsibilities. Additionally, they must establish unified data collection standards and processes, as well as design and implement related party transaction data standards to strengthen data collection and input management and reduce invalid data from the source. They should also strengthen transaction data verification and timely detect and correct data errors. They should monitor data quality and regularly assess and analyze it to uncover and address problems promptly.

Automate regulatory reporting 5

With extensive digital transformation in banking and insurance institutions, automatic regulatory reporting and disclosure are more efficient, secure, and trendy. First, institutions should understand various regulators' reporting requirements to ensure reporting accuracy and promptness. Second, they should establish and optimize their related party transaction management systems and establish transaction monitoring indicators and warning functions based on the internal and external monitoring and warning rules to strengthen automatic ex ante and in-process control. Meanwhile, they should strengthen internal integration and linkage of associated data to improve the ability to automatically generate reports. They should establish sound reporting processes to ensure data report quality and satisfy regulatory requirements.

In view of the challenges facing banking and insurance institutions in related party transaction management, Deloitte is committed to providing comprehensive and professional solutions to help institutions effectively manage related party transactions and enhance management compliance and transparency. By leveraging our extensive industrial experience, Deloitte can customize solutions for different institutions to accommodate diverse regulatory criteria. We assist institutions in optimizing compliance mechanisms, reinforcing related party identification and transaction approval procedures, improving data quality management capabilities, and implementing digital management solutions to achieve efficient, agile and compliance management of related party transactions.

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In-depth analysis of banking sector's human capital effectiveness in the digital era

4.6

The banking sector urgently needs to improve management quality and efficiency to seek further progress in the challenging external environment. As talent has become a strategic resource in banking competition, improving human capital effectiveness is the key for banks to succeed in the competition. In the meantime, the exponential external changes are fostering a new working environment. Digitalization has disrupted the way to improve human capital effectiveness. Understanding those disruptive ways is crucial to elevate banking performance.

In this report, human capital effectiveness refers to the economic benefits of talent and compensation input per unit. We selected 12 A-share listed commercial banks to examine the talent and compensation input-output efficiency based on their 2020-2023 data. Combining Deloitte's digital human capital effectiveness model and cases, the report discussed how to improve human capital effectiveness through digital means, providing a reference for banks to enhance operation quality and efficiency.

The 12 A-share listed commercial banks are the top 12 in asset scale ranking at the end of 2022, including six state-owned banks (ICBC, CCB, ABC, BOC, BOCOM, and PSBC) and six joint-stock banks (CMB, IB, CITIC Bank, PAB, CEB, and CMBC). The relevant data are from the NFRA and the 12 banks' annual reports.

Industrial and Commercial Bank of China (ICBC)
China Construction Bank (CCB)
Agricultural Bank of China (ABC)
Bank of China (BOC)
Bank of Communications (BOCOM)
Postal Savings Bank of China (PSBC)

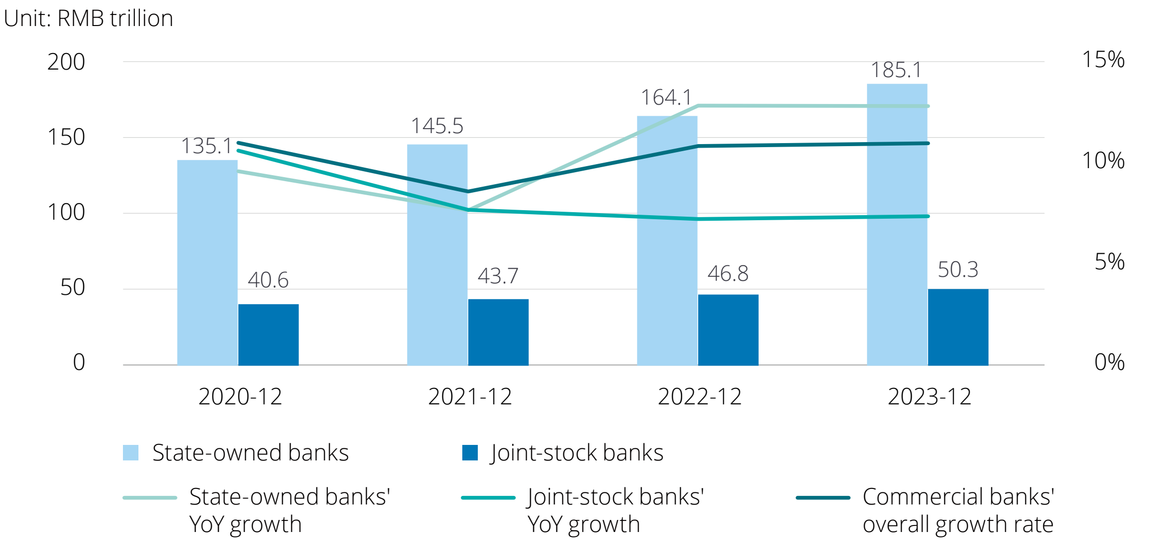
China Merchants Bank (CMB)
Industrial Bank (IB)
China CITIC Bank (CITIC Bank)
Ping An Bank (PAB)
China Everbright Bank (CEB)
China Merchants Bank (CMBC)

Overall operation

Economic recovery has been slow in the post-epidemic period. Although commercial banks' total assets have maintained a year-on-year growth of about 10%, their net profit and operating income growth have decelerated. As a result, cost control and efficiency improvements have become critical to boosting earnings.

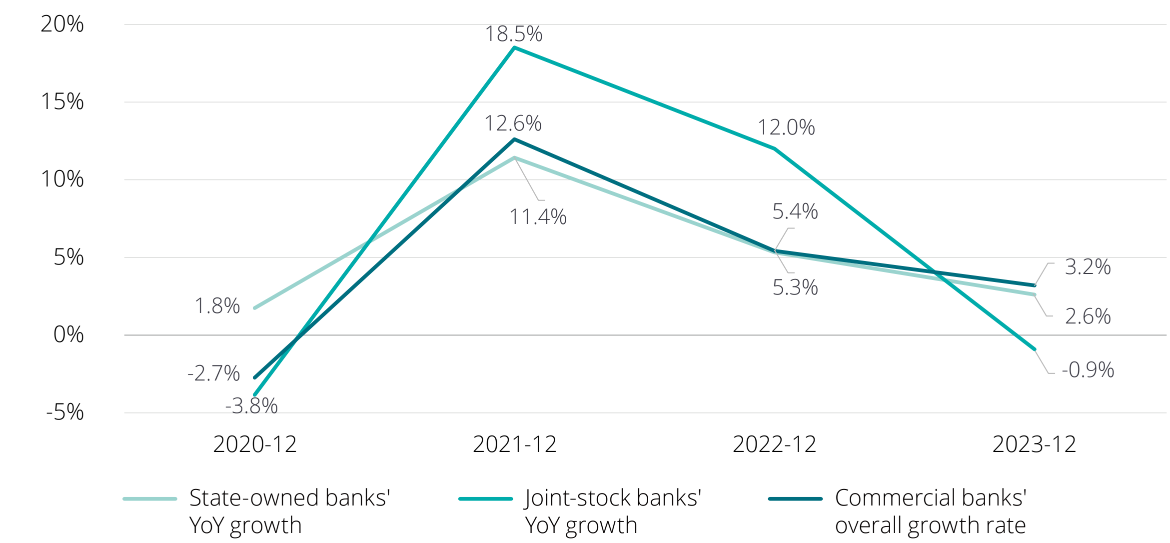
Commercial banks' total assets rose steadily, reaching RMB354.8 trillion by the end of 2023. The six state-owned banks saw their total assets grow by over 10% in 2022 and 2023, slightly outpacing the overall growth rate of commercial banks during this time. In contrast, the six joint-stock banks experienced a relatively slower growth rate.

Figure 1: Total Assets of the 12 Banks, 2020-2023



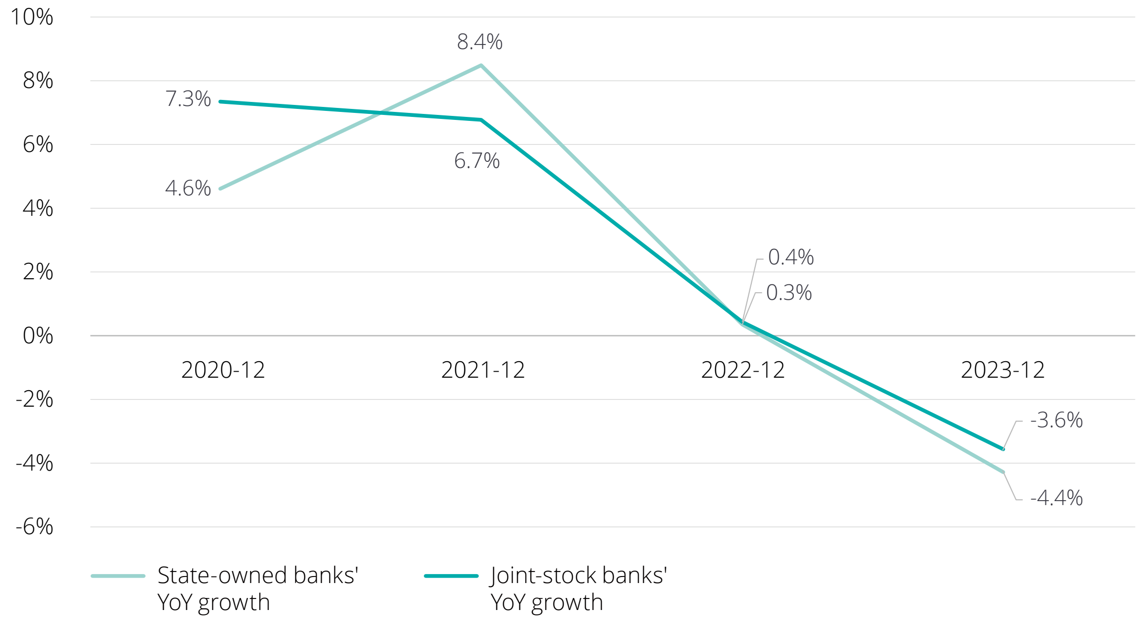
Commercial banks' net profit growth slowed down after 2021. At the end of 2023, commercial banks' total net profit reached RMB2.4 trillion, resulting in an YoY increase of 3.2% year-on-year; however, the six state-owned and joint-stock banks' growth rates were lower than the overall rate. The six state-owned banks' net profit growth rate dropped from 12% at the end of 2022 to -0.9% at the end of 2023.

Figure 2: Net Profits of the 12 Banks, 2020-2023



Regarding operating income, the six state-owned banks' growth rate peaked at 8.4% at the end of 2021 and gradually slowed down afterward to see a negative figure (-4.4%) at the end of 2023. The six joint-stock banks' growth rate also trended down.

Figure 3: Operating Income Changes of the 12 Banks, 2020-2023



Overall human capital effectiveness

Input: differentiated talent and compensation investment strategies

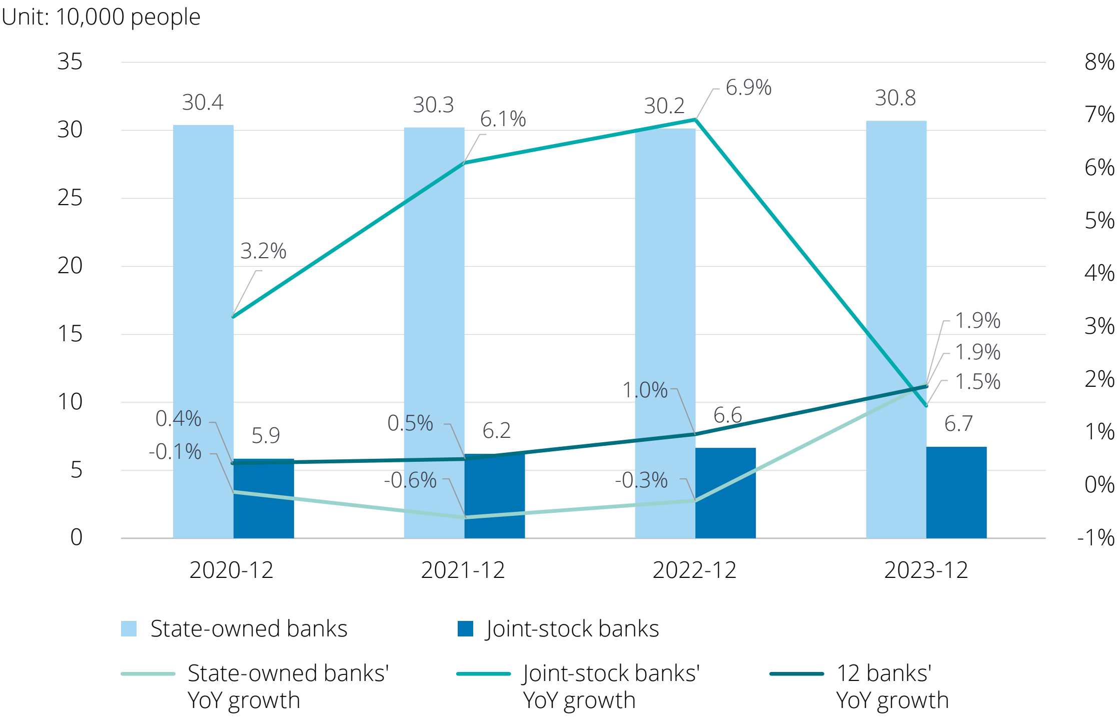
The state-owned and joint-stock banks adopted differentiated strategies in talent and compensation investment. The average of the 12 banks' total compensation increased steadily. The state-owned banks focused on controlling talent resources, while the joint-stock banks focused on controlling per capita compensation.

1 Talent investment

Generally, the 12 banks tightened human resource investment. Although their average number of employees increased annually during the 2020-2022, the year-on-year growth rates were less than 1%. The growth rate rose slightly in 2023.

The six state-owned banks continually controlled their employee scale, maintaining an average of 300,000 people. The joint-stock banks' human resource investment increased slowly, with the average number of employees reaching 67,000 at the end of 2023, an increase of 1.5% year-on-year.

Figure 4: Talent Investment of the 12 Banks, 2020-2023



As Fintech plays an increasingly important role in business development, banks have strengthened their investment in Fintech talent. For instance, CMB and IB have enormously increased their investment in Fintech talent in recent years. CMB's number of Fintech talent grew at a rate of more than 50% between 2019 and 2020; the rate stabilized between 2021 and 2023, exceeding 10,000 by the end of 2023. IB's Fintech talent doubled in 2021 and 2022, approximating 8,000 by the end of 2023.

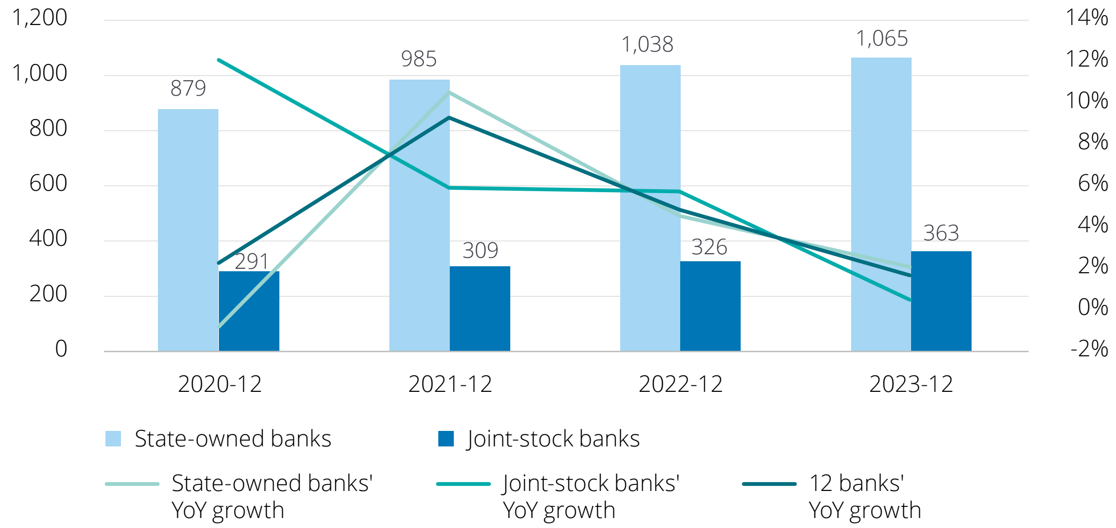
② Compensation input

The 12 banks' average of total compensation maintained positive growth, but the six joint-stock banks' average of per capita salary decreased slightly. The six joint-stock banks showed a prudent attitude toward compensation input due to the unsatisfactory economic growth. Total compensation is the sum of the cash paid to employees and the difference between the payroll payable at the beginning and the end of the year.

During 2020-2023, the 12 banks' average of total compensation rose slowly. The six joint-stock banks' year-on-year growth rate of average total compensation fell continually, recording 1% at the end of 2023.

Figure 5: The 12 Banks' Average of Total Compensation, 2020-2023

Unit: RMB100 million

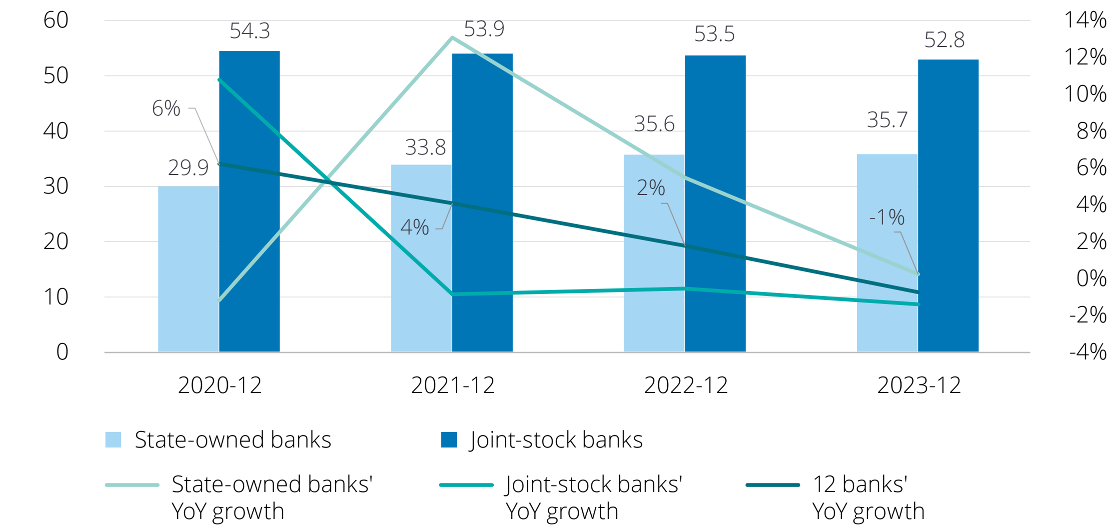


In general, the six joint-stock banks' average per capita salary was significantly higher than the six state-owned banks. However, as the state-owned banks saw positive growth and the joint-stock banks recorded negative growth, their gap narrowed from RMB212,000 per capita in 2020 to RMB171,000/person in 2023.

The six state-owned banks' average per capita salary has been rising since 2021. By the end of 2023, their average per capita salary was RMB357,000. The joint-stock banks' average decreased slightly to approximately RMB530,000. For instance, in 2023, CITIC Bank's per capita salary fell by 8% year-on-year.

Figure 6: The 12 Banks' Average Per Capita Salary, 2020-2023

Unit: RMB10,000/person



Output: improving quality and efficiency to enhance effectiveness

Although their per capita operating income did not increase, the six joint-stock banks remarkably improved management quality and efficiency thanks to deepened digital transformation. As they strictly controlled compensation input, their net profit per capita and net profit per yuan of compensation increased simultaneously. For instance, CMB applied digital means to expand businesses and improve management quality and efficiency and leveraged its technical capabilities to empower enterprises' digital transformation; its AI customer services have freed over 12,000 people.

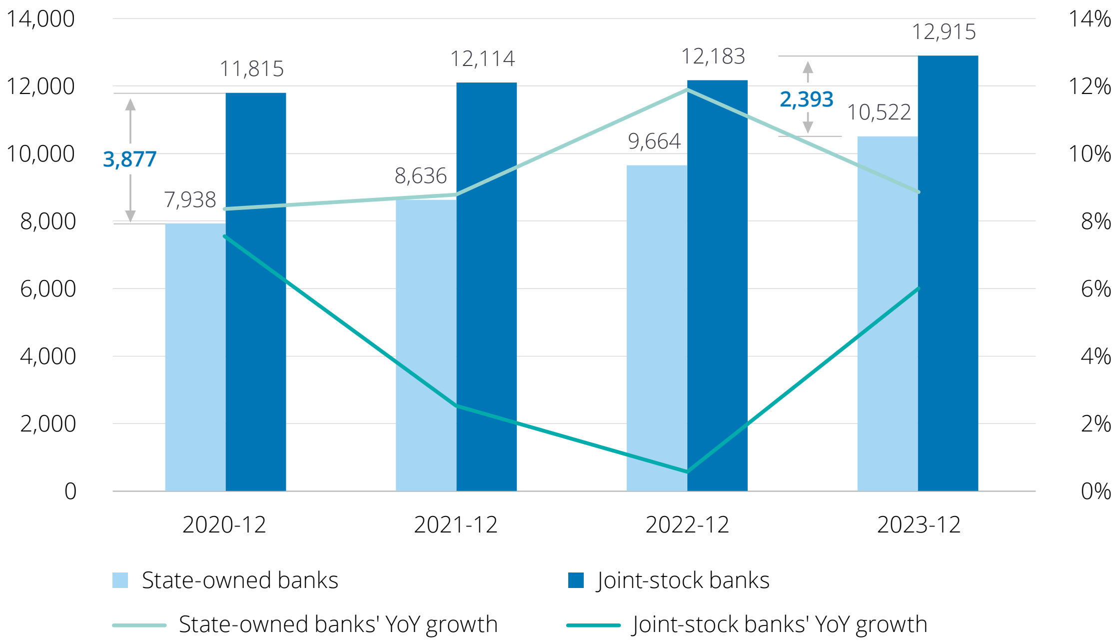
1 Talent effectiveness

The 12 banks' average of per capita asset scale increased slowly. Commercial banks adopted differentiated strategies in resource investment. The core indicators such as the average of per capita net profit improved, seeing preliminary results in increasing per capita output.

From 2020 to 2023, the six state-owned banks' average per capita asset scale was lower than that of the six joint-stock banks, but the state-owned banks' year-on-year growth rates during these years outpaced the joint-stock banks. The per capita asset scale gap narrowed from RMB38.77 million at the end of 2020 to RMB23.93 million at the end of 2023.

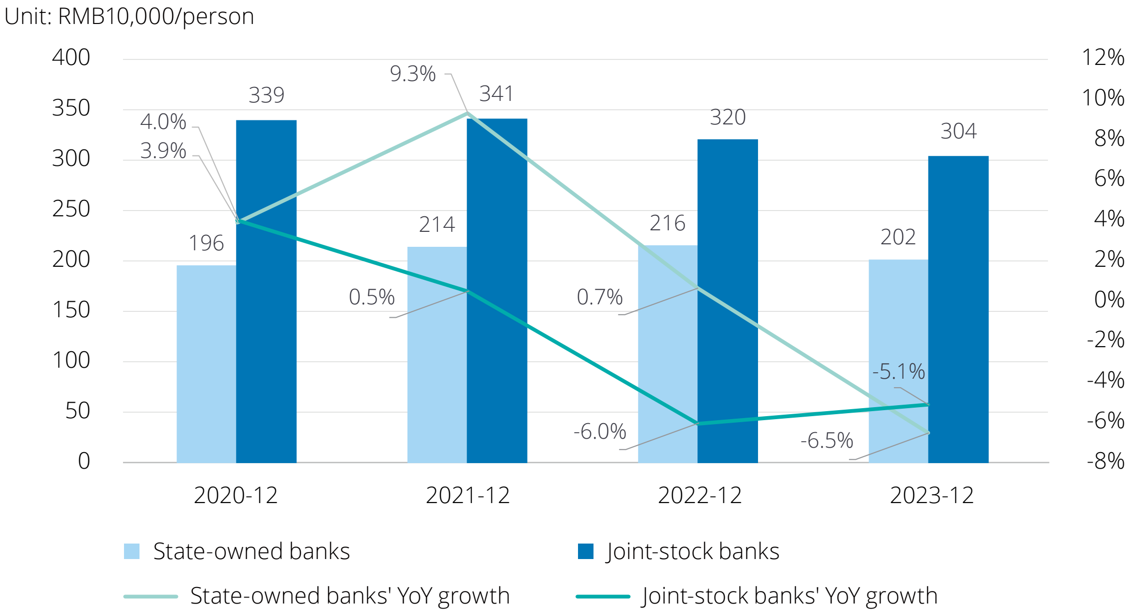
Figure 7: The 12 Banks' Average of Per Capita Asset Scale, 2020-2023

Unit: RMB10,000/person



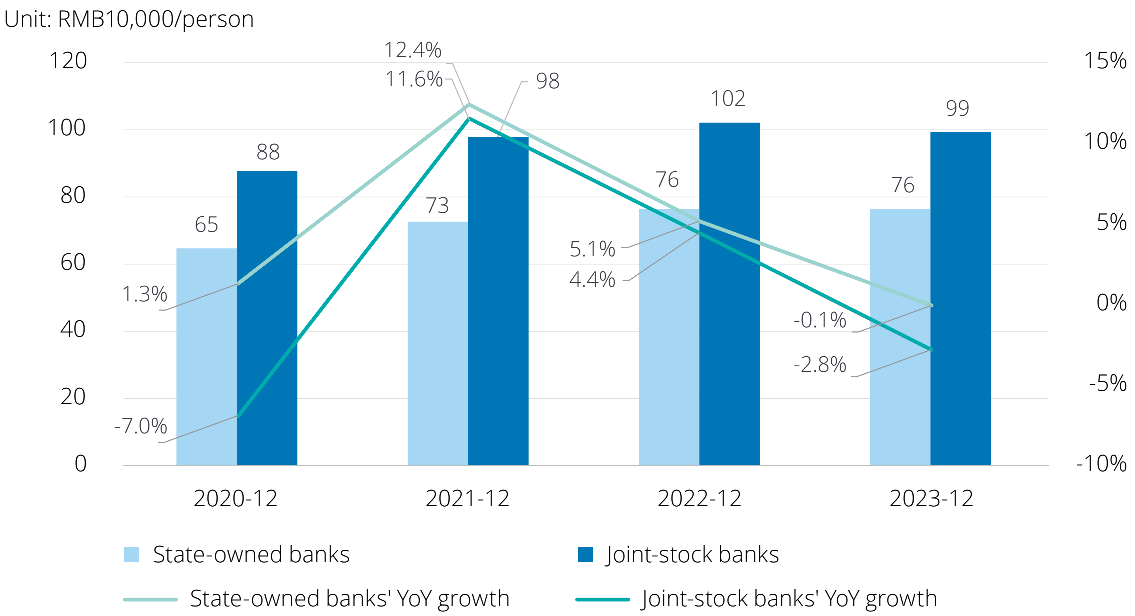
The six state-owned banks' average of per capita operating income increased steadily from 2020 to 2022 but dropped to RMB2.02 million by the end of 2023. The six joint-stock banks' average per capita operating income decreased from RMB3.39 million at the end of 2020 to RMB3.04 million at the end of 2023.

Figure 8: The 12 Banks' Average of Per Capita Operating Income, 2020-2023



The state-owned and joint-stock banks' averages per capita net profit kept rising from 2020 to 2023 but dropped slightly in 2023. The joint-stock banks' per capita net profit (absolute value) was higher than the state-owned banks, but their per capita net profit decrease was more remarkable than the state-owned banks.

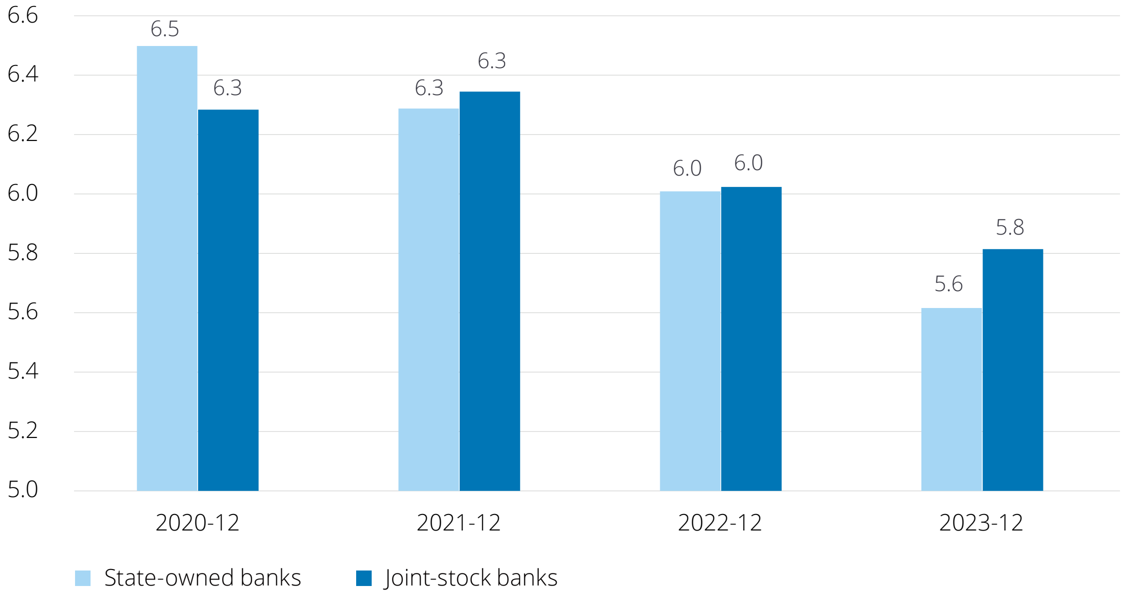
Figure 9: The 12 Banks' Average of Per Capita Net Profit, 2020-2023



② Compensation effectiveness

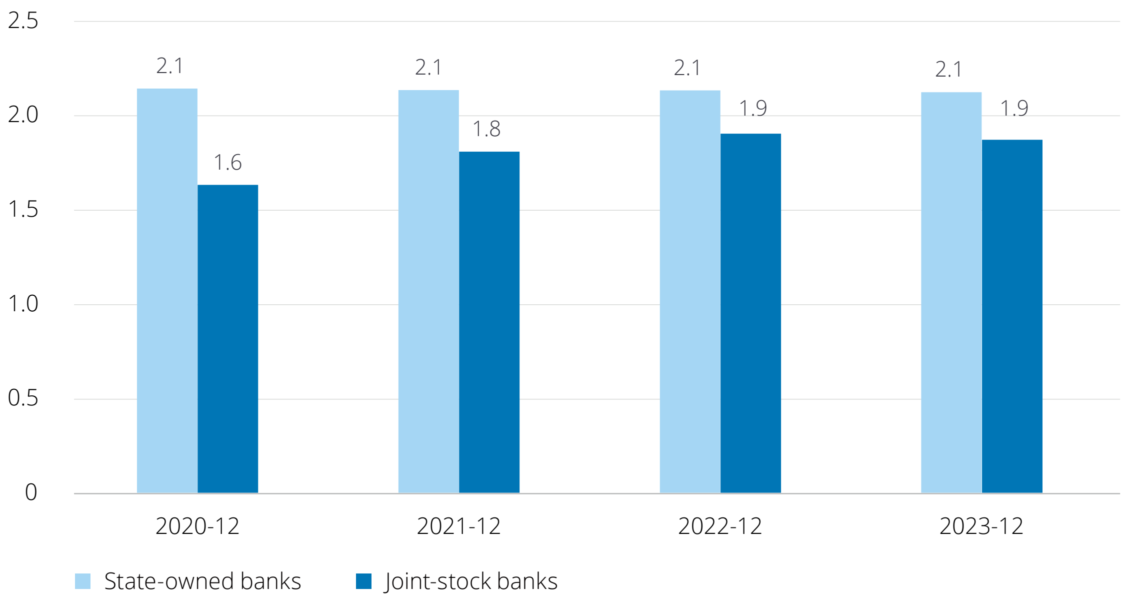
Compensation effectiveness refers to the value created by each yuan of compensation cost, as measured by the operating income or net profit generated per yuan of compensation. The 12 banks' average operating income per yuan of compensation trended down. The state-owned and joint-stock banks' 2023 averages fell by 0.9 and 0.5 from 2020, respectively.

Figure 10: The 12 Banks' Average of Operating Income Per Yuan of Compensation, 2020-2023



The six state-owned banks' average net profit per yuan of compensation stabilized at 2.1. The six joint-stock banks' average rose slightly year by year, recording an increase of 0.3 in 2023 compared with the end of 2020.

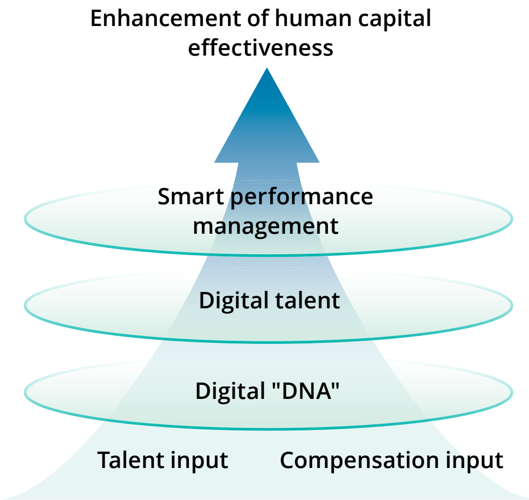
Figure 11: The 12 Banks' Average of Net Profit Per Yuan of Compensation, 2020-2023



Deloitte's human capital effectiveness model for the banking sector

With economic uncertainties, stringent regulation and other challenges, banks continued to adjust their talent and compensation input. To continually realize high output, banks must grasp the opportunity of digital transformation and quickly build an agile management system to enhance human capital effectiveness. Deloitte has developed a human capital effectiveness enhancement model based on data accumulation and industrial analysis.

Figure 12: Deloitte's Human Capital Effectiveness Model



1 Foster smart performance management, and build a visible "input-output" platform

In the new era of economic transformation and development, it is increasingly crucial to stimulate employees to create value through performance management. Smart performance management provides a clear path for employees and banks to convert input into output. Performance management systems in the digital era should be platform-based, standardized, streamlined, agile, and visible. The performance evaluation and display platform executes measurement and accounting of the organization, employees, products, and customers to reward the good and punish the bad more intuitively and agilely.

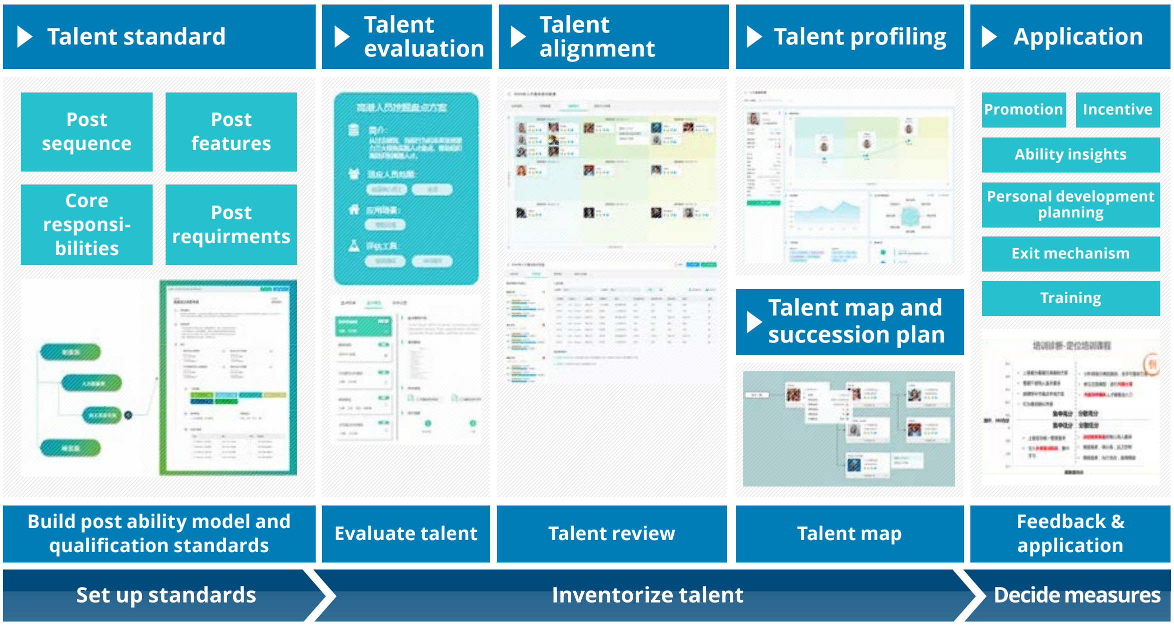
Figure 13: A Joint-stock Bank's Performance Evaluation System – Performance Identification Interface

② Rebuild talent development model to continuously release talent's potential

Banks should transition from the traditional "results-oriented" talent management to the "equal stress on process and results" talent development model. Firstly, banks should digitalize talent profiling and assess the talent of key positions to identify the deficiencies in talent development. Secondly, they should use digital means to sort out talent resources based on the assessment results. Finally, they should customize training courses for talent and continuously and dynamically track talent's ability and career development. Banks should standardize, materialize and normalize assessing, tracking, and improving the "scattered" issues during talent development.

For example, IB focuses on improving its ability to analyze and apply human resource data. The bank achieved real-time and dynamic monitoring of its human resources through the human resource data cockpit and talent and position profiling. It can promptly assess the bank and employee development problems and actualize agile human resource management to substantially facilitate performance enhancement.

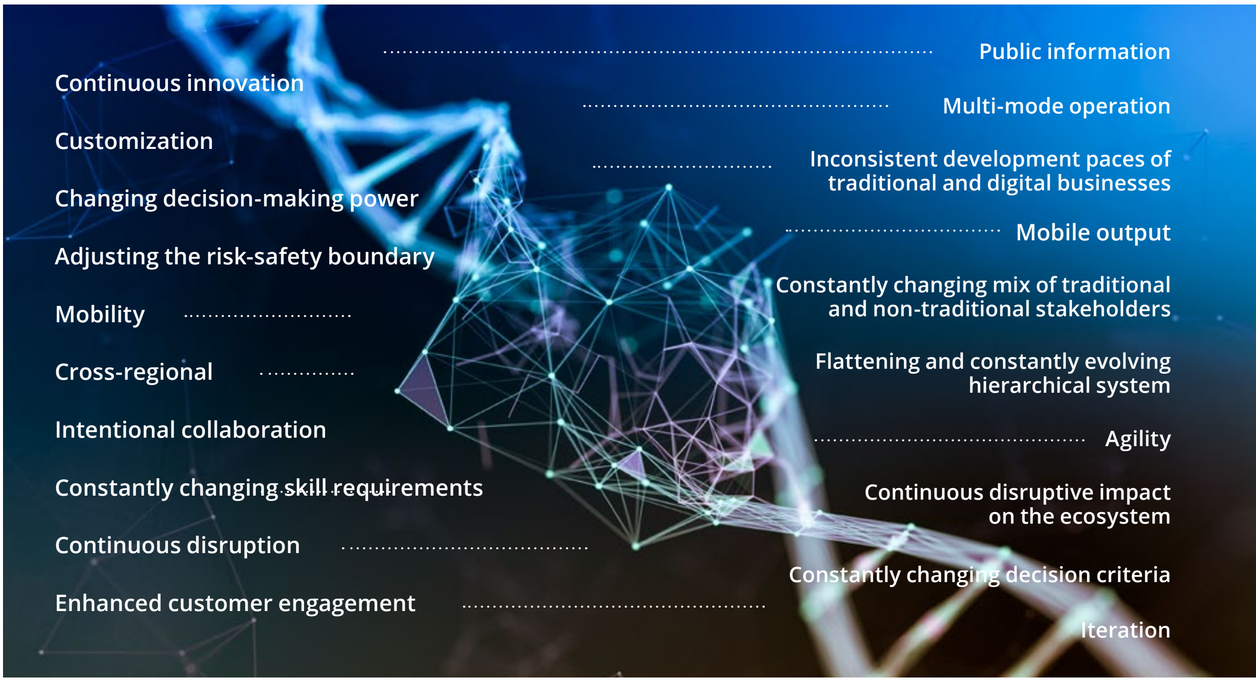
Figure 14: Deloitte (DHR) Talent Management System



③ Foster a digital culture to promote leapfrog development

Digital transformation is not simply a new technological revolution. More importantly, it involves a change in people's mindset. Banks can advance digital transformation more efficiently only when they align the corporate culture with the digital transformation initiative. Affected by the traditional culture, banks used to be risk averse. However, the advanced digital corporate culture is characterized by "continuous innovation, constantly changing decision-making power, constant disruption, and mobile output." Deloitte summarized 23 features (i.e., digital "DNA") of a mature digital organization to provide a benchmark for banks to examine their cultural achievements in digital transformation.

Figure 15: Deloitte Digital "DNA"



Note: Digital "DNA" refers to the features of a mature digital organization.

The banking sector, often called the 'ballast stone,' is crucial and often referred to as the "ballast stone" for ensuring economic and financial stability. The complex domestic and international landscape has prompted banks to enhance management quality and efficiency. In this context, human resource management is not just important but indispensable. To adapt to market fluctuations, banks must accelerate the development of an agile human resource management system, recognizing and appreciating its crucial role in the sector.

Digital transformation in banking is an inevitable trend. Incorporating digital tools into human resource management is essential for overcoming challenges and improving human capital effectiveness. Commercial banks can leverage Deloitte's effectiveness model to gradually build a management framework emphasizing intelligent performance management, digital talent, and a digital "DNA." This will help to unlock more digital dividends, enhance human capital effectiveness, and drive further growth in the sector.

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4.7 Optimization of financial institutions' money laundering risk management mechanisms

On 22 January 2024, the State Council's executive meeting, presided over by Premier Li Qiang, reviewed and adopted the *Anti-Money Laundering Law of the People's Republic of China (Revised Draft)* and submitted it to the Standing Committee of the National People's Congress for deliberation. During the two sessions, Jin Penghui, a deputy to the National People's Congress, deputy director of PBC's Shanghai Headquarters, and president of PBC Shanghai Branch, suggested accelerating the review and issuance of the Anti-Money Laundering Law to bolster China's anti-money laundering (AML) work and pass the new round of international anti-money laundering assessment. On 8 March 2024, the *Annual Work Report of the Standing Committee of the National People's Congress* mentioned in the "Tasks for the Coming Year" that the Anti-Money Laundering Law would be revised in 2024.

In the meantime, China is preparing for the fifth round of mutual evaluations of the Financial Action Task Force (FATF). Financial institutions' core concern is how to continually and effectively implement the risk-based approach, constantly enhance the ability to identify money laundering risks and the internal anti-money laundering management level, effectively improve the quality and efficiency of anti-money laundering work, strengthen the ability to prevent and control money laundering risks and achieve high-standard and normalized risk management.

China continues to intensify its anti-money laundering efforts. Although Chinese financial institutions' management of money laundering risks has improved significantly in recent years, it still falls short of high standards. Financial institutions should establish a regular mechanism integrating "risk assessment, continuous monitoring, rectification and tracking, and long-term management."

Implementing a closed-loop risk management system is not just a recommendation but a necessity to enhance the understanding of money laundering risks and comprehensively improve the quality and efficiency of anti-money laundering measures. Effective risk assessment is the cornerstone for managing money laundering risks, and it's time to act.

Advancement of institutions' money laundering risk self-assessment

PBC's AML Bureau issued the *Guidelines for the Self-assessment of Money Laundering and Terrorist Financing Risks by Incorporated Financial Institutions* (Yin Fan Xi Fa [2021] No. 1) (hereinafter referred to as the "Guidelines") on 15 January 2021. China's financial institutions conducted the first self-assessment and submitted the relevant reports to regulators before 31 December 2022 per the Guidelines' requirements. According to the Guidelines, the self-assessment period shall not exceed 24 months if the institutions' inherent or residual risks are at the high-risk level or above. High-risk banking financial institutions should reasonably set their assessment periods. **To accommodate regulators ' latest expectations, they should launch a new money laundering risk self-assessment round in 2024.**

To enhance the effectiveness of self-assessment of institutional money laundering risks, financial institutions should emphasize the following key areas in the new round of self-assessment:

1 Retrospective analysis to identify gaps

Financial institutions should perform retrospective analysis based on the typical self-assessment problems and good practices released by regulators and the problems uncovered during regulatory inspections and visits, considering the latest regulatory expectations. The retrospective analysis should cover institutional development, indicator system, evaluation method, evaluation process, work record, evaluation report, results application and management. It shall focus on the senior management's understanding of the institution's money laundering risks, the engagement of relevant departments, the appropriateness of risk analysis and evaluation results, the adequacy of materials and data acquisition, the integrity of work records, and the improvement of risk management strategies, policies and procedures based on the self-assessment results. Retrospective analysis is the process by which institutions self-inspect their work, identify gaps, understand their current situations, and sort out the internal and external environment and risk changes.

② Understand actuality to make breakthroughs

The Guidelines require financial institutions to pay continuous attention to risk changes and update their self-assessment indicators and methods in a timely manner. Financial institutions should combine their gaps, internal management status, and the latest external threats to optimize essential work:

Optimize evaluation system and methods: Financial institutions should examine their evaluation systems and methods by combining the last self-assessment process, results, and internal and external environment changes. According to regulators' feedback, a prominent problem lies in the rationality of the classification granularity and assessment methods of business-based risks. The risk identification and targeted risk management assessment process failed to improve the business departments' understanding of product and business risks. Therefore, most financial institutions should focus on this aspect to enhance the effectiveness of self-assessment. In addition, many financial institutions have recently received regulators' notifications to fill in the *Money Laundering Risk Evaluation Statistical Table and the Questionnaire on the Effectiveness of Money Laundering Risk Control Measures*. The scoring criteria in the Questionnaire reflected regulators' expectations and requirements, necessitating institutions' attention. At the same time, financial institutions may update their self-assessment indicators and calculation logic, reasonably decide indicator weight, and optimize their scoring criteria based on the business essence and risk status during the assessment period, fully considering the methodology and standards[1] of the upcoming fifth round of FATF mutual evaluations. Financial institutions must note that the setting and calculation of assessment indicators should be commensurate with their scale, business status, and risk actuality. Redundant indicators and overly complicated calculation methods will affect institutions' acuity and effectiveness of risk identification.

Optimize evaluation processes and management: According to the Guidelines, institutions' all departments should discharge their self-assessment responsibilities and provide necessary data, information and support. However, during the previous round of self-assessment, many institutions' AML management departments "did it alone." Institutions should strengthen the internal work mechanism, including self-assessment quality and efficiency and post-assessment rectification into business departments' AML performance evaluation, to enhance business departments' initiative and efficacy. Data is the core factor for self-assessment. It is crucial for all relevant departments to jointly determine clear and reasonable data extraction criteria to ensure assessment accuracy and effectiveness. For the new round of assessment, institutions should comprehensively review the actual situations of data extraction and result calculation during the previous self-assessment and consider their new systems and data status to determine the business data criteria as early as possible to allow sufficient time for data preparation. As mentioned above, instead of overemphasizing the number of data, financial institutions should balance the data extraction process and data utility to avoid unnecessary troubles and time consumption. Institutions can preset data verification rules to discover and correct errors on time, thus improving data accuracy.

[1] *The Methodology for Assessing Technical Compliance with the FATF Recommendations and the Effectiveness of AML/CFT/CPF Systems and the Procedures for the FATF Fifth Round of AML/CFT/CPF Mutual Evaluations*

③ Share good practices to promote mutual improvement

Some financial institutions' good practices provided a valuable reference for other institutions to improve work quality and effectiveness during the new round of self-assessment:

Combine basic assessments: Banking financial institutions can combine the essential money laundering risk evaluations (including product and business risk evaluations, and channel risk evaluations) with the institutional money laundering risk assessment by restructuring the product and business risk evaluation system. In this way, they can directly summarize the product and business risk evaluation results during the institutional money laundering risk assessment process, saving the efforts to conduct repeated assessments and calculations. A Refined product and business risk evaluation system and combination mechanism can shorten the evaluation time and empower the business departments. Business departments can continuously enhance their understanding of the risks related to the products and businesses they manage to implement more targeted risk control measures. It also helps business departments to improve the efficiency of periodic self-assessments.

Empower self-assessment through data self-inspection: Financial institutions verify the effectiveness of the self-assessment results through questionnaire inquiry, on-site interview, and sample survey as required by the Guidelines. In addition, they perform self-inspection on AML data to review the quality of self-assessment. They also independently verify the follow-up rectification of self-assessment. By consulting the notice of the PBC on issuing the *Data Interface Specification for Anti-Money Laundering On-site Inspection of Banking Financial Institutions (for Trial Implementation)* (Yin Fa [2017] No. 300), banking financial institutions can apply data inspection rules, analyze data, check relevant documents, conduct walk-through tests, targeted sample testing and analysis to perform comprehensive self-inspection. It can effectively examine the execution of key AML duties and verify the rectification results.

Establish a rectification tracking mechanism: Financial institutions can build a rectification tracking system or platform to improve effectiveness. They must find the causes of their deficiencies and make rectification plans to ensure all relevant departments and branches fully understand the assessment results and risk points, actively address their respective problems, and continuously track the rectification progress. Without the support of a rectification platform or visual system, it is difficult for the institutions to continuously track the rectification progress and effectiveness of all responsible departments and branches. They also cannot directly show the leadership the status of rectification, including the areas, responsible departments, and progress of rectification. A sound rectification tracking mechanism or platform visualizes all problem details and correction progress. Furthermore, institutions should investigate the uncorrected problems and form a continuous "investigation – rectification – tracking" work cycle.

Establish a long-term risk monitoring mechanism: Financial institutions may simultaneously build a regular and high-quality risk monitoring and evaluation mechanism and establish sustainable risk and execution-of-duty monitoring indicators to monitor risks and weak links on a daily, monthly, quarterly and annual basis. Institutions may also conduct retrospective analysis on past assessments to create a comprehensive and sustainable evaluation mechanism.

> In summary, to achieve orderly closed-loop money laundering risk management and steadily improve AML quality and efficiency, financial institutions should establish a regular risk evaluation and management mechanism, build an automated risk evaluation and monitoring model, punctually evaluate, dynamically monitor, promptly forewarn of, accurately identify, and intelligently control risks, and timely track and verify rectification quality and efficiency through an intelligent data-based self-inspection system to form a cyclical work pattern of risk evaluation, continuous monitoring, efficient rectification, and long-term management.

Figure 1: Financial Institutions' Money Laundering Risk Evaluation and Management Framework

Risk evaluation

Periodic/aperiodic evaluation

System iteration and upgrade

Long-term management

Regular monitoring system

Long-term risk identification and control mechanism

Continuous monitoring

Intelligent dynamic monitoring

Continuous and accurate risk identification

Efficient rectification

Checking-rectification-tracking-data self-inspection

Cross-validation and loop iteration

Anti-money laundering	Risk-based, comprehensive, appropriate, commensurate, timely, workable, easy-to-understand, sustainable
Risk discovery	Laws & regulations, risk warning, type of crime, case, data analysis, Deloitte experience, private-corporate cooperation, negative public opinion
Digital integration	Information collection, information sorting, interface setting, information integration, labeling, analysis, information sharing, learning
Application of tools	Visualization, big Data, robot, machine learning, cloud technology, natural language learning, blockchain, artificial intelligence

AI Application in Money Laundering Risk Management

The Chinese financial institutions that primarily carry out AML work rely on relevant employees' expertise. The increasingly complex financial businesses and the surge in transaction volume have made it difficult for institutions to improve AML quality and efficiency by increasing professionals. The rapidly developing AI has brought new opportunities and breakthroughs for money laundering risk management. AI will catalyze qualitative changes in risk management methodologies and decision-making efficiency. Financial institutions must consistently enhance their understanding of AI, particularly Generative AI, and recognize AI's potential impacts by applying the technology to establish an efficient and accurate money laundering risk management and monitoring system.

AI and machine learning can be extensively applied when managing money laundering risks. For example, through deep learning algorithms, AI can explore vast historical transaction data to identify risk features and automatically extract risk indicators to optimize suspicious transaction monitoring models and detect potential money laundering activities. Natural language processing (NLP) technology can extract key information from extensive textual data to assist financial institutions in comprehending the latest regulatory requirements and deciding the compliance or non-compliance of their internal systems and processes; Leveraging AI algorithms to analyze non-traditional data provides deep insights into customer behavior and transaction patterns to discover the similarities between customer transactions and criminal activities, thereby activating early warning of suspicious behavior and facilitating money laundering risk rating and transaction decision-making.

Deloitte has been actively exploring AI applications. We established a solid alliance relationship with NVIDIA and created the Deloitte Center for AI Computing, powered by NVIDIA's DGX supercomputer. Deloitte China Anti-money Laundering Center is also fully involved in global innovation and actively developing intelligent AML products and services for regulators, industries, and clients.

Despite the convenience and possibilities of AI-enabled technology, financial institutions must understand the technical principles and limitations before applying AI. They must also align the AI application with their AI and risk strategies and business goals. AI should be a supportive tool to improve management quality and efficiency but not a decision-maker. Therefore, AML personnel's expertise and skills are essential for exploiting AI in money laundering risk management.

Faced with AML pressure and challenges, Chinese financial institutions should proactively explore AI's advantages in risk identification and sustainable management to achieve regular and high-standard laundering risk management.

With the commencement of a new regulatory cycle and the upcoming 5th round FATF mutual evaluations, financial institutions must effectively identify money laundering risks, adopt suitable risk control measures, and balance risk prevention and business development to lay a solid foundation for their steady and sustainable growth.

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Observation and analysis of the nonperforming asset market

4.8

According to the 2024 Report on the Work of the Government, China saw steady progress in defusing major economic and financial risks in 2023. It stressed coordinating development and security and effectively preventing and defusing risks in key areas in 2024. The government would take prudent steps to defuse risks in some local small and medium financial institutions, and improve the system of financial regulation and raise its capacity for preventing and controlling financial risks. The Central Financial Work Conference and the Report on the Work of the Government frequently mentioned **enhancing financial regulation and preventing and defusing financial risks**. The priority in resolving financial risks is **resolving and revitalizing nonperforming assets**. Banks directly impact the overall nonperforming asset market as they are the supply-side of primary market of nonperforming assets.

Commercial banks' balance of nonperforming loans continued to rise, nonperforming loan ratio steadily dropped, and nonperforming loan structure underwent significant changes

According to data released by the regulators, at the end of 2023, the Chinese commercial banks' balance of nonperforming loans totaled RMB3.22 trillion, an increase of RMB242.7 billion year over year, marking the third consecutive year of growth. Their nonperforming loan ratio was 1.59%, down 0.04 percentage points year over year, showing a steady decline over the past three years.

Figure 1: Commercial Banks' Balance of Nonperforming Loans

Unit: RMB100 million

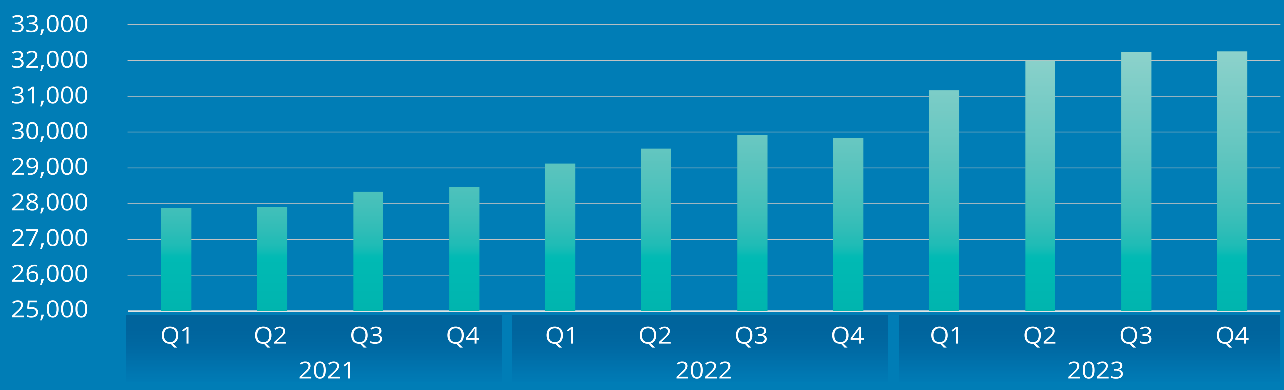
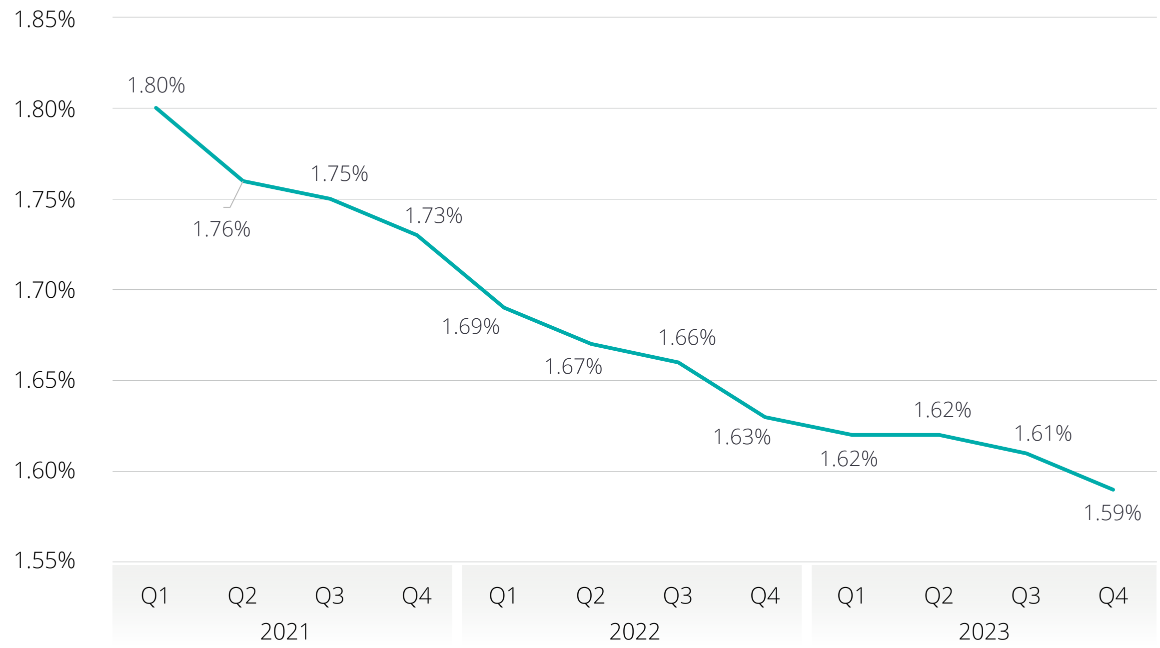


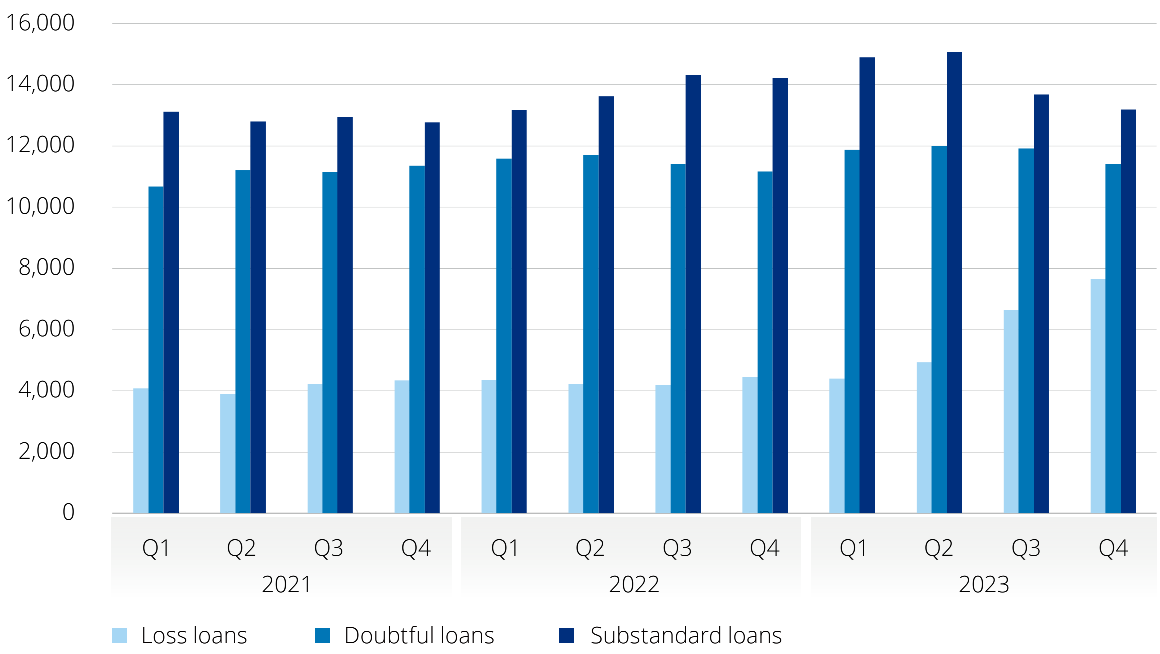
Figure 2: Commercial Banks' Nonperforming Loan Ratio



At the end of 2023, the nonperforming loan balance increased by 8.14% YoY and 0.03% QoQ, indicating a minor change. However, according to the *Measures for the Risk Classification for the Financial Assets of Commercial Banks*, the balance of substandard loans dropped by 7.19% YoY and 3.58% QoQ, while the balance of loss loans increased by 72.04% YoY and 15.15% QoQ, showing a significant change.

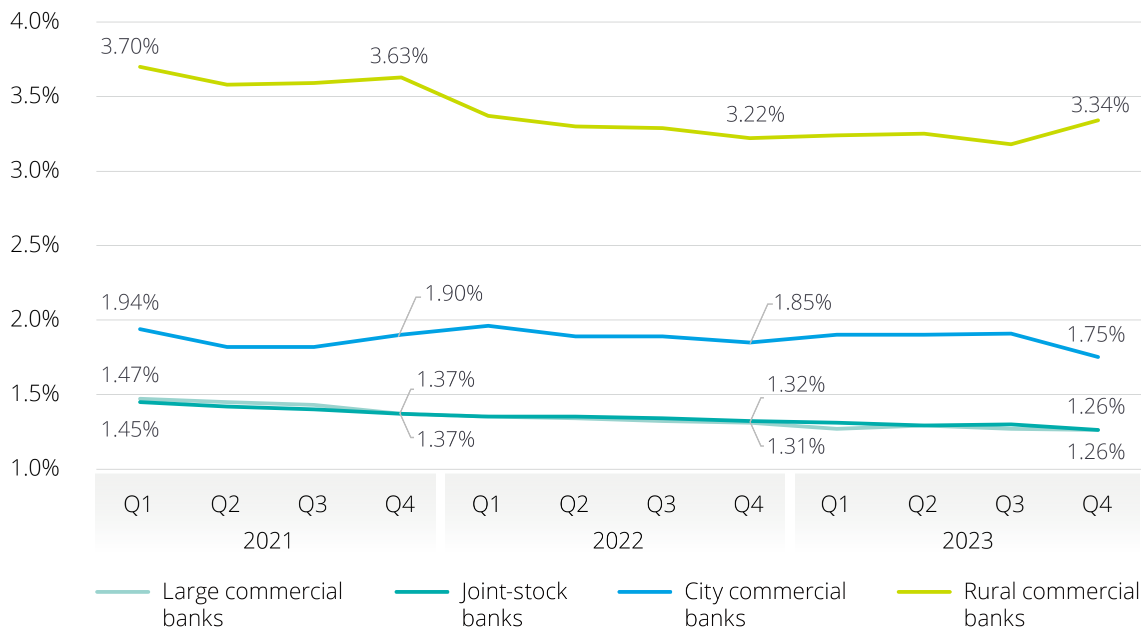
Figure 3: Commercial Banks' Balance of Nonperforming Loans (by Five Categories)

Unit: RMB100 million



In terms of bank types, in 2023, the nonperforming loan ratios of rural and city commercial banks were significantly higher than those of large commercial and joint-stock banks. By the end of 2023, the non-performing loan ratio of large commercial banks was 1.26%, a decrease of 0.05% year-on-year; the NPL ratio of joint-stock commercial banks was 1.26%, down 0.06% year-on-year; the non-performing loan ratio of city commercial banks was 1.75%, down 0.1% year-on-year; while the non-performing loan ratio of rural commercial banks was as high as 3.34%, an increase of 0.12% year-on-year.

Figure 4: Nonperforming Loan Ratios (by Bank Categories)



Regulatory policy focus: comprehensively strengthen financial regulation and effectively forestall and defuse financial risks

The Central Financial Work Conference, as the highest-level conference in China's financial sector, held in October in Beijing, summarized China's financial work since the 18th CPC National Congress, analyzed the situations for high-quality financial development, and deployed the financial work for the current and future periods. The conference emphasized:

- The need to comprehensively strengthening financial regulation and effectively avoiding and resolving financial risks; enhancing the effectiveness of financial supervision, and legally incorporating all financial activities into comprehensive supervision; addressing risks in small and medium-sized financial institutions without delay; identifying, warning of, revealing, and handling risks as early as possible, and refining the mechanism for rectifying financial risks at an early date with hard constraints.

- Enforcing strict admission standards and regulatory requirements for small and medium-sized financial institutions; based on local conditions conducting specialized operations; strengthening the functional positioning of policy-based financial institutions.

- Promoting a virtuous cycle between finance and real estate, which involves a sound regulatory system for real estate enterprises and fund management, better macro-prudential management of real estate finance, and equal treatment for different types of real estate enterprises in meeting their reasonable financing needs; adopting city-specific policies to better support rigid housing needs and demands for improved housing; accelerating the construction of the "three major projects" to build a new development model for the real estate sector.

Regulators had issued multiple significant policies relating to the disposal of nonperforming assets before the 2023 Central Financial Work Conference, covering areas such as the reform and risk resolution of small and medium-sized financial institutions, financial management of state-owned financial enterprises, and classification of commercial bank financial assets, including the *Guiding Opinions on Guiding Financial Asset Management Companies to Focus on the Main Businesses and Proactively Participate in Small and Medium-sized Financial Institutions' Reform and Risk Defusing,* the *Circular on Further Strengthening the Financial Management of State-owned Financial Enterprises,* and *the Measures for the Risk Classification for the Financial Assets of Commercial Banks,* all of which have significant impacts on banking institutions.

Table 1: Policies Relating to Disposal of Nonperforming Assets Since 2022

Time	Policy	Focus
June 2022	*Guiding Opinions on Guiding Financial Asset Management Institutions to Focus on the Main Businesses and Proactively Participate in Small and Medium-sized Financial Institutions' Reform and Risk Defusing*	• Stressed the principle of voluntary participation for asset management companies; • Clarified that asset management companies can pay the price for bulk acquisition of financial institutions' non-performing assets by installments; • Stressed the prohibition of concealing real risks through structural design and deceptively removing nonperforming assets from the balance sheets; • Specified five categories of risky assets that can be transferred to asset management companies, including the special-mention type.
July 2022	*Circular on Further Strengthening the Financial Management of State-owned Financial Enterprises*	• Stressed that financial enterprises shall not conceal assets' risk status through ineffective restructuring and other means; • Stressed strengthening the writing-off and disposal management of nonperforming assets to effectively prevent moral risks and loss of state-owned assets.
February 2023	*Measures for the Risk Classification for the Financial Assets of Commercial Banks*	• Clarified the asset scope for risk classification; • Refined the criteria for risk classification; • Established a classification system for reorganized assets.

According to the NFRA, many penalties on banking institutions and their employees in 2023 were for violating the above policies.

Table 2: Penalties Related to Risk and Nonperforming Assets in 2023

Violation	Details
Hiding nonperforming assets	Granting a large amount of loans to asset management companies to hold nonperforming assets for the bank
	Using the bank's acceptance bills to cover up credit risks
	Loans flow back to repay the loans from the bank
	Embezzling credit funds, which flow back to the borrower's or its subsidiary's accounts to repay the loans from the bank
	Embezzling SMEs' loan funds, with some being used to repay loan principal and interests
	Personal consumer loans are used to repay loan principal and interests
	Adjusting loan classification through obtaining a new loan to repay the current loan and extending the loan's length of maturity to cover up nonperforming assets
	Illegal issuance of loans to cover up risks
Inaccurate risk classification	Individual loan risk classification non-compliance with regulatory requirements over the long-term
	Inaccurate loan risk classification
	Inaccurate loan risk classification leading to false nonperforming ratio
	Inaccurate risk classification of loans to small and micro enterprises
	Inaccurate risk classification of some loans has not been adequately rectified
	False credit asset quality
False transfer	Batch transfer of nonperforming assets is not in a truthful manner
	False rectifications; purchasing false wealth management products and deceptively removing nonperforming assets from the balance sheets again through complex transaction structures
	Deceptively removing nonperforming assets from the balance sheets through illegal wealth management businesses
Non-compliant transfer	Non-compliant transferee for batch transfer of nonperforming assets
	Inadequate rectification of nonperforming asset transfer processes
	Inadequate rectification of some performing asset transfers
	Inadequate/no rectification of some problematic nonperforming asset transfers
Investment in off-balance sheet nonperforming assets	Investment in off-balance sheet nonperforming assets through interbank businesses
	Repaying nonperforming loans through interbank investment
Illegal reorganization	Illegal reorganization of middle- and long-term loans and false classification

Source: NFRA official website

Nonperforming asset-related violations include **hiding nonperforming assets, inaccurate risk classification, false transfer, noncompliant transfer, investment in off-balance sheet nonperforming assets, and illegal reorganization**. The NFRA has strictly implemented the latest issued regulatory policies in its inspection and supervision work to attach importance to banks' credit asset quality and compliance with nonperforming asset transfers.

The real estate sector is a top concern in the nonperforming asset market

The real estate sector's financial risks were exposed extensively from 2021 to 2023. China introduced policies encouraging the financial sector to support the stable and healthy development of the real estate sector from 2022 to 2023. Banks have stepped up efforts to dissolve risks and dispose of risky assets in real estate sector, which leads to reduce the growth of rate of non-performing loan ratio and alleviate the pressure from non-performing loans in the real estate industry. However, the remaining nonperforming real estate loans cannot be overlooked. How to resolve stock risk remains one of the key priorities and challenges for banking institutions in 2024 and the following two or three years.

According to the four major state-owned banks (ICBC, CCB, BOC and ABC) in 2022 and 2023 financial reports, real estate ranked among the top two in the list of the top five sectors with a high nonperforming loan ratio.

The four banks' balances of real estate nonperforming loans increased from 2020 to 2022 and changed variedly in 2023. At the end of 2023, the four banks' total balance of nonperforming real estate loans was RMB139.814 billion, up 2.33% from 2022's RMB136.625 billion.

At the end of 2023, ICBC's balance of nonperforming real estate loans decreased to RMB40.957 billion, with a nonperforming loan ratio of 5.37%, down 0.76% year-on-year. CCB's balance increased to RMB48.158 billion, with a nonperforming loan ratio of 5.64%, up 1.28% year-on-year. ABC's balance increased by 0.14%, and its nonperforming loan ratio dropped by 0.06%. BOC's balance decreased by 13.93% to RMB48.172 billion, with its nonperforming loan ratio falling by 1.72% year-on-year.

Figure 5: Four Major State-owned Banks' Balance of Nonperforming Real Estate Loans from 2020 to 2023

Unit: RMB100 million

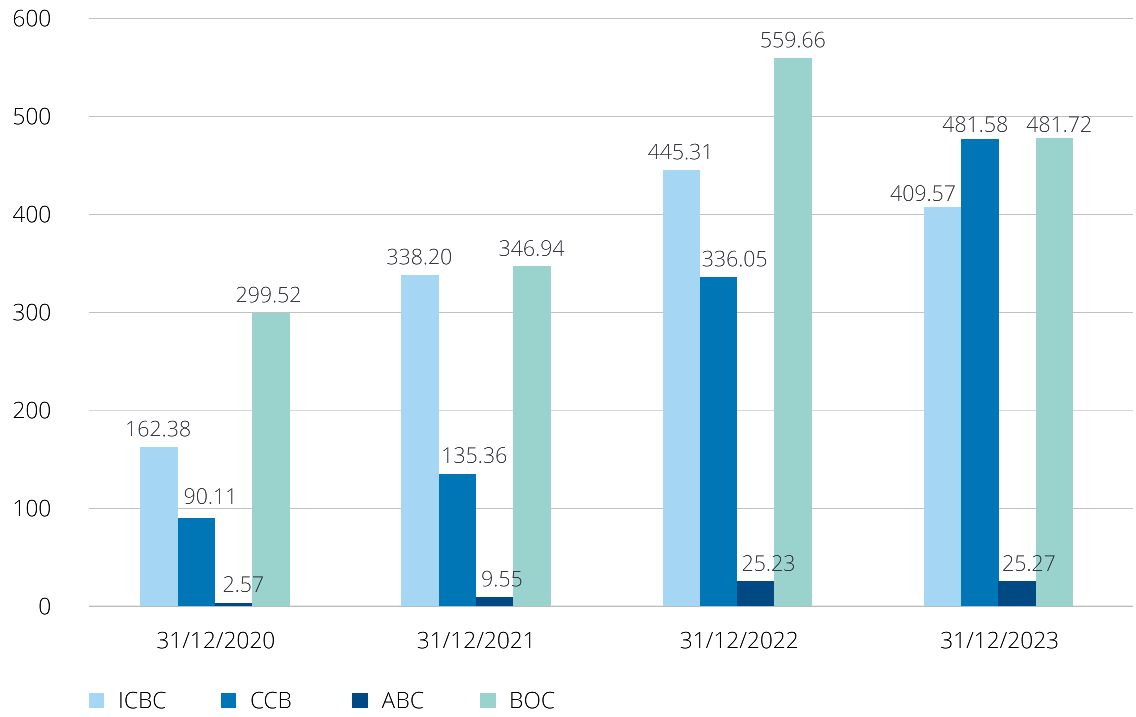
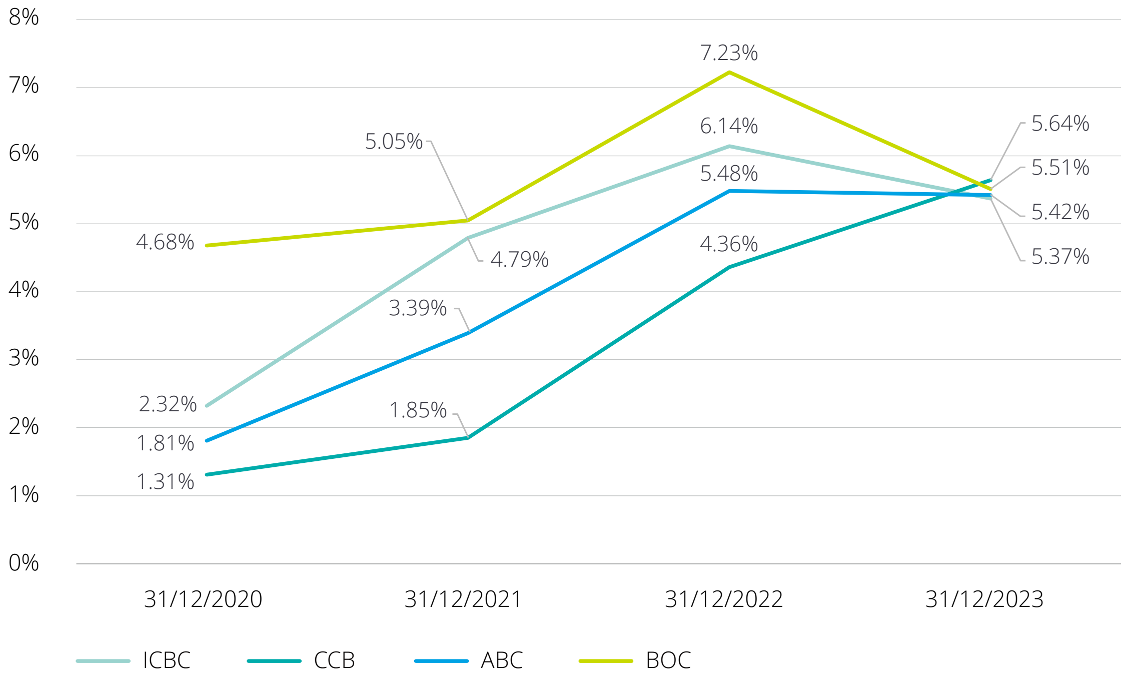


Figure 6: Four Major State-owned Bank' Nonperforming Real Estate Loan Ratio from 2020 to 2023



In November 2022, the PBC and China Banking and Insurance Regulatory Commission issued the *Circular on Effectively Carrying out the Existing Work on Providing Financial Support for the Stable and Healthy Development of the Real Estate Sector*, putting forward 16 financial measures. It advocates promoting the steady and healthy development of the real estate market, including the following measures providing effective financial support for M&A projects in real estate market, encouraging commercial banks to carry out M&A loan business for real estate projects in a steady and orderly manner and providing major support for high-quality real estate enterprises to acquire the projects of the stranded real estate enterprise; encouraging financial asset and local asset management companies to apply their experience and capabilities in nonperforming asset disposal and risk management and negotiate risk resolution models with local governments, commercial banks, and real estate enterprises to accelerate asset disposal.

Therefore, asset management companies are actively extricating real estate projects from difficulties by helping revitalize undelivered building projects and reorganizing and disposing of nonperforming assets. Commercial banks are also defusing existing real estate risks by **non-performing credit assignment rights (batch transfer/transfer of a single corporate's nonperforming loans), reorganizing nonperforming loans, reducing and canceling interests, and providing financing support.**

The NFRA 2024 work conference established eight key annual task objectives, including preventing and controlling risks in critical areas, strengthening credit risk management, and enhancing the disposal of nonperforming assets, facilitating the implementation of the coordination mechanism for urban real estate financing, urging financial institutions to support the "three major projects" and ensuring that banks follow the requirements for operating property loan management; collaborating with relevant parties to prevent and resolve local debt risks; and guiding financial institutions to carry out debt restructuring based on market principles. It raises higher requirements for financial institutions on how to legally and compliantly flexibly use various methods, such as **batch transfer, single corporate loan transfer, debt restructuring, bankruptcy & restructuring, ABS**, etc, to classify and dispose of existing non-performing assets, in order to reduce the pressure of non-performing loans on banks.

In recent years, influenced by the overall downturn in the economic environment, the excessively high stock of non-performing assets and other external factors, how to **prevent and control nonperforming asset disposal risks, improve the success rate of asset disposal, and increase asset transaction prices**, which has become a key concern for sellers, as well as a major challenge and difficulty in the work of disposal of non-performing assets. With intensified regulation and the advancement of work on preventing and resolving financial risks, banks will still concentrate on handling nonperforming assets to defuse financial risks over the next two to three years.

With more than ten years of financial advisory service experience in the domestic nonperforming asset market, Deloitte will pay continuous attention to the dynamics and hot topics of the market and assist banks and other financial institutions with nonperforming asset classification and screening, due diligence, nonperforming asset value analysis, investor promotion, and open bidding. We provide **whole-process transaction advisor, restructuring financial advisor, and reorganization manager services**, among others.

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Reliable AI governance empowering model risk management

4.9

AI applications have rapidly expanded from automatic processing and data analysis to complex decision-making and problem-solving support, propelling service and product innovations and digital transformation in all industries. The emergence of ChatGPT in 2023 signifies the advancement from analysis-based to generative AI applications. It is foreseeable that generative AI will play an increasingly crucial role in various fields to drive productivity and economic growth.

Meanwhile, the development of AI technology has brought a series of issues. Global regulators are building legislative and regulatory frameworks for this technology. For the banking sector, AI applications expanded the risk scenarios of existing models, posing new challenges for model risk management. How to harness this double-edged sword is a severe topic commercial banks must address in risk management.

International and domestic regulation

A model is a simplified representation of the real world. Model risk is the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports. Model risk arises from the fundamental errors of the model used against its design objective and intended uses. Inaccurate data input, assumptions, methodology, processes, and the misinterpretation of model output could also contribute to model risk.

Since the Federal Reserve Board issued the *Supervisory Guidance on Model Risk Management (SR 11-7)*, regulators worldwide have introduced guidelines to regulate the governance, policies and control measures for the development, deployment and verification of models. In August 2023, the European Central Bank pointed out that emphasis must be placed on the generalization capability of models, developers' and validators' skills, the explainability of models, and model change management for machine learning (ML) used in the context of internal ratings-based (IRB) models. In March 2024, the EU adopted the *Artificial Intelligence Act (AI Act),* the world's first comprehensive regulation on artificial intelligence. The AI Act sets forth business rules and compliance requirements based on different AI systems' risk levels and implications.

Figure 1: Overseas Regulations on Model Risks since 2011

April 2011	September 2017	October 2018	January 2023	August 2023	March 2024
Supervisory Guidance on Model Risk Management	*Model Risk Management for Deposit-taking Institutions*	*Guide to Internal Models*	*AI Risk Management Framework*	*Machine Learning for IRB Models*	*Artificial Intelligence Act*
Federal Reserve Board	Office of the Superintendent of Financial Institutions	European Central Bank	National Institute of Standards and Technology	European Central Bank	EU
Proposed the model risk management framework for the first time	Stressed the importance of model risks and established specific management rules	Stressed compliance and accuracy, as well as supervision of whole-process risk management	Guide organizations to reduce security risks while developing and deploying AI systems	Summarized the machine learning application in the context of internal ratings-based models	The world's first comprehensive regulation on AI

July 2015	April 2018	August 2021	May 2023	October 2023
Recommendation W on Model Risk Management in Banks	*Model Risk Management Principles for Stress Testing*	*Model Risk Management*	*Model Risk Management Principles for Banks*	*Supervisory Handbook for the Validation of Internal Ratings Based Systems*
Polish Financial Supervision Authority	Prudential Regulation Authority of the Bank of England	Office of the Comptroller of the Currency	Bank of England	European Central Bank
Provide clear guidelines and universal standards for model risk management	Raise higher requirements for model risk management and testing	Further regulated model risk management based on the *Guidance on Model Risk Management*	Provide opinions /require clarification on the risks posed by models that have a significant impact on business decision-making	Provide general guidance on the expectations relative to the validation function

Note:

UK Poland EU Canada U.S.

Source: Deloitte Research

Domestic regulation followed international actions. *The Administrative Measures for the Capital of Commercial Banks (for Trial Implementation),* released in 2012, specified the advanced measurement method for all models and the requirements for establishing and verifying internal rating systems. The 2020 *Interim Measures for Administration of Internet Loans Issued by Commercial Banks* and the 2021 *Circular on Further Regulating the Internet Loan Business of Commercial Banks* clarified risk data and model management requirements for financial institutions' internet loan businesses. The 2022 *Guiding Opinions on the Digital Transformation in Banking and Insurance Sectors* stated that efforts should be made to establish enterprise-level risk management platforms, realize the centralized and unified management of rules, strategies, and model algorithms, and perform whole-process management of model development, verification, deployment, assessment, and withdrawal.

The *AI Model Risk Management Framework* released by the China Banking Association in 2022 specified three levels of AI model risk management and corresponding lifecycle management standards. In October 2023, the NFRA introduced the *Administrative Measures for the Capital of Commercial Banks*, optimizing the refinement and sensitivity requirements for capital measurement and expanding the model risk management scope. In October 2023, the Cyberspace Administration of China, National Development and Reform Commission (NDRC), Ministry of Education (MOE), Ministry of Science and Technology (MOST), Ministry of Industry and Information Technology (MIIT), Ministry of Public Security (MPS), and National Radio and Television Administration jointly issued the *Interim Measures for the Management of Generative Artificial Intelligence Services*, clarifying the regulatory requirements for Generative AI services.

Figure 2: Domestic Regulations on Model Risks since 2020

October 2023

Administrative Measures for the Capital of Commercial Banks

NFRA

Improve the refinement and sensitivity levels of risk measurement

July 2023

Interim Measures for the Management of Generative Artificial Intelligence Service

Cyberspace Administration of China, NDRC, MOE, MOST, MIIT, MPS, National Radio and Television Administration

Stipulate that competent authorities shall supervise and inspect Generative AI services

October 2022

AI Model Risk Management Framework

China Banking Association

Regulate the model risk management processes

July 2022

Circular on Further Promoting the Standardized and Sound Development of Credit Card Business

Yin Bao Jian Gui [2022] No,13

Develop a model risk management mechanism for credit card business

July 2020

Interim Measures for Administration of Internet Loans Issued by Commercial Banks

Yin Bao Jian Fa [2020] No. 9

Regulate the model risk management processes for the internet loan business

February 2021

Circular on Further Regulating the Internet Loan Business of Commercial Banks

Yin Bao Jian Ban Fa [2021] No. 24

Detail requirements for internet loan business' model risk management

March 2021

JRT0221 - Evaluation Specification of Artificial Intelligence Algorithm in Financial Application

PBC

Regulate model building and application processes from a technical perspective

January 2022

Guiding Opinions on the Digital Transformation in Banking and Insurance Sectors

Yin Bao Jian Ban Fa [2022] No. 2

Establish a model risk management mechanism for the banking and insurance sectors

Source: Deloitte Research

Risks and challenges

With the rapid development of AI and its new risks, domestic and overseas regulators pay increasing attention to model risks, giving rise to relevant laws. The application of AI emphasizes the following risks:

1. Bias and discrimination: Two types of biases exist in AI: algorithmic AI bias or data bias, where algorithms are trained using biased data, the other is societal AI bias, where AI reflects social intolerance or institutional discrimination. Therefore, negative consequences arise when an AI system unfairly treats some individuals or groups based on factors that are irrelevant to the task or decision.

2. Model transparency and explainability: Large models, especially deep learning models, are often "black boxes" with incomprehensible decision-making processes. This poses a challenge for the financial sector, which requires high transparency and explainability. For financial application, any automatic decision-making method by AI must be transparent and explainable with human review and feedback. The challenge will be more intricate if the model designers and users do not understand the decision process.

3. Inaccurate or false information: Generative AI may produce incorrect information, such as "hallucination," which will aggravate the burden of the content review process. Overreliance on inaccurate content may result in decision-making mistakes and other losses.

4. Inference attack: When interacting with Generative AI, attackers attempt to deduce additional information they cannot access by using prompt, such as AI's training information, storage method, and internal logic. Due to inference attacks, such information may be destroyed or leaked.

5. Intellectual property (IP): AI models' open-source licenses have different application ranges. Therefore, commercial use of models must ensure compliance and avoid violating IP rights.

6. Data privacy and security: Large models process vast amounts of personal and sensitive data. Inadequate data measures may lead to data breaches, heightening privacy risks.

7. Model stability: Large models may become unstable due to data drift, overfitting and other causes. Model instability may lead to commercial banks' prediction and decision errors.

8. Technical management and complexity: Large models require advanced technologies and professional management. Commercial banks may lack the expertise or experts to operate and maintain the models, thereby increasing operational risks.

Solution

Applying Deloitte's TrustAI framework to AI model governance. Incorporating the TrustAI framework into banks' model risk management processes can help protect customer privacy, maintain security, and ensure compliance with relevant laws and regulations.

Deloitte TrustAI framework covers six principles:

1. **Fair/Impartial**
   AI applications include internal and external checks to help enable equitable application across all participants.

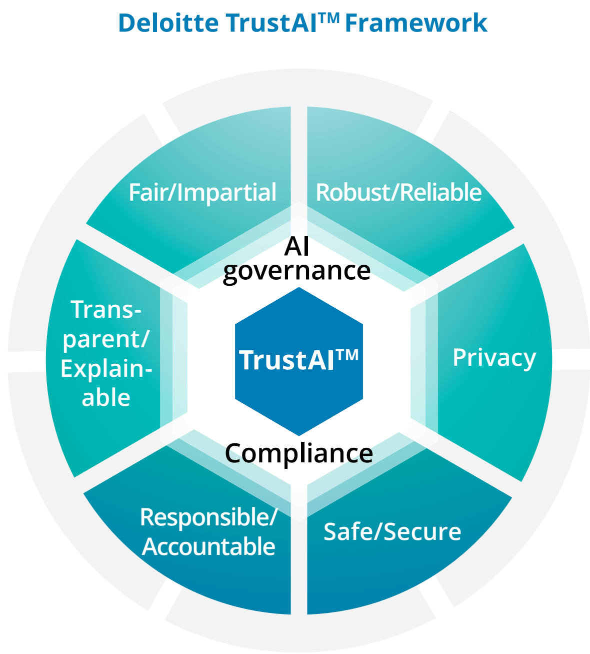
2. **Transparent/Explainable**
   All participants can understand how their data is used and how AI systems make decisions.

3. **Responsible/Accountable**
   AI systems' rising complexity and autonomy may make it hard to identify the ultimate responsible persons for the system's decisions. Policies should be in place to determine who is responsible for the output of AI system decisions.

4. **Robust/Reliable**
   Institutions should require AI systems to show equal or higher robustness and reliability than human professionals.

5. **Privacy**
   It is crucial to guarantee that all data used in AI systems are collected appropriately with consent to ensure customer privacy.

Figure 3: Deloitte TrustAI Framework



Source: Deloitte AI Institute

6. **Safe/Secure**
   AI systems have greater control over essential processes, and cyberattacks and other threats intensify significantly. Thus, institutions must adopt adequate measures to ensure the integrity and security of the data and algorithms backing AI systems.

Incorporating TrustAI Framework into model risk management processes consists of the following steps:

Initiation	Design	Building	Verification	Integration	Monitoring
Strategies & goals	**Concept & requirements**	**Implementa-tion**	**Algorithm verification**	**Deployment & system**	**Management & control**
Deciding stage plans, business objectives and values; Evaluation criteria for people, models, services, processes, and tools; Ensuring implementing appropriate governance and control frameworks.	Collecting examples matching strategic goals and core values; Setting goals, determining scopes, identifying constraints, and assessing feasibility and risks.	Working with developers and stakeholders to determine AI's basic architecture and functions, improving data requirements, and considering explainability, fairness, and privacy.	Performance verification standards: accuracy, fairness, and transparency. Verifying reliability and reproducibility and questioning the decisions throughout the design process.	Ensuring function integrity, I/O attack protection, and resilience to operating stress and fluctuations.	Regular retraining to maintain performance expectations, preventing model drift, and conducting tests to mitigate the impact of potential failure modes.

Typical measures:

- Design stage: Determine the roles and responsibilities of stakeholders throughout the model management lifecycle and set up an AI ethics advisory committee;

- Model building stage: Adopt Differential Privacy and other technical measures to protect user privacy and data; improve model fairness and impartiality through resampling and algorithm upgrading; apply LIME and SHAP to enhance explainability;

- Deployment stage: Localized deployment to reduce risks from malicious attacks and sensitive data breaches;

- Monitoring stage: Set up performance monitoring indicators based on data quality, model design methods, market changes, and external impacts to promptly detect and address the risks of poor performance or nonperformance.

AI continues to evolve and is capable of handling more complex tasks and making decisions without human intervention. With enhanced deep learning ability, AI can process and analyze significantly larger amounts of data. Combining AI, edge computing and IoT improves data analysis accuracy, thereby enabling rapid responses and efficient resource utilization. Commercial banks face tremendous challenges in providing financial services for AI-aiding industries and applying AI to improve their risk management capabilities and navigate fierce market competition and stringent regulatory requirements. Commercial banks must constantly pursue innovation amidst changes. They must ensure AI reliability and enhance their model risk management through appropriate governance frameworks and management means to be a new-quality productive force in the digital era.

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Large Financial Groups' Exploration of "Shadow IT" Governance Models Amid Digital Transformation

4.10

"Shadow IT" emerged amid digital transformation

Digitalization is reshaping the competitive landscape and driving China's economic growth. Financial institutions closely follow the national policy orientation to accelerate digital transformation and build China into a financial powerhouse. With policy guidance, such as the CBIRC's *Guiding Opinions on the Digital Transformation in Banking and Insurance Sectors*, digital transformation in the financial sector gained momentum. The extensive application of digital technology transformed traditional financial products and services, giving rise to "shadow IT".

"Shadow IT" is any software, hardware, and other IT resources used on an organization's internal network without the IT department's approval or oversight.

"Shadow IT" exists expansively in financial institutions' operations, typically:

- Unauthorized IT solutions: Employees download and use unofficial software tools, such as Tencent Docs and WPS in WeChat, to process document information; the business departments deploy robotic process automation (RPA) without the IT department's approval.
- Use of shared tools: Employees store and share documents using cloud services such as Baidu Cloud Drive and Alibaba Cloud Drive.
- Bring Your Own Device (BYOD): Employees connect their personal computers, smartphones, and other devices to internal networks or systems for work purposes.

The popularization of digital technology significantly lowered the threshold for employees to deploy digital technology personally. Employees are expected to use third-party communication tools at work, adopt low-code to quickly develop IT systems, deploy RPA personally, and use mini-programs for work purposes. "Shadow IT" seems to be an irresistible trend. However, although financial institutions benefit from "shadow IT", they must be alert to relevant risks. The following section explores managing and controlling such risks without sacrificing innovation and flexibility to ensure financial institutions' secure, compliant, and efficient digital transformation.

"Shadow IT" risks can't be ignored

"Shadow IT" does not follow formal IT management processes. Therefore, its wide application without proper governance may trigger a series of IT risks.

Risk of expanded attack surface

Using unauthorized third-party software or self-developed systems often does not undergo organizations' formal security review and performance testing and applies no security patches and firewalls. Therefore, these software and systems may become carriers of malicious software or viruses, leading to sensitive information leakage or attacks. The vulnerability of "shadow IT" is in the blind zone of current network and information security management, impacting organizations' overall security protection.

According to third-party statistics, organizations' exposed IT assets are, on average, 30% more than those they control or manage. Organizations only conduct security checks and deploy security measures for traditional IT assets, while hackers may find attack paths from the information exposed by "shadow IT". Organizations' network security risks will increase tremendously if they cannot recognize all these risk exposures.

Risk of data inconsistency and leakage

Business personnel sometimes use public cloud services. Online-offline collaboration improves organizations' efficiency of operations but arouses risks such as uncontrollable cloud data and fragmented data storage. If data are scattered in various "shadow IT" assets and not under centralized management, the information employees use may be informal, invalid, and outdated.

When business personnel access unauthorized cloud services, organizations' data "flow out" without permission, leading to data leakage. The use of cloud storage (such as Baidu Cloud Drive, Quark Cloud Drive, and Alibaba Cloud Drive), online document sharing and editing tools (such as Tencent Docs and Kingsoft Online Documents), and external generative AI may cause data leakage.

Compliance risk

The *Cybersecurity Law, Data Security Law, and Personal Information Protection Law* established strict requirements for deploying IT systems and processing personal information. The "shadow IT" solutions adopted by employees or departments that lack compliance expertise may not conform to the network and data security standards. Consequently, organizations will face regulatory penalties or legal proceedings.

Financial institutions' "shadow IT" governance

Guiding principle: financial institutions should effectively manage relevant risks while maximizing the benefits of applying "shadow IT". They should attach great importance to "shadow IT" governance, know all the manifestations, application, and distribution of "shadow IT" within the institution, identify and evaluate relevant risks, develop a suitable governance model, establish a governance mechanism covering the strategy, management, and operation levels, and control the risks through reasonable systems and effective technical means.

1 Build a "shadow IT" panorama

Sort out "shadow IT" assets: Understand internal "shadow IT" deployment through automated tools and data tracking mechanisms and establish a " shadow IT" management checklist.

Visualize "shadow IT" asset management to control risks: Utilize or upgrade existing monitoring systems to perform real-time monitoring of network traffic, "shadow IT" application status, data storage and processing and generate monitoring reports to visualize control and maintenance of "shadow IT" assets within the organization. Financial institutions should include "shadow IT" in their regular evaluations of IT risks. They should establish clear policies for collecting, transmitting, processing, storing, and deleting "Shadow IT" data and appropriately monitor these processes.

2 Specify the principles for approving "shadow IT" application

Financial institutions should specify the review and approval principles for "shadow IT" applications, sort out and update the basic application scenarios, and establish clear approval procedures (request submission - risk assessment - approval).

Objective review and approval and visible decision-making: Financial institutions must develop flexible and sustainable review and approval standards to adapt to the rapid technical and business environment changes. They should execute visual management of the entire review and approval process and adopt simple and practical tools to efficiently and objectively approve "shadow IT" applications. In addition, they should establish a cross-department "shadow IT" application governance framework and an approval team consisting of IT and business personnel to jointly decide the necessity and priority of shadow IT application based on the application scope.

Continuously optimize review and approval strategies: Financial institutions should thoroughly analyze the security vulnerabilities caused by "shadow IT," examine their security strategy risks, regularly inspect the "shadow IT" compliance, establish a transparent "shadow IT" application verification, exit, and feedback mechanism, evaluate the effectiveness of the approval processes, flexibly adjust/dynamically optimize the review and approval strategies to better meet the needs of employees.

3 Determine the IT and business departments' responsibilities

Financial institutions should determine the IT and business departments' responsibilities in "shadow IT" governance, clarify the relationships of cross-department cooperation, and ensure adequate resources.

- Determine responsibilities: Design a responsibility matrix based on the "shadow IT" status, specifying the responsibilities of the business and IT departments.

- Clarify relationships: Clarify the correlation with the decision-making, management, execution and user levels, and decide the roles and responsibilities under all tasks of the "shadow IT" management system.

- Ensure adequate resources: Allocate the human and technical resources needed for all tasks based on the responsibilities and work details.

Senior management

IT Department	Business department
Responsibility	**Responsibility**
• Lead the institution's "shadow IT" asset management; • Coordinate "shadow IT" management tasks and review and approve departments' "shadow IT" assets; • Develop, maintain, and improve "shadow IT" management systems and processes; • Inspect and supervise the implementation of the "shadow IT" management system; • Identify "shadow IT" risks and guide business departments' management work.	• Manage "shadow IT" assets during business process; • Develop, implement and supervise departmental "shadow IT" management processes and deployment plans; • Assist the IT department in special "shadow IT" management activities.

4 Develop solutions to reduce "shadow IT" from the source

Promote efficient and streamlined IT development tools and models: To quickly respond to end-users business needs, financial institutions' IT departments can adopt efficient, secure, and streamlined tools such as DevOps technology to help business departments agilely deploy new solutions. If the IT department can better satisfy the business demands, the application of "shadow IT" within the organization will decrease significantly. This is an effective way to address "shadow IT" issues.

Provide solutions based on business demands: Financial institutions should regularly investigate employees' needs for specific software and decide the necessity or urgency of the software they request. They should provide employees with the necessary tools in a timely manner and warn them against the risks of privately adopting third-party software. Financial institutions should consider adding the tool to their IT services if a third-party tool is necessary for work purposes. If the IT department is fully justified in denying the tool, such as for security and compliance considerations, it should give explanations in accordance with the institution's "shadow IT" risk policies and provide effective IT services to facilitate the business goals.

Establish BYOD procedures and specify the application scenarios: Financial institutions should perform BYOD risk evaluation and effective management. They should make employees fully understand BYOD risks, develop feasible BYOD strategies, and decide on specific BYOD scenarios. Financial institutions should avoid BYOD-caused leakage by executing strong user or multifactor authentication. At the same time, they should effectively monitor the services accessed and data paths, such as recording the time of events, source IP addresses, device/user agents, failed and successful authentications, and authorization/resource requests, to control BYOD-related risks.

⑤ Share "shadow IT" governance experience

Financial institutions' internal "shadow IT" training and experience-sharing mechanisms are conducive to addressing "shadow IT" risks, including:

- Organizing regular "shadow IT" training and seminars to popularize relevant knowledge among employees and raise their awareness of "shadow IT" risk management and control;
- Collecting and studying successful "shadow IT" governance cases and regularly sharing relevant achievements and experience to facilitate the identification of "shadow IT" risks and high-quality digital transformation of the institution.

With the ongoing digital transformation, financial institutions' innovative Fintech applications are dueling with "shadow IT." Financial groups must attach importance to "shadow IT" risks and actively explore suitable "shadow IT" governance models by combining IT regulatory requirement for the financial sector. Thus, they must balance technological innovation and risk management and drive high-quality digital transformation.

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2024

Macroecomomic and Banking Outlook

Global economic recovery faces twists and turns

Currently, the prospects of the global economy remain uncertain. Geopolitical conflicts have not eased. According to the WBG's January 2024 *Global Economic Prospects*, global growth is projected to slow for the third consecutive year to 2.4% in 2024, significantly lower than the average of 3.8% of the 2000-2019 period. Over the past two years, major economies' interest rate hikes to address inflation have continually impacted economic activities. There is no clear sign of inflation decrease in the United States. In the first two months of 2024, the yield on the 10-year U.S. Treasury note rose from around 3.8% to more than 4.0%, intensifying the uncertainty of the global economy. In addition, rising political and geopolitical risks aggravate the insecurity of economic operations. In 2024, more than 70 countries and regions will hold elections, including the United States, Russia, India, and Brazil, which will impact the global political and economic landscapes. The ongoing conflicts in Eastern Europe and the Middle East may significantly affect energy prices, exacerbating global inflation expectations.

Policies focus on stabilizing growth

China set the 2024 annual growth target at around 5%, a similar pace as 2023, evidencing China's general principle of "promoting stability through progress." The government also attaches importance to ensuring employment and people's livelihood and plans to create more than 12 million new jobs in urban areas in 2024. China stressed intensively supporting industries that provide many job opportunities, highlighting the roles of the service sector and platform economy.

Significant changes were monitored in China's economic development after 2023. China's economic growth is no longer driven by investment and export. The rewards of infrastructure investments are unsatisfactory. Export is frustrated by many unfavorable factors. For example, the EU launched an anti-subsidy investigation on imports of Chinese electric vehicles, which may lead to penalty tariffs; some countries resist deindustrialization (such as the United States re-industrializing and re-shoring its manufacturing sector); protectionism rose in some emerging markets, even countries with trade surplus and friendly relations with China (For instance, Brazil launched an anti-dumping investigation on prepainted steel sheet imports from China; Indonesia's ban on e-transactions on social media platforms on the excuse of "predatory pricing" impacted TikTok). China is unlikely to adopt a deluge of strong stimulus measures as in 2008, because it will be more challenging to address overcapacity amid rising protectionism.

Regarding macro policies, China confirmed that it is reasonably intensifying the proactive fiscal policy with a focus on improving quality and effectiveness. China planned to issue ultra-long special treasury bonds in 2024 and the next few years. The government furthered fiscal expansion by issuing RMB1 trillion worth of government bonds the previous year, signifying the determination and goal to promote economic growth. As domestic inflation is relatively low, China's monetary policy can exert further influence. Pan Gongsheng, president of the PBC, indicated at a press conference of the second session of the 14th NPC that China would appropriately cut the reserve requirement ratio (RRR), use multiple monetary tools, enhance countercyclical adjustments, and keep liquidity conditions ample.

Financial sector's goal – "A financial powerhouse"

The October 2023 Central Financial Work Conference established unified leadership on all financial tasks and enunciated the goal of building a "financial powerhouse" for the first time. It is vital in advancing the financial sector's medium – and long-term development. China's financial sector will focus on building a modern financial system.

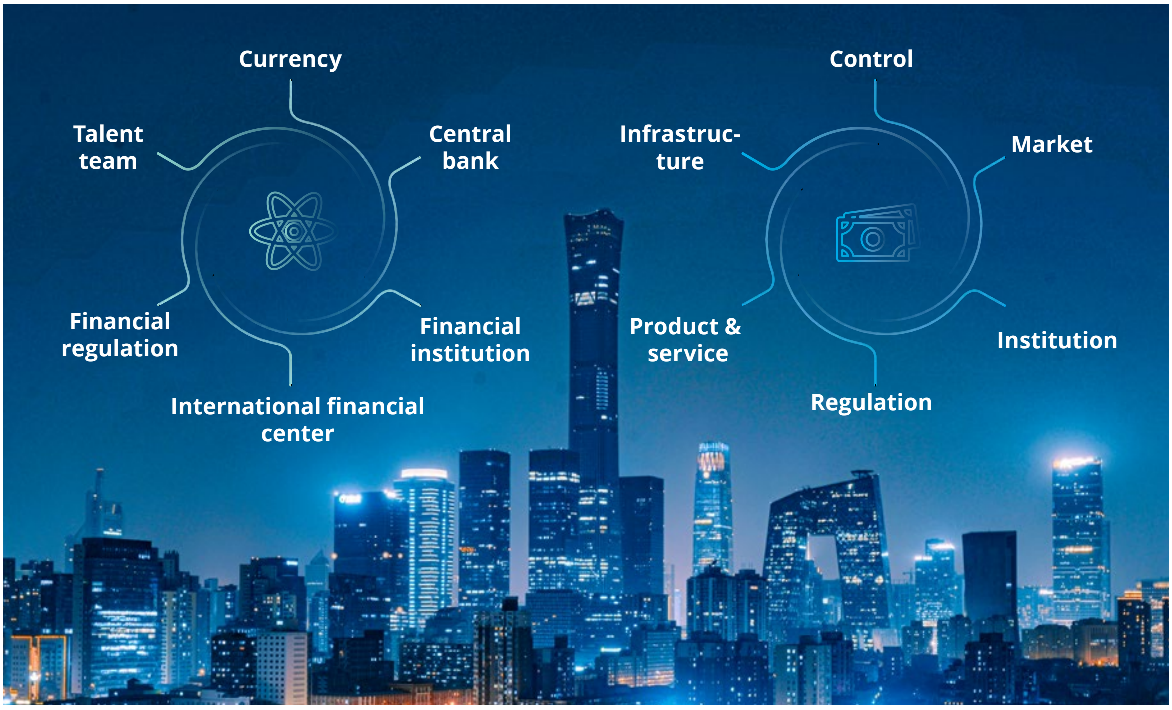
"A financial powerhouse" must be secured by high-quality economic development and elevate China to have the power to issue international currencies and the capacity to price international financial products, allocate global financial resources and formulate financial rules.

This demands further internationalization of RMB and Chinese financial institutions, further opening-up of capital markets, convertibility of RMB capital accounts, and China's international financial centers' strong ability to attract and retain talent and resources.

On 16 January 2024, General Secretary Xi Jinping explained the rich implications of "a financial powerhouse" at the opening ceremony of a study session on promoting high-quality financial development. The meeting mapped six core elements and key financial systems and pointed out the path for China to advance from a large financial country to a financial powerhouse. It also recognizes that fostering a financial culture with Chinese characteristics is a must for enhancing China's international financial competitiveness.

Figure 1: Financial Powerhouse – Six Core Elements

Figure 2: Financial Powerhouse – Six Key Financial Systems



Source: Xinhua News Agency, the People's Bank of China

Possible RRR and interest rate cuts

At the end of 2023, the Central Economic Work Conference proposed matching aggregate financing and money supply with expectations for economic growth and price levels. The PBC's monetary policies will significantly maintain price stability and promote moderate price rebound.

On 5 February 2024, the PBC executed the first round of across-the-board RRR cuts, 0.5 percentage points for most financial institutions, which was expected to provide the market with long-term liquidity of RMB1 trillion. The average RRR in China's banking sector is 7%, a relatively high level compared with other countries. Thus, there is still room for RRR cuts in China.

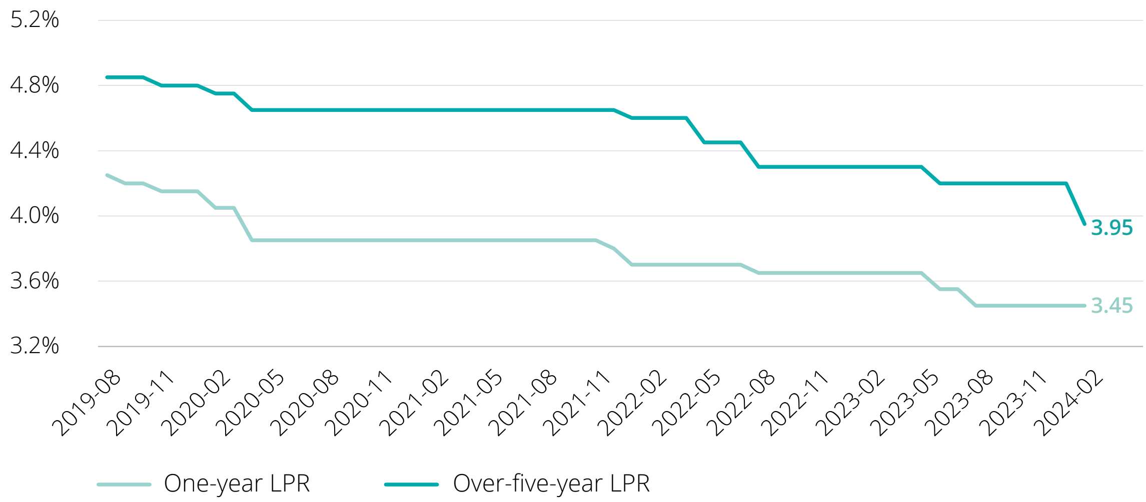
On February 20, the over-five-year loan prime rate (LPR) was lowered by 25 basis points (from 4.2% to 3.95%), the most significant decline since the LPR reform in August 2019. Externally, the U.S. is expected to enter an interest rate cut cycle in 2024; thus, the interest rate gap between China and the U.S. will narrow, and the exchange rate implications will ease, creating favorable conditions for China to further interest rate cuts.

A smoother interest rate transmission mechanism

While the PBC has kept the recent medium-term lending facility (MLF) rates constant, the significant LPR reduction in February reflects a more mature market-oriented interest rate transmission mechanism. The LPR reduction contained two aspects of logic: 1) from November to December 2023, major domestic banks lowered deposit interest rates; 2) on January 25, the re-lending and rediscount rates the PBC provided to financial institutions for supporting the agricultural sector and small businesses were lowered by 25 basis points.

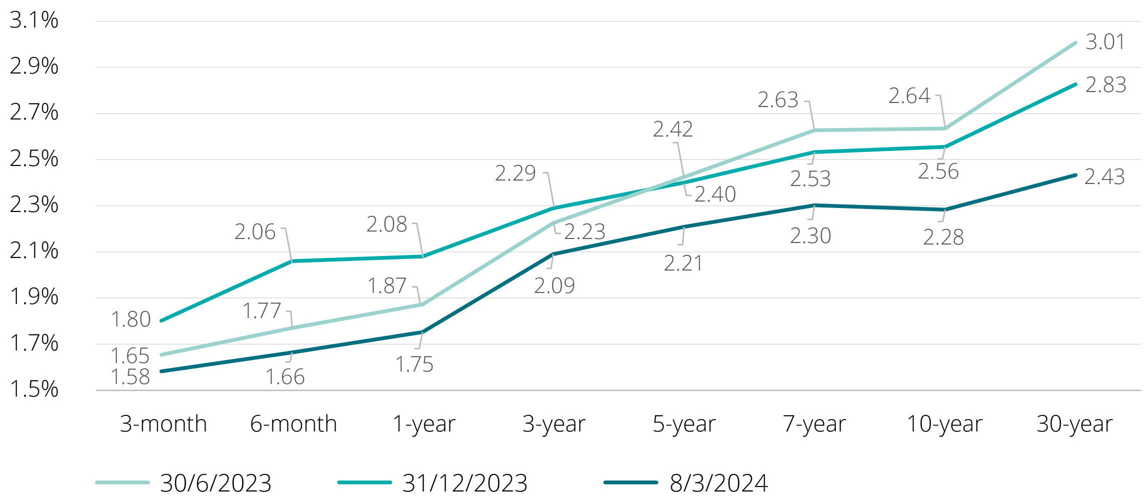
The LPR reduction led to a decline in bond yields and a bull market. At the end of February, the yields on the 10-year and 30-year government bonds hit record lows. The yield on the 30-year government bonds fell below 2.5% for the first time, lower than the current MLF level. The interest rate transmission framework improved, covering policy interest rates (MLF, re-lending and rediscount rates), bank interest rates, and bond yields. Smooth interest rate transmission in the credit and bond markets helps reduce investment and financing costs. In addition, President Pan clearly stated that "there is enormous space for residents purchasing government bonds," signaling regulators' greater attention to direct financing and support for developing the bond market and dissolving local government debts.

Figure 2: LPR to Record Lows



Source: The People's Bank of China

Figure 3: Government Bond Yield Curve



Source: China Central Depository & Clearing Co., Ltd., The People's Bank of China

In light of the new opportunities presented by the "Five Major Areas," the significance of credit structure adjustment is highlighted

Faced with economic structural transformation, banks should optimize the supply of credit resources to stabilize their net interest margins. Adjusting the credit structure is more important than emphasizing credit growth. The "five major tasks" decided the financial sector's mid- and long-term service orientation. In January 2024, the PBC announced it would establish a credit market department specializing in revitalizing existing loan resources and promoting the "Five Major Areas".

Li Yunze, Minister of the NAFR, stated that the "five major tasks" would inject strong momentum into high-quality development and create enormous opportunities for developing China's financial sector. With the flourishing digital economy, advanced manufacturing, and strategic emerging industries, China's banking sector will undergo structural adjustment and advance steadily while serving the high-quality development of China's economy.

Technical finance is the primary issue among the "Five Major Areas" and is closely related to new quality productive forces. Financial institutions should focus on enhancing their ability to assess the risks of sci-tech enterprises and build a service system covering the financial needs of sci-tech enterprises in the start-up, growing, and mature stages. Scientific and technological innovation-oriented finance service pilot projects, monetary financial instruments, and relevant risk compensation mechanisms will gradually improve. The PBC also stated that it would continue to study, formulate and integrate instruments to support technological innovation and digital finance.

Figure 4: New Opportunities Triggered by the "Five Major Tasks"

Source: Public information, Deloitte's financial research

Emphasize the capital market's intrinsic stability and cultivate first-class investment banks

The Government Work Report proposed enhancing the intrinsic stability of the capital market. Regulators will improve the capital structure, basic systems, market adjustment mechanisms, professional services, and regulatory enforcement to maintain intrinsic stability and boost the resilience of the capital market. In addition, regulating shareholders' stock-selling, promoting sharing out of dividends, and executing mandatory delisting raised higher requirements for professional service institutions.

The October 2023 Central Financial Work Conference proposed fostering modern financial institutions and a modern market system. Direct financing (bonds, non-financial enterprises' domestic stocks) accounts for less than 30% of aggregate social financing, significantly lower than the G20 countries' 65-75%.

As the capital market strengthens in stability and resilience, the registration-based IPO system will drive the A-share IPO financing scale to high levels, increasing the proportion of direct financing. The construction of a modern multi-level capital market system demands world-class investment institutions. To parallel top-notch institutions such as Goldman Sachs and Morgan Stanley, whose international businesses contribute 30% to 40% of their total revenue, Chinese securities companies must consolidate their international business competitiveness, including increasing international business income and diversifying derivatives.

Convenient payment services drive consumption and high-level opening-up

The regulatory requirements and standards for payment services have improved. Regulators have issued two important policies to boost payment services: the *Regulations on the Supervision and Administration of Non-bank Payment Institutions* (hereinafter referred to as the "Regulations") and the *Opinions on Further Optimizing Payment Services and Raising Payment Convenience* (hereinafter referred to as the "Opinions"). The Regulations, effective from 1 May 2024, establish regulatory requirements for non-bank institutions providing small-sum and convenient payment services. For instance, the PBC may increase the required minimum registered capital based on the institutions' business type, geographical scope of operations, and business scale. The Regulations advocate whole-chain and full-cycle supervision of non-bank payment institutions to prevent business aberrance, fund misappropriation, and data leakage. The Opinions, issued by the State Council on March 7th, put forward six primary tasks for banks and payment institutions: 1) improve bank card acceptance; 2) optimize the cash usage environment; 3) enhance mobile payment convenience; 4) protect consumers' choice of payment; 5) enhance account services; and 6) strengthen the promotion and publicity of payment services.

Mobile payment services are popular in China, with the weakest links being the elderly and foreigners. China is vigorously promoting the "silver economy" and extending the visa-free policy to more countries. These moves will create new development opportunities for convenient payment services. Transactions will be more flexible to boost consumption and facilitate high-level opening up.

Focus on resolution of local government debts, capital replenishment of small and medium-sized banks, and prevention of real estate risks

In 2024, the stabilized economy, enhanced market confidence, and moderately loosened monetary conditions will alleviate risks and debts in key areas.

First, banks are actively engaged in dissolving local government debts. In 2024, a package of solutions for defusing local government debt risks will be implemented. Banks help reduce financing costs, extend the length of maturity, and assist in debt restructuring, likely affecting their income. The PBC may further lower the RRR and interest rates to maintain reasonably ample market liquidity and reduce banks' cost of funds. Second, the over-financialization trend in the real estate sector has been contained, but the sector has not yet seen an upturn. In 2023, real estate investment decreased by 9.6% year-on-year. The sales area and revenue of commercial housing decreased by 8.2% and 6.0% year-on-year, respectively. The 25-basis point reduction of the over-five-year LPR signaled stabilizing the real estate market, which is expected to stimulate residents' willingness to buy houses. Third, the issuance of special bonds for replenishing capital of small and medium-sized banks has accelerated. City and rural commercial banks' non-performing loan ratios are significantly higher than the average level of the banking sector. They are also pressed by the narrowed net interest margins. In 2024, multiple capital replenishing approaches will be implemented to mitigate small and medium-sized banks' risks. For instance, local financial holding companies become indirect shareholders of the banks; Local governments inject capital in the form of negotiated deposits, which are convertible into banks' shares of common stock.

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Field of Research

Macro Level

Analysis of the domestic and overseas economic environment and situation, interpretation of national macro policies and the potential impact on the financial services industry; regular integration of the view of Deloitte's chief economists, such as Voice of Asia and Deloitte's monthly economic analysis.

Regulation

Changes in the PBC, CBIRC, CSRC and other financial regulators' policies, and industrial impact forecast; regular integration of the achievements of the communication and cooperation between Deloitte and Chinese regulators, and the research of Deloitte's Asia Pacific Centre for Regulatory Strategy.

Industry

Providing insights into the banking & capital markets, insurance, investment management, Fintech and other financial sub-industries, based on the industry classification of Deloitte FSI; regular integration of the knowledge contributions and the advanced ideas of the publications of Deloitte global and China FSI business lines.

Customer

Summarizing Deloitte's FSI service experience and project achievements to develop methodologies and insights, and providing relevant research support services according to customers' needs; regular integration of Deloitte's knowledge and experience from customer services to empower customers.

Hot topics

Keeping a close watch on the financial industry and market hotspots, such as the 14th Five-Year Plan formulation, corporate governance, green finance, elderly-care finance, digital inclusive finance and reform of small and medium-sized banks; providing in-depth research and outlook based on Deloitte's experience and observation, and integrating the experts' insights of Deloitte's various business lines.

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