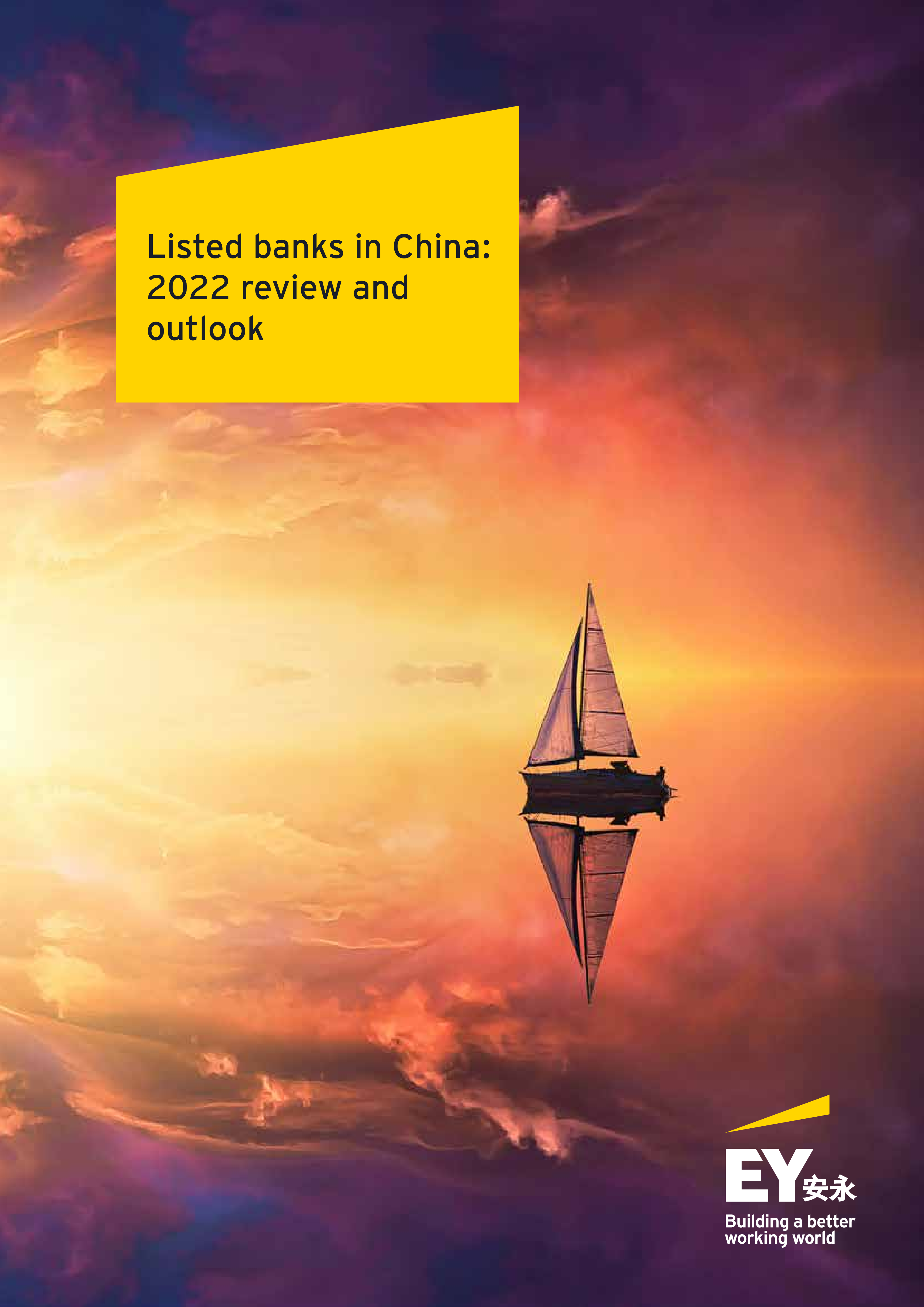
Listed banks in China: 2022 review and outlook



Building a better working world

Introduction

This is the 16th EY annual report on China's listed banks. The purpose of this report is to provide an outlook on the direction of the future development of China's banking industry based on the observations of the businesses, operating models and regulatory environment of listed banks in mainland China.

The report covers 58 listed banks that have issued their 2022 annual reports as at 30 April 2023, including 15 A+H-share listed banks, 27 A-share listed banks and 16 H-share listed banks, with total assets and net profit accounting for 83% and 93% of all commercial banks in China, respectively.

6 large banks

- Industrial and Commercial Bank of China (ICBC, A+H)
- China Construction Bank (CCB, A+H)
- Agricultural Bank of China (ABC, A+H)
- Bank of China (BOC, A+H)
- Bank of Communications (BOCOM, A+H)
- Postal Savings Bank of China (PSBC, A+H)

10 national joint-stock banks

- China Merchants Bank (CMB, A+H)
- Industrial Bank (IB, A)
- Shanghai Pudong Development Bank (SPDB, A)
- China Minsheng Bank (CMBC, A+H)
- China CITIC Bank (CITIC, A+H)
- China Everbright Bank (CEB, A+H)
- Ping An Bank (PAB, A)
- Huaxia Bank (HX, A)
- China Bohai Bank (CBHB, H)
- China Zheshang Bank (CZB, A+H)

29 city commercial banks

- Bank of Beijing (BOB, A)
- Bank of Shanghai (BSH, A)
- Bank of Jiangsu (BJS, A)
- Bank of Ningbo (BONB, A)
- Bank of Nanjing (BONJ, A)
- Huishang Bank (HSB, H)
- Shengjing Bank (SJB, H)
- Harbin Bank (HRB, H)
- Bank of Hangzhou (BHZ, A)
- Bank of Guiyang (BGY, A)
- Bank of Zhengzhou (BZZ, A+H)
- Bank of Tianjin (BTJ, H)
- Bank of Chengdu (BOCD, A)
- Zhongyuan Bank (ZYB,H)
- Bank of Chongqing (BCQ, A+H)
- Bank of Gansu (BGS, H)
- Bank of Qingdao (BQD, A+H)
- Bank of Changsha (BOCS, A)
- Jiangxi Bank (JXB, H)
- Bank of Jiujiang (BJJ, H)
- Bank of Xi'an (BOXA, A)
- Luzhou Bank (LZB, H)
- Jinshang Bank (JSB, H)
- Bank of Suzhou (BSZ, A)
- Bank of Guizhou (BGZ, H)
- Weihai City Commercial Bank (WHCCB, H)
- Xiamen Bank (XMB, A)
- Qilu Bank (QLB, A)
- Bank of Lanzhou (BLZ, A)

*Bank of Jinzhou (BJZ) is not included as it has not issued its 2022 annual report.

13 rural commercial banks

- Chongqing Rural Commercial Bank (CQRCB, A+H)
- Guangzhou Rural Commercial Bank (GRCB, H)
- Zijin Rural Commercial Bank (ZJRCB, A)
- Changshu Rural Commercial Bank (CSRCB, A)
- Wuxi Rural Commercial Bank (WXRCB, A)
- Jiangyin Rural Commercial Bank (JYRCB, A)
- Rural Commercial Bank of Zhangjiagang (ZJGRCB, A)
- Suzhou Rural Commercial Bank (SZRCB, A)
- Jilin Jiutai Rural Commercial Bank (JTRCB, H)
- Qingdao Rural Commercial Bank (QRCB, A)
- Shanghai Rural Commercial Bank (SRCB, A)
- Dongguan Rural Commercial Bank (DRCB, H)
- Ruifeng Rural Commercial Bank (RRCB, A)

The data contained in this report, unless otherwise noted, are sourced from the annual reports published by the listed banks. Except for the data of 16 H-share listed banks from their financial statements prepared in accordance with International Financial Reporting Standards, data of other banks are collected from their financial statements prepared under the Chinese Accounting Standards for Business Enterprises. For comparison, we have made necessary adjustments to the classification of certain data in order to make them more comparable. For the listed banks that restated their financial statements, the restated figures are used in the report. Unless otherwise noted, the averages of all indicators of the listed banks are weighted averages.

Catalogue

Executive summary: Chinese listed banks are seeking value creation

In 2022, downside risks to economic growth across major economies became more pronounced amid rising geopolitical tensions and elevated inflations, prompting rapid tightening of monetary policies and market liquidity. China's domestic economy was likewise impacted by multiple shocks, experiencing shrinking demand, disrupted supply and weakening expectations. Against such a challenging backdrop, China continued to strengthen macro regulations and achieved a positive GDP growth rate of 3%, elevating the gross domestic products to new highs.

An increasingly complex external environment exacerbated challenges for the Chinese listed banks. In response, many listed banks disclosed in their 2022 annual reports that their long-term corporate blueprint would focus on "value creation" to support more stable and reliable returns for shareholders, customers and society, in a bid to navigate macro-economic cycles and ensure sustainable long-term development.

Sustaining value for shareholders. In 2022, the total operating income for the 58 listed Chinese banks reached RMB6,087.97 billion, growing by 0.79% YoY, down 6.91 percentage points from the 7.7% growth in 2021. Meanwhile, total net profit stood at RMB2,136.31 billion, a YoY increase of 7.1%, down 4.95 percentage points from 12.05% in 2021.

These listed banks saw slower revenue growth mainly due to slower growth in net interest income in response to the government's call to spur real economic growth. There was also a decline in net fee and commission income, investment returns amid capital market volatility and exchange rate fluctuations. Overcoming challenges posed by the complex and volatile environment, the listed banks registered sustained growth in operating income and profits and created value and returns for shareholders. With the slower GDP growth weighing on the profitability, the average return on equity (ROE) and average return on assets (ROA) of the listed banks in 2022 were 9.84% and 0.73%, respectively, down 0.16 percentage point and 0.01 percentage point from 2021.

Driving value for customers. Following a "customer-centric" philosophy, the listed banks have continuously conducted product and service innovations and improving customer experience to uplift customer value. For corporate banking, they focused on business transformation to improve the quality and efficiency of serving the real economy; addressed customer needs for financing, settlement and financial advisory with comprehensive solutions integrating investment banking and commercial banking capabilities.

They also increased support for strategic emerging industries, manufacturing, and areas around technology and innovation. By the end of 2022, the balance of manufacturing loans of the listed banks increased by 18.09% from 2021. To reduce the financing costs of the real economy and grow together with customers, the banks actively lowered interest charges. The returns on loans of the listed banks in 2022 was 4.4%, down 0.13 percentage point from 2021.

To drive retail banking, the listed banks identified the core financial needs of retail customers, and built new ecosystems encompassing wealth management, consumer finance, payment and settlement. These efforts aimed to enhance their personal finance offerings, support customers' pursuit for a better financial life, and help drive "common prosperity" for all.

In 2022, five new wealth management companies were approved to operate, increasing the number of established wealth management companies to 30. The 21 wealth management companies that disclosed data achieved an aggregate net profit of RMB33.6 billion in 2022. While the net market value of wealth management products declined due to fluctuation of net values, the absolute amount and growth of net profit increased, indicating significant improvement in profitability.

Creating value for society. In 2022, the listed banks implemented a raft of decisions and plans made by the central government to stabilize the economy, and injected counter-cyclical credit as a stronger support for macroeconomic stability. Consequently, loans grew by over 11% YoY during the past five years. The listed banks were committed to serving the national strategies, allocating more resources to key areas of people's livelihood and vulnerable areas in economic development. Loans grew fastest in manufacturing, inclusive finance and green finance. Herein, 47 listed banks disclosed their green loan data, which totaled RMB16,293.9 billion as at the end of 2022, increasing by 45.02% from 2021 year-end. Meanwhile, 49 listed banks disclosed their inclusive finance loans totaling RMB14,104.7 billion, up 28.69% YoY for the same period. While pursuing economic benefits, the listed banks shouldered social responsibility and paid more attention to environmental and social benefits. Building themselves as "responsible" banks, they have integrated ESG practices with their development strategies and business management, seeking to achieve carbon neutrality within their own operations and facilitate carbon neutrality in the real economy. So far, 15 listed banks have become signatories of the Principles for Responsible Banking of the United Nations.

To ensure long-term value creation, these banks are on the trajectory of enhancing risk control to sustain growth, deepening digital transformation, and improving output efficiency with technological innovation. They are further exploring business models that lend momentum to new value creation and focusing on talent development to grow together with employees and reinforce the strength for value creation.

Enhancing risk control to safeguard performance. In 2022, the listed banks continued efforts in forecasting, monitoring, and analyzing significant risk types and core risk areas, with asset quality satisfactorily passing the stress test of internal and external factors. As at 31 December 2022, the non-performing loan (NPL) balance of the listed banks was RMB2,010.95 billion, an increase of RMB151.27 billion from the prior year-end. On a percentage basis, increased risks in the real estate sector saw the weighted-average NPL ratio of corporate loans to this sector rising year-on-year from 2.3% to 3.56% at 2022 year-end, while this ratio for personal housing mortgage loans rose from 0.32% to 0.45% at 2022 year-end. Nonetheless, the weighted-average NPL ratio still saw a slight improvement to 1.33% at end-2022 from 1.37% the prior year as the listed banks managed to stem and reverse rising overall NPL ratios by enhancing credit risk control and stepping up efforts in resolution and disposal of non-performing assets. As at 31 December 2022, the weighted-average provision coverage ratio of the listed banks was 237.72%, up 3.73 percentage points from 2021 year-end. They actively replenished capital through both internal and external channels, with capital adequacy ratios improving steadily. The weighted-average capital adequacy ratio of all listed banks was 15.8% at 2022 year-end, up 0.15 percentage point from 2021 year-end, enhancing the banks' risk resilience.

Deepening digital transformation to empower value creation via technology and innovation. In 2022, the listed banks began to shift their focus from speed to quality for FinTech as they deepened digital transformation. Twenty-four listed banks disclosed investment data in technology in their 2022 annual reports, with an aggregate amount of RMB185.07 billion. While maintaining investments to consolidate legacy technologies, the listed banks have also launched agility transformation at the organizational level, strengthening cooperation between home office and branches, integrating technologies in operations, and accelerating technological response to business needs.

The banks have moved to deepen the construction of cloud platform and data applications, promote precise decision-making and optimal resources allocation across front-office, middle-office and back-office operations, improve the efficiency of value creation, and to keep the cost-to-income ratio at a manageable level. In 2022, the weighted-average cost-to-income ratio of the listed banks stood at 30.7%, a slight increase from 2021.

As talent is the primary resource fuelling business transformation and development, the listed banks are continuously uplifting digital expertise of their staff to build professional talent pools adapting to evolving financial developments. This includes engaging business leaders with foresight, and high-caliber talent and innovators for the banks and their employees to collectively grow and benefit from each other and laying a solid foundation for innovative development.

In 2022, 27 listed banks disclosed the number of FinTech/IT personnel in their annual reports, which totaled over 134,000. According to the data from the 19 listed banks that disclosed the number of FinTech personnel in the recent three years, the growth in number of FinTech personnel increased from 8.92% in 2021 to 12.13% in 2022, and the proportion of FinTech personnel increased from 5.15% in 2021 to 5.68% in 2022.

Aligning with the trend of accelerating integration of finance and technology, the listed banks are cooperating with the wider ecosystems in a more open and inclusive manner. This includes building platforms internally and expanding scenarios externally and developing scenario-based ecosystems to expand the breadth and depth of financial services for the real economy and the people's livelihood.

The listed banks' journey to scenario-based finance, however, has been challenging. We advise banks to position themselves based on their own characteristics and technical capabilities, adopt appropriate strategies to differentiate, specialize and localize, and focus on a deep dive into featured scenarios. Meanwhile, they should comprehensively strengthen their security management around network, data security, and around third-party risks from engaging with external business partners.

Exploring alternative revenue streams to inject new growth momentum. In 2022, the listed banks continued with retail banking transformation, registering an increase in operating income from retail banking, but a decline in profit contribution. In 2022, the listed banks' operating income from retail banking accounted for 45.61% of total operating income, up 2.27 percentage points from 2021. The difference in the income contribution of retail banking compared with corporate banking widened to 4.81 percentage points from 2.65 percentage points in 2021. Profit before tax of retail banking represented 45.34% of total profit before tax, down 0.8 percentage point from 2021. As intense competition has increased costs in acquiring customers, the retail banking transformation has shifted from "focusing on new growth" to "achieving new growth and maintaining existing portfolios"

The listed banks should continuously implement transformation to inject new momentum to value creation. Holding full business licenses covering fund, insurance, leasing, investment banking and wealth management, large banks can harness such advantages to address customers' diversified financial needs around both product and investment. Joint-stock banks can leverage their differentiated competitive edge to make breakthroughs in featured areas. City commercial banks and rural commercial banks may step up efforts in developing themselves in the region and take geographic advantages to provide customers with more convenient and high-touch services. To better compete in a tightening regulatory environment, the listed banks should improve refined management from perspectives of customer, offerings and risk control.

Looking ahead in 2023 when China's economy is set to rebound, the listed banks will see more opportunities, albeit with uncertainties and challenges. They should adhere to the long-term horizon, and continually hold tight to the real economy, maintain strategic commitment and drive transformation and development to serve the vision for building a better society and realize long-term sustainability. While creating the long-term value for shareholders, customers and society, the listed banks should be committed to facilitating the high-quality development of China's economy and injecting certainties and new opportunities into the volatile global landscape.

Effie Xin
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Stable growth in operating results

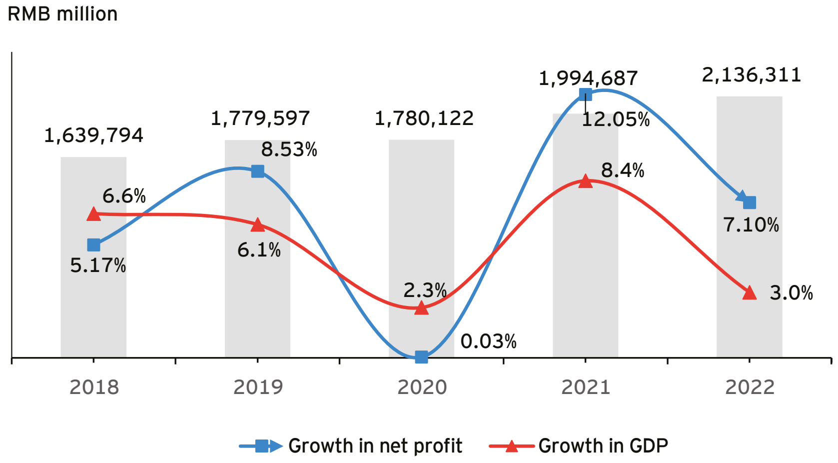
In 2022, the world economy faced a series of reinforcing shocks and global financial markets experienced sharp volatility as geopolitical tensions showed no signs of abating, surging inflation roiled the major economies, and the Federal Reserve started its rate hike cycle to curb inflation. Against this backdrop, China continued to strengthen macro regulations to grow its economy amid headwinds and achieved a 3% year-on-year GDP growth. Performances in the past five years show that China's economic growth has fluctuated significantly due to worse-than-expected disruptions and impacts. Affected by macro environment, the listed banks have also seen sharp swings in their operating results. Navigating the complex and volatile environment, the listed banks maintained positive growth in operating income and profits and created value for shareholders in 2022.

Net profit growth

↑ 7.10 percentage points

In 2022, 58 listed banks realized a total net profit of RMB2,136.31billion, a year-on-year increase of 7.1%, down 4.95 percentage points from the growth rate of 12.05% in 2021. The listed banks saw slower growth in net profit mainly due to the deceleration of growth in operating income. However, the results were divergent among the listed banks, with 20 listed banks registering an increase in net profit growth and 38 listed banks seeing a decrease.

Net profit growth trend of the listed banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Large banks realized a total net profit of RMB1,357.78 billion, growing by 5.34%. PSBC registered the most significant increase of 11.53% in net profit growth, mainly contributed by the impressive growth in net fee and commission income and other net non-interest income. The net profit growth of the other five large banks ranged from 3.09% to 6.92%. In 2022, the six large banks' net profit growth rate decreased by 6.09 percentage points from 2021. BOCOM's net profit growth presented a decrease of 8.29%, mainly due to the decline in fee and commission income caused by capital market shocks, transition to the net asset value-based management, as well as rate cuts and fee charge reduction to support the real economy. The other five large banks all registered a decrease in net profit growth, ranging from 4.76% and 7.46%.

National joint-stock banks realized a total net profit of RMB518.57 billion, growing by 9.16%. PAB saw the largest net profit growth of 25.26%, as the bank maintained stable growth in operating income while significantly reducing the provision for impairment losses on debt investment by recovering and resolving large distressed non-loan credit assets; CMB, CITIC and IB also reported a high net profit growth of over 10%; the net profit of SPDB and CBHB decreased from 2021; and the other four national joint-stock banks each recorded an increase in net profit, ranging from 2.65% and 8.31%. In 2022, the national joint-stock banks' net profit growth rate decreased by 4.3 percentage points from 2021. Except for SPDB, CMBC and CZB, the net profit growth of the other seven national joint-stock banks slowed down at varying degrees. CBHB's net profit growth was -29.24% in 2022, down 31.43 percentage points from the growth in 2021, mainly due to the decrease in operating income that resulted from the optimization of credit structure and continued efforts in rate and fee cuts to support the real economy, the increase in operating expenses on new outlets and technology investment, and the increase in provision for asset impairment losses.

City commercial banks realized a total net profit of RMB211.03 billion, growing by 13.12%, down 0.32 percentage point from the 13.44% growth in 2021. JXB, BZZ, BJJ, BOXA and BGY reported a decline in net profit while the other 24 city commercial banks reported a rise. SJB and HRB led net profit growth, standing at 136.43% and 78.7%, respectively, up 201.45 and 128.57 percentage points from 2021, which benefited mainly from swiftly recovered profitability through multiple measures as well as a lower base in 2022. The net profit of JXB and BZZ dropped significantly by 24.2% and 23.48%, respectively, mainly due to increased impairment provisions.

Rural commercial banks realized a total net profit of RMB48.93 billion, growing by 10.75%. QRCB reported a decline in net profit while the other 12 rural commercial banks reported a rise. SZRCB and JTRCB registered a net profit growth of 29.97% and 29.61%, respectively, leading the growth rate among peers as they increased the interest income amid stable expansion of credit scale. As compared with 2021, the rural commercial banks' net profit growth rate increased by 1.23 percentage points, with eight banks reporting faster growth and five banks reporting slower growth. GRCB recorded the largest growth in net profit, which increased from -28.44% in 2021 to 6.94%, mainly due to the reduction of asset impairment losses through enhanced efforts in the collection and disposal of bad assets and the increase in gains on foreign exchange.

Net profit amount and growth rate* (Unit: RMB million)						
	2020		2021		2022	
	Amount	Growth rate	Amount	Growth rate	Amount	Growth rate
ICBC	317,685	1.38%	350,216	10.24%	361,038	3.09%
CCB	273,579	1.62%	303,928	11.09%	323,166	6.33%
ABC	216,400	1.63%	241,936	11.80%	258,688	6.92%
BOC	205,096	1.59%	227,339	10.85%	237,504	4.47%
BOCOM	79,570	1.93%	88,939	11.77%	92,030	3.48%
PSBC	64,318	5.38%	76,532	18.99%	85,355	11.53%
Large banks	**1,156,648**	**1.77%**	**1,288,890**	**11.43%**	**1,357,781**	**5.34%**
CMB	97,959	4.86%	120,834	23.35%	139,294	15.28%
IB	67,681	1.47%	83,816	23.84%	92,414	10.26%
CITIC	49,532	1.10%	56,377	13.82%	62,950	11.66%
SPDB	58,993	-0.86%	53,766	-8.86%	51,997	-3.29%
PAB	28,928	2.60%	36,336	25.61%	45,516	25.26%
CEB	37,928	1.28%	43,639	15.06%	45,040	3.21%
CMBC	35,102	-36.09%	34,853	-0.71%	35,777	2.65%
HX	21,568	-2.47%	23,903	10.83%	25,490	6.64%
CZB	12,559	-4.44%	12,916	2.84%	13,989	8.31%
CBHB	8,445	3.08%	8,630	2.19%	6,107	-29.24%
National joint-stock banks	**418,695**	**-3.22%**	**475,070**	**13.46%**	**518,574**	**9.16%**
BJS	15,620	4.41%	20,409	30.66%	26,352	29.12%
BOB	21,646	0.25%	22,392	3.45%	24,930	11.33%
BONB	15,136	9.74%	19,609	29.55%	23,132	17.97%
BSH	20,915	2.86%	22,080	5.57%	22,318	1.08%
BONJ	13,210	5.12%	15,966	20.86%	18,544	16.15%
HSB	9,921	-1.40%	11,785	18.79%	13,683	16.11%
BHZ	7,136	8.09%	9,261	29.78%	11,679	26.11%
BOCD	6,028	8.50%	7,831	29.91%	10,043	28.25%
BOCS	5,561	5.74%	6,570	18.14%	7,144	8.74%
BGY	6,143	2.42%	6,256	1.84%	6,246	-0.16%
BCQ	4,566	5.67%	4,859	6.42%	5,117	5.31%
BSZ	2,725	4.37%	3,287	20.62%	4,117	25.25%
BGZ	3,671	3.00%	3,706	0.95%	3,829	3.32%
ZYB	3,355	4.65%	3,633	8.29%	3,825	5.28%
QLB	2,545	7.98%	3,072	20.71%	3,631	18.20%
BTJ	4,343	-5.77%	3,214	-26.00%	3,563	10.86%
BQD	2,453	5.01%	2,993	22.01%	3,168	5.85%
BZZ	3,321	-1.54%	3,398	2.32%	2,600	-23.48%
XMB	1,856	6.91%	2,213	19.23%	2,572	16.22%
BOXA	2,759	2.99%	2,807	1.74%	2,426	-13.57%
WHCCB	1,648	8.14%	1,892	14.81%	2,078	9.83%
JSB	1,571	6.01%	1,679	6.87%	1,835	9.29%
BLZ	1,533	2.61%	1,603	4.57%	1,774	10.67%
BJJ	1,709	-9.14%	1,785	4.45%	1,680	-5.88%
JXB	1,905	-9.67%	2,112	10.87%	1,601	-24.20%
SJB	1,232	-77.34%	431	-65.02%	1,019	136.43%
LZB	576	-9.15%	734	27.43%	808	10.08%
HRB	796	-78.10%	399	-49.87%	713	78.70%
BGS	562	9.98%	573	1.96%	604	5.41%
City commercial banks	**164,442**	**-1.07%**	**186,549**	**13.44%**	**211,031**	**13.12%**
SRCB	8,419	-5.81%	10,047	19.34%	11,393	13.40%
CQRCB	8,565	-14.25%	9,718	13.46%	10,478	7.82%
DRCB	5,055	3.80%	5,703	12.82%	6,083	6.66%
GRCB	5,277	-33.30%	3,776	-28.44%	4,038	6.94%
CSRCB	1,936	1.89%	2,341	20.92%	2,927	25.03%
QRCB	2,977	4.57%	3,092	3.86%	2,346	-24.13%
WXRCB	1,322	5.59%	1,618	22.39%	2,012	24.35%
ZJGRCB	996	6.30%	1,337	34.24%	1,699	27.08%
JTRCB	1,200	0.33%	1,290	7.50%	1,672	29.61%
JYRCB	1,070	5.73%	1,285	20.09%	1,617	25.84%
ZJRCB	1,441	1.69%	1,515	5.14%	1,600	5.61%
RRCB	1,120	6.26%	1,295	15.63%	1,551	19.77%
SZRCB	959	4.81%	1,161	21.06%	1,509	29.97%
Rural commercial banks	**40,337**	**-8.82%**	**44,178**	**9.52%**	**48,925**	**10.75%**
All listed banks	**1,780,122**	**0.03%**	**1,994,687**	**12.05%**	**2,136,311**	**7.10%**

Source: The annual reports and prospectuses published by the listed banks.
*Net profits of the listed banks are presented in RMB million, on which the calculation of growth rates is based.

ROE down

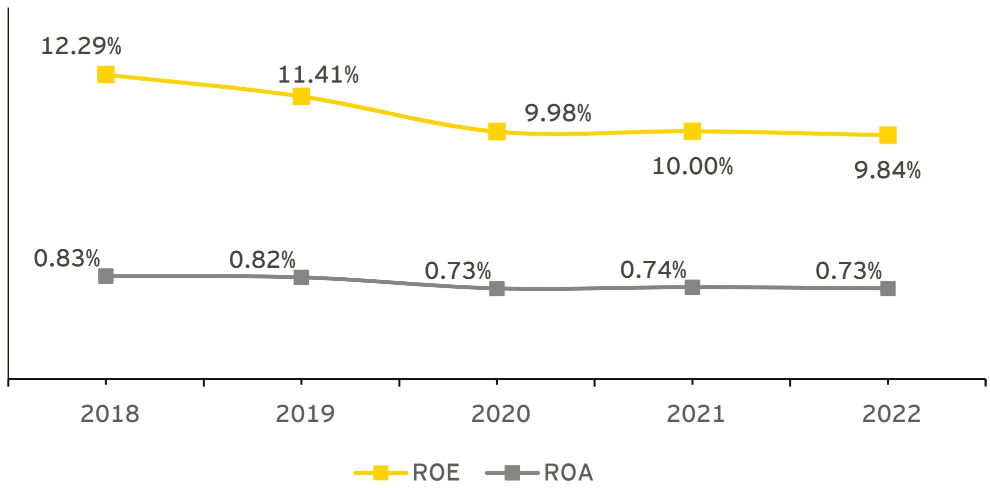
0.16 percentage points

The overall profitability of the listed banks declined slightly in 2022. The average return on equity (ROE) was 9.84%, down 0.16 percentage point from 10% in 2021.The average return on assets (ROA) was 0.73%, down 0.01 percentage point from 0.74% in 2021. The average ROE of large banks, national joint-stock banks and city commercial banks decreased by 0.36 percentage point, 0.37 percentage point and 0.26 percentage point, respectively, while that of rural commercial banks rose by 0.33 percentage point. The average ROA of large banks, national joint-stock banks and city commercial banks dropped by 0.04 percentage point, 0.01 percentage point and 0.02 percentage point, respectively, while that of rural commercial banks rose by 0.03 percentage point.

ROA down

0.01 percentage points

Changes in ROE and ROA of the listed banks



	ROE			ROA		
	2020	2021	2022	2020	2021	2022
Large banks	11.37%	11.70%	11.34%	0.85%	0.88%	0.84%
National joint-stock banks	10.57%	10.62%	10.25%	0.76%	0.77%	0.76%
City commercial banks	9.55%	9.42%	9.16%	0.67%	0.67%	0.65%
Rural commercial banks	9.84%	10.04%	10.37%	0.79%	0.81%	0.84%
All listed banks	9.98%	10.00%	9.84%	0.73%	0.74%	0.73%

Source: Calculated based on the annual reports and prospectuses published by the listed banks. The data are arithmetic means.

Slower growth in operating income

6.91 percentage points

Operating income is the main driver of growth for the listed banks. In 2022, the operating income of the listed banks totaled RMB6,087.97 billion, growing by 0.79% year-on-year, down 6.91 percentage points from the growth rate of 7.7% in 2021. The overall operating income of the listed banks in 2022 saw slower growth, mainly due to the decline in return on interest-earning assets, narrowing net interest margin (NIM) and slowing growth of net interest income amid the loan prime rate (LPR) cuts and the listed banks' continued efforts to benefit the real economy. Declines in fee and commission income, investment returns and gains and losses from changes in fair value were mainly due to capital market volatility and exchange rate fluctuations.

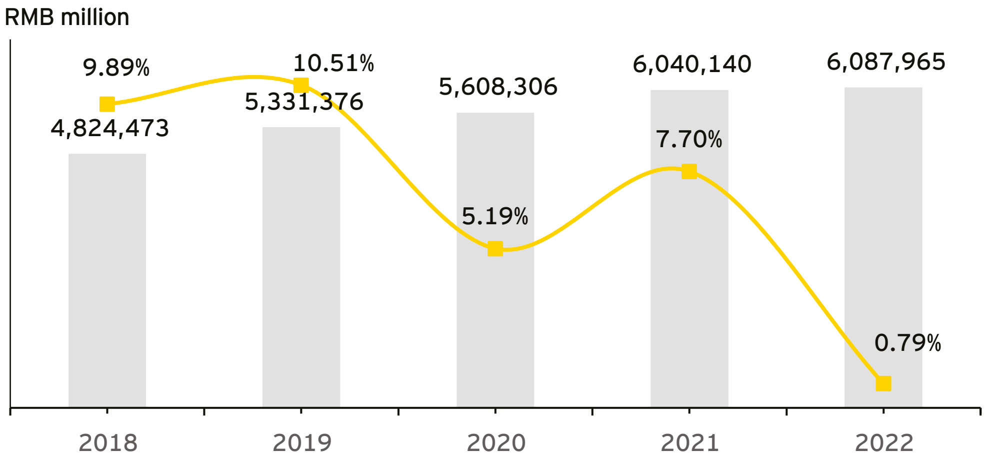
The operating income of large banks grew by 0.29% year-on-year, down 8.14 percentage points from 2021. The net interest income grew by 3.69%, while the growth rate decreased by 1.71 percentage points year-on-year. The net fee and commission income decreased by 2.86% year-on-year. Specifically, BOC reported the largest decrease of 11.27%, mainly due to declines in income from agency commission fees and the sale of wealth management products and funds in a weakening capital market. Other operating income decreased by 16.38% year-on-year. Specifically, other operating income of CCB decreased by 34.94% year-on-year, mainly due to shrinking asset securitization and decreases in investment returns and gains and losses from changes in fair value amid stock market and bond market volatility. Other operating income of ICBC decreased by 20.18% year-on-year, mainly due to the net losses from changes in fair value resulting from lower valuation of equity instruments and unrealized net losses from fair value changes generated in bond investments, as well as net losses on exchange and exchange rate products amid capital market volatility and exchange rate fluctuations.

The operating income of national joint-stock banks grew by 0.25% year-on-year, down 4.76 percentage points from 2021, mainly due to the decrease in net interest income caused by the decline in return on interest-earning assets. The operating income of five national joint-stock banks increased year-on-year, while that of the other five national joint-stock banks decreased year-on-year. Particularly, CZB recorded a significant increase of 12.14% in operating income, mainly due to rapid growth in interest income spurred by expansion of interest-earning assets. CMBC recorded a significant decrease of 15.6% in operating income, mainly due to the decline in average return on interest-earning assets.

The operating income of city commercial banks grew by 5.33% year-on-year, down 5.05 percentage points from 2021, mainly due to narrowing NIM and the decline in net fee and commission income. Six city commercial banks, including BSH, BTJ, BCQ, BOXA, JSB and BLZ, each saw a year-on-year decrease in operating income, and BOB reported a flat operating income, while the other 22 city commercial banks saw a positive growth year-on-year. Particularly, ZYB recorded the largest increase, up from -0.75% in 2021 to 32.82%, mainly due to the increase in net interest income from rapidly expanding loans and advances after acquisition of Bank of Pingdingshan, Bank of Luoyang and Bank of JZCTS in 2022.

The operating income of rural commercial banks grew by 0.81% year-on-year, down 8.5 percentage points from 9.31% in 2021. Except for CQRCB, GRCB and QRCB that recorded a decrease in operating income, the other 10 rural commercial banks maintained a positive growth in 2022. CQRCB recorded the largest decrease of 6%, mainly due to declines in return on assets across the market and fee income from wealth management. GRCB recorded a decrease of 3.99% as declined return on assets resulted in slower growth in interest income, while growing liabilities led to a year-on-year increase in interest expenses. CSRCB recorded the largest increase of 15.08%, which was mainly contributed by the increase in loan interest income. JYRCB recorded an increase of 12.27%, mainly due to a rebound in interest margin and the increase in net interest income under an optimized structure of assets and liabilities.

Trend of the operating income of the listed banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Operating income amount and growth rate* (Unit: RMB million)						
	2020		2021		2022	
	Amount	Growth rate	Amount	Growth rate	Amount	Growth rate
ICBC	882,665	3.18%	942,762	6.81%	917,989	-2.63%
CCB	755,858	7.12%	824,246	9.05%	822,473	-0.22%
ABC	657,961	4.89%	719,915	9.42%	724,868	0.69%
BOC	565,531	2.98%	605,559	7.08%	618,009	2.06%
BOCOM	246,200	5.91%	269,390	9.42%	272,978	1.33%
PSBC	286,202	3.39%	318,762	11.38%	334,956	5.08%
Large banks	**3,394,417**	**4.55%**	**3,680,634**	**8.43%**	**3,691,273**	**0.29%**
CMB	290,482	7.70%	331,253	14.04%	344,783	4.08%
IB	203,137	12.04%	221,236	8.91%	222,374	0.51%
CITIC	194,731	3.81%	204,557	5.05%	211,392	3.34%
SPDB	196,384	2.99%	190,982	-2.75%	188,622	-1.24%
PAB	153,542	11.30%	169,383	10.32%	179,895	6.21%
CEB	142,572	7.31%	152,751	7.14%	151,632	-0.73%
CMBC	184,951	2.50%	168,804	-8.73%	142,476	-15.60%
HX	95,309	12.48%	95,870	0.59%	93,808	-2.15%
CZB	47,703	2.89%	54,471	14.19%	61,085	12.14%
CBHB	32,492	14.50%	29,194	-10.15%	26,465	-9.35%
National joint-stock banks	**1,541,303**	**7.03%**	**1,618,501**	**5.01%**	**1,622,532**	**0.25%**
BJS	52,026	15.68%	63,771	22.58%	70,570	10.66%
BOB	64,299	1.85%	66,275	3.07%	66,276	0.00%
BONB	41,111	17.19%	52,774	28.37%	57,879	9.67%
BSH	50,746	1.90%	56,230	10.81%	53,112	-5.55%
BONJ	34,465	6.24%	40,925	18.74%	44,606	8.99%
HSB	32,290	3.63%	35,514	9.98%	36,230	2.02%
BHZ	24,806	15.87%	29,361	18.36%	32,932	12.16%
BOCD	14,600	14.73%	17,890	22.53%	20,241	13.14%
BOCS	18,022	5.91%	20,868	15.79%	22,868	9.58%
BGY	16,081	9.63%	15,004	-6.70%	15,643	4.26%
BCQ	13,048	9.21%	14,515	11.24%	13,465	-7.23%
BSZ	10,364	9.97%	10,829	4.49%	11,763	8.62%
BGZ	11,248	5.06%	11,737	4.35%	11,990	2.16%
ZYB	19,428	2.13%	19,283	-0.75%	25,611	32.82%
QLB	7,936	7.14%	10,167	28.11%	11,064	8.82%
BTJ	17,197	0.84%	17,694	2.89%	15,759	-10.94%
BQD	10,541	9.62%	11,136	5.64%	11,644	4.56%
BZZ	14,607	8.30%	14,801	1.33%	15,101	2.03%
XMB	5,556	23.22%	5,316	-4.32%	5,895	10.89%
BOXA	7,138	4.28%	7,203	0.91%	6,568	-8.82%
WHCCB	6,034	21.97%	7,377	22.26%	8,291	12.39%
JSB	4,868	-4.34%	5,391	10.74%	5,260	-2.43%
BLZ	7,304	-4.12%	7,836	7.28%	7,450	-4.93%
BJJ	10,192	5.33%	10,348	1.53%	10,870	5.04%
JXB	10,285	-20.60%	11,144	8.35%	12,714	14.09%
SJB	16,267	-22.56%	15,467	-4.92%	16,153	4.44%
LZB	3,155	12.40%	3,776	19.68%	3,902	3.34%
HRB	14,606	-3.43%	12,320	-15.65%	12,871	4.47%
BGS	6,493	-10.23%	6,278	-3.31%	6,527	3.97%
City commercial banks	**544,713**	**4.98%**	**601,230**	**10.38%**	**633,255**	**5.33%**
SRCB	22,040	3.62%	24,164	9.64%	25,627	6.05%
CQRCB	28,186	5.84%	30,842	9.42%	28,991	-6.00%
DRCB	12,047	2.14%	12,996	7.88%	13,236	1.85%
GRCB	21,218	-10.31%	23,481	10.67%	22,545	-3.99%
CSRCB	6,582	2.13%	7,655	16.30%	8,809	15.08%
QRCB	9,572	9.66%	10,297	7.57%	9,944	-3.43%
WXRCB	3,896	10.06%	4,349	11.63%	4,480	3.01%
ZJGRCB	4,195	8.88%	4,616	10.04%	4,827	4.57%
JTRCB	5,547	4.44%	6,362	14.69%	6,597	3.69%
JYRCB	3,351	-1.56%	3,367	0.48%	3,780	12.27%
ZJRCB	4,477	-4.24%	4,502	0.56%	4,507	0.11%
RRCB	3,009	5.21%	3,310	10.00%	3,525	6.50%
SZRCB	3,753	6.59%	3,834	2.16%	4,037	5.29%
Rural commercial banks	**127,873**	**1.74%**	**139,775**	**9.31%**	**140,905**	**0.81%**
All listed banks	**5,608,306**	**5.19%**	**6,040,140**	**7.70%**	**6,087,965**	**0.79%**

Source: The annual reports and prospectuses published by the listed banks.
*Operating income of the listed banks is presented in RMB million, on which the calculation of growth rates is based.

Changes in the operating income structure of the listed banks

	2020	2021	2022
Net interest income	75.71%	73.39%	74.98%
Net fee and commission income	14.24%	14.28%	13.76%
Other operating income	10.05%	12.33%	11.26%

Source: Calculated based on the annual reports and prospectuses published by the listed banks.

From the perspective of operating income structure of the listed banks, net interest income accounted for the highest proportion, reaching 74.98%, an increase of 1.59 percentage points from 2021, mainly due to the continued growth of interest-earning assets. Fee and commission income accounted for 13.76%, down 0.52 percentage point from 2021. Other operating income accounted for 11.26%, down 1.07 percentage points from 2021, mainly due to the decline in investment returns and gains and losses from changes in fair value amid capital market volatility and exchange rate fluctuations.

Slower growth in net interest income

1.43 percentage points

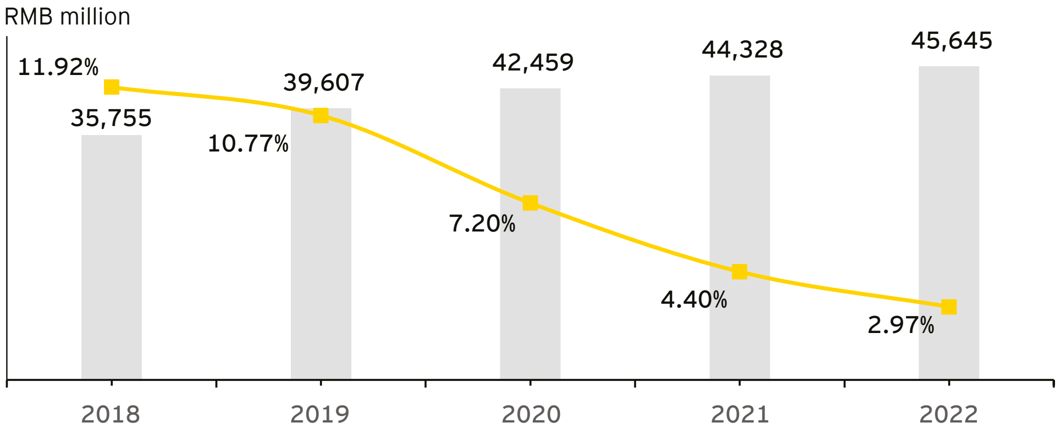
In 2022, the net interest income of the listed banks totaled RMB4,564.45 billion, an increase of 2.97% year-on-year, down 1.43 percentage points from 4.4% in 2021, mainly due to the narrowing NIM.

Narrowing NIM

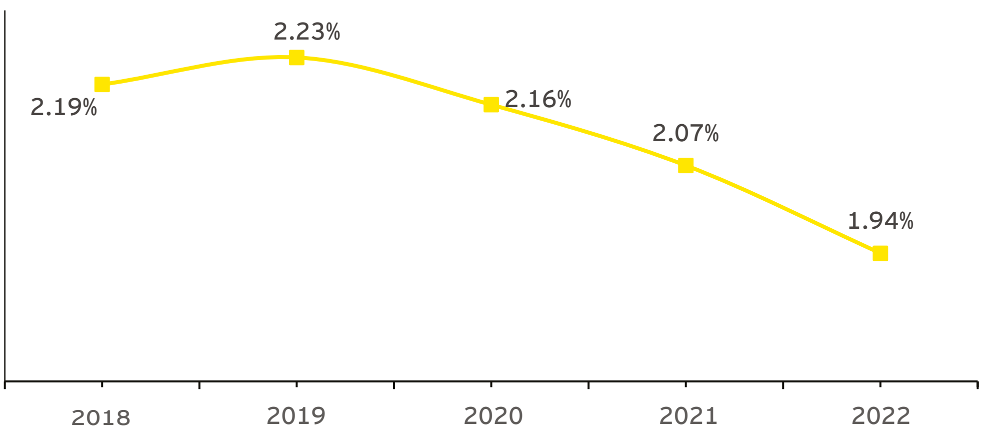
13 bps

In 2022, the average NIM of the listed banks was 1.94%, down 13 basis points (bps) from 2021.

Changes in net interest income of the listed banks



Changes in NIM of the listed banks



Net interest income amount and growth rate* (Unit: RMB million)						
	2020		2021		2022	
	Amount	Growth rate	Amount	Growth rate	Amount	Growth rate
ICBC	646,765	2.30%	690,680	6.79%	693,687	0.44%
CCB	575,909	7.23%	605,420	5.12%	643,064	6.22%
ABC	545,079	8.83%	577,987	6.04%	589,966	2.07%
BOC	415,918	6.63%	425,142	2.22%	460,678	8.36%
BOCOM	153,336	6.42%	161,693	5.45%	169,937	5.10%
PSBC	253,378	4.41%	269,382	6.32%	273,593	1.56%
Large banks	**2,590,385**	**5.86%**	**2,730,304**	**5.40%**	**2,830,925**	**3.69%**
CMB	185,031	6.90%	203,919	10.21%	218,235	7.02%
IB	143,515	17.36%	145,679	1.51%	145,273	-0.28%
CITIC	150,515	2.44%	147,896	-1.74%	150,647	1.86%
SPDB	138,581	-4.11%	135,958	-1.89%	133,669	-1.68%
PAB	113,470	26.13%	120,336	6.05%	130,130	8.14%
CEB	110,697	8.61%	112,155	1.32%	113,655	1.34%
CMBC	135,224	10.81%	125,775	-6.99%	107,463	-14.56%
HX	81,967	13.22%	79,605	-2.88%	74,293	-6.67%
CZB	37,095	7.02%	41,952	13.09%	47,062	12.18%
CBHB	28,477	23.70%	25,179	-11.58%	22,669	-9.97%
National joint-stock banks	**1,124,572**	**9.10%**	**1,138,454**	**1.23%**	**1,143,096**	**0.41%**
BJS	36,987	36.90%	45,480	22.96%	52,264	14.92%
BOB	51,605	3.46%	51,397	-0.40%	51,458	0.12%
BONB	27,859	25.28%	32,697	17.37%	37,521	14.75%
BSH	36,394	14.58%	40,438	11.11%	38,000	-6.03%
BONJ	23,694	10.44%	27,103	14.39%	26,970	-0.49%
HSB	25,752	1.62%	26,856	4.29%	28,705	6.88%
BHZ	19,272	22.10%	21,036	9.15%	22,857	8.66%
BOCD	11,827	13.18%	14,422	21.94%	16,519	14.54%
BOCS	14,961	13.34%	16,112	7.69%	17,967	11.51%
BGY	13,718	11.35%	12,993	-5.29%	13,831	6.45%
BCQ	11,061	20.91%	11,597	4.85%	10,808	-6.80%
BSZ	7,525	17.14%	7,533	0.11%	8,341	10.73%
BGZ	10,121	2.53%	9,514	-6.00%	10,094	6.10%
ZYB	16,565	5.46%	16,693	0.77%	21,276	27.45%
QLB	6,414	9.12%	7,485	16.70%	8,575	14.56%
BTJ	13,646	3.20%	12,925	-5.28%	11,473	-11.23%
BQD	8,147	19.00%	7,646	-6.15%	8,288	8.40%
BZZ	11,239	24.63%	11,949	6.32%	12,254	2.55%
XMB	4,612	36.33%	4,430	-3.95%	4,790	8.13%
BOXA	6,207	9.78%	5,993	-3.45%	5,508	-8.09%
WHCCB	4,658	40.90%	6,048	29.84%	6,451	6.66%
JSB	3,441	5.58%	3,554	3.28%	3,593	1.10%
BLZ	4,790	-16.26%	6,013	25.53%	5,888	-2.08%
BJJ	7,861	6.94%	8,457	7.58%	8,594	1.62%
JXB	9,054	-15.74%	8,762	-3.23%	9,624	9.84%
SJB	14,558	-10.96%	12,388	-14.91%	12,854	3.76%
LZB	2,756	1.40%	2,938	6.60%	3,258	10.89%
HRB	12,309	5.25%	10,061	-18.26%	9,007	-10.48%
BGS	5,750	8.74%	4,924	-14.37%	5,068	2.92%
City commercial banks	**422,783**	**10.96%**	**447,444**	**5.83%**	**471,836**	**5.45%**
SRCB	17,871	16.39%	19,371	8.39%	20,754	7.14%
CQRCB	24,249	3.74%	26,235	8.19%	25,404	-3.17%
DRCB	9,932	11.42%	10,533	6.05%	10,933	3.80%
GRCB	17,647	-6.55%	19,559	10.83%	18,582	-5.00%
CSRCB	5,966	2.86%	6,691	12.15%	7,611	13.75%
QRCB	8,085	14.03%	8,048	-0.46%	7,839	-2.60%
WXRCB	3,277	10.56%	3,504	6.93%	3,488	-0.46%
ZJGRCB	3,601	13.13%	3,691	2.50%	3,917	6.12%
JTRCB	5,099	22.42%	6,176	21.12%	6,515	5.49%
JYRCB	2,559	3.52%	2,831	10.63%	3,193	12.79%
ZJRCB	3,840	-4.79%	3,959	3.10%	4,035	1.92%
RRCB	2,982	11.64%	2,996	0.47%	3,188	6.41%
SZRCB	3,003	2.46%	3,036	1.10%	3,138	3.36%
Rural commercial banks	**108,111**	**6.16%**	**116,630**	**7.88%**	**118,597**	**1.69%**
All listed banks	**4,245,851**	**7.20%**	**4,432,832**	**4.40%**	**4,564,454**	**2.97%**

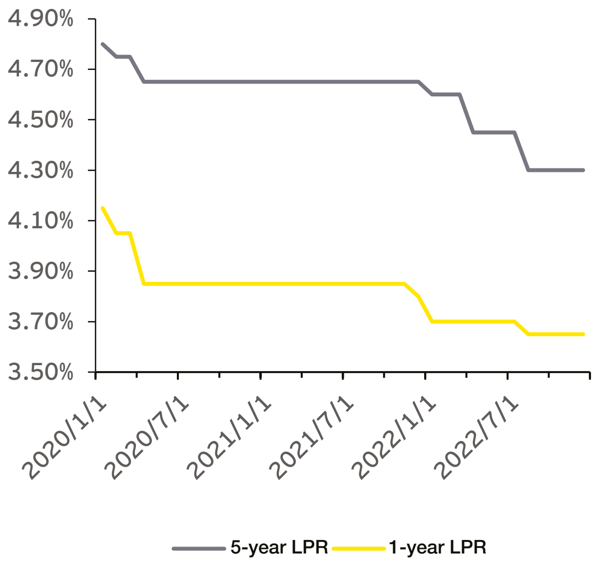
Source: The annual reports and prospectuses published by the listed banks.
*Operating income of the listed banks is presented in RMB million, on which the calculation of growth rates is based.

NIM of the listed banks*			
	2020	2021	2022
ICBC	2.15%	2.11%	1.92%
CCB	2.19%	2.13%	2.02%
ABC	2.20%	2.12%	1.90%
BOC	1.85%	1.75%	1.76%
BOCOM	1.57%	1.56%	1.48%
PSBC	2.42%	2.36%	2.20%
Large banks	**2.09%**	**2.03%**	**1.90%**
CMB	2.49%	2.48%	2.40%
IB	2.36%	2.29%	2.10%
CITIC	2.26%	2.05%	1.97%
SPDB	2.02%	1.83%	1.77%
PAB	2.88%	2.79%	2.75%
CEB	2.29%	2.16%	2.01%
CMBC	2.14%	1.91%	1.60%
HX	2.59%	2.35%	2.10%
CZB	2.19%	2.27%	2.21%
CBHB	2.35%	1.72%	1.50%
National joint-stock banks	**2.33%**	**2.19%**	**2.06%**
BJS	2.14%	2.28%	2.32%
BOB	1.93%	1.83%	1.76%
BONB	2.30%	2.21%	2.02%
BSH	1.82%	1.74%	1.54%
BONJ*	2.25%	2.25%	2.19%
HSB	2.42%	2.20%	2.11%
BHZ	1.98%	1.83%	1.69%
BOCD	2.19%	2.13%	2.04%
BOCS	2.58%	2.40%	2.41%
BGY	2.52%	2.26%	2.27%
BCQ	2.27%	2.06%	1.74%
BSZ	2.22%	1.91%	1.87%
BGZ	2.55%	2.29%	2.22%
ZYB	2.48%	2.31%	2.06%
QLB	2.15%	2.02%	1.96%
BTJ	2.26%	2.12%	1.74%
BQD	2.13%	1.79%	1.76%
BZZ	2.40%	2.31%	2.27%
XMB	1.65%	1.62%	1.53%
BOXA	2.16%	1.91%	1.66%
WHCCB	1.99%	2.24%	2.07%
JSB	1.54%	1.43%	1.32%
BLZ	1.53%	1.72%	1.58%
BJJ	2.18%	2.00%	1.91%
JXB	2.10%	1.94%	1.98%
SJB	1.62%	1.40%	1.34%
LZB	2.78%	2.49%	2.46%
HRB	2.20%	1.78%	1.55%
BGS	1.97%	1.65%	1.45%
City commercial banks	**2.11%**	**2.00%**	**1.90%**
SRCB	1.91%	1.86%	1.83%
CQRCB	2.25%	2.17%	1.97%
DRCB	2.16%	1.96%	1.92%
GRCB	2.01%	2.00%	1.69%
CSRCB	3.18%	3.06%	3.02%
QRCB	2.52%	2.16%	2.00%
WXRCB	2.07%	1.95%	1.81%
ZJGRCB	2.74%	2.43%	2.25%
JTRCB	2.75%	2.91%	2.56%
JYRCB	2.19%	2.14%	2.18%
ZJRCB	1.91%	1.83%	1.80%
RRCB	2.51%	2.34%	2.21%
SZRCB	2.50%	2.24%	2.04%
Rural commercial banks	**2.21%**	**2.12%**	**1.97%**
All listed banks	**2.16%**	**2.07%**	**1.94%**

Source: The annual reports and prospectuses published by the listed banks.
*As BONJ did not include the income generated from financial assets held for trading in interest income account in 2022, the data on interest-bearing liabilities and interest expenses are adjusted accordingly. The comparable data for 2020 and 2021 are restated according to the presentation basis of 2022.

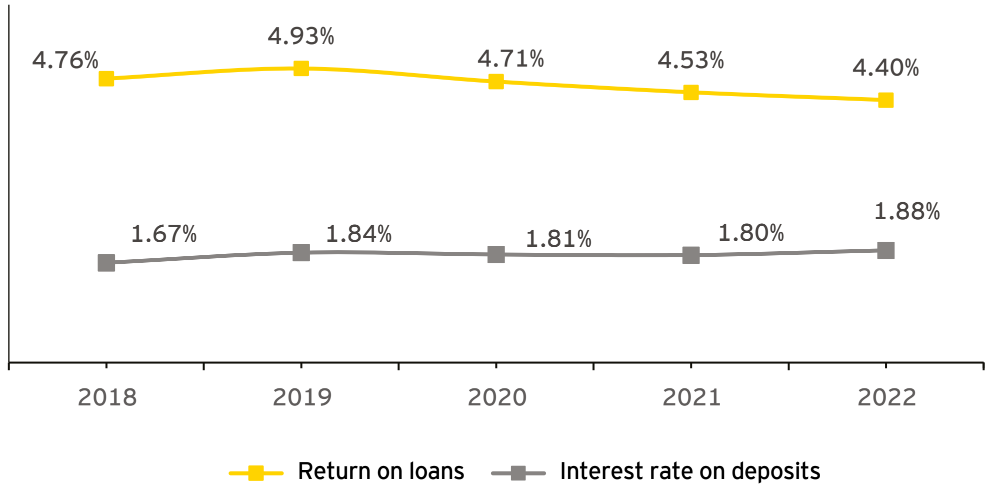
In 2022, five-year loan prime rate (LPR) cuts on three separate occasions and a single one-year LPR cut, coupled with the listed banks' continued efforts to benefit the real economy by reducing financing costs for enterprises, pushed the return on loans down from 4.53% in 2021 to 4.4% in 2022. Specifically, large banks, national joint-stock banks, city commercial banks, and rural commercial banks registering a decrease of 9bps, 21 bps, 21 bps and 22 bps in return on loans, respectively. Meanwhile, the interest rate on deposits continued to rise, from 1.8% in 2021 to 1.88% in 2022, with large banks, national joint-stock banks, city commercial banks, and rural commercial banks registering an increase of 8 bps, 6 bps, 3 bps and 1 bp, respectively.

Changes in LPR



Source: Announcement of the People's Bank of China.

Trend of the return on loans/interest rate on deposits of the listed banks



Return on loans	2020	2021	2022
Large banks	4.31%	4.19%	4.10%
National joint-stock banks	5.35%	5.04%	4.83%
City commercial banks	5.51%	5.27%	5.06%
Rural commercial banks	5.35%	5.25%	5.03%
All listed banks	4.71%	4.53%	4.40%

Interest rate on deposits	2020	2021	2022
Large banks	1.62%	1.65%	1.73%
National joint-stock banks	2.10%	2.00%	2.06%
City commercial banks	2.35%	2.32%	2.35%
Rural commercial banks	2.08%	2.15%	2.16%
All listed banks	1.81%	1.80%	1.88%

Source: Calculated based on the annual reports and prospectuses published by the listed banks.

In 2022, the NIM of large banks averaged 1.9%, a decrease of 13 bps from 2021. Except for BOC, the other five large banks recorded a decrease in NIM, mainly due to the combined impact of multiple factors such as the LPR cuts and rate and fee reductions, resulting in a rapid decrease in asset-side yields, especially returns on loans to customers. The NIM of BOC increased by 1 bp from 2021 mainly due to the following reasons. Firstly, BOC's the return on foreign currency assets increased as the bank the refined asset structure of foreign currency, and its foreign currency assets accounting for a higher proportion relative to other large banks benefited the bank more from US Federal rate hikes. Secondly, BOC optimized the structure of RMB assets by increasing the proportion of RMB loans to customers in total interest-earning assets. Thirdly, the bank focused on both quality and pricing optimization and strengthened liability cost control, thus reducing the costs of its domestic RMB liabilities.

In 2022, the average NIM of national joint-stock banks stood at 2.06%, down 13 bps as compared with that of 2021. The NIM of all 10 national joint-stock banks decreased from 2021. The NIM of CMBC decreased by 31 bps, mainly due to rising cost of deposits and declined returns on various assets set at lower prices. The NIM of HX decreased by 25 bps as compared with 2021, mainly due to declined return on assets as the bank implemented the regulatory requirement of reducing financing costs for enterprises and increasing financial support for the real economy. The NIM of CBHB decreased by 22 bps as compared with 2021, mainly due to the impact that the average yields of interest-bearing assets decreased by 18 bps from 2021, while the average interest rate of interest-bearing liabilities dropped by only 2 bps from 2021. The NIM of IB decreased by 19 bps as compared with 2021, mainly due to lower loan pricing following the LPR cuts, and higher deposit cost amid fierce competition.

The average NIM of city commercial banks in 2022 was 1.9%, down 10 bps from 2021. The NIM of BJS, BGY, BOCS and JXB increased. Specifically, the NIM of BJS increased from 2.28% in 2021 to 2.32%, mainly due to continued optimization of asset structure and effective reduction of liability cost. The NIM of BOCS increased from 2.4% in 2021 to 2.41%, mainly due to enhanced consumer credit services raising the average interest rate of personal loans year-on-year, coupled with year-on-year decrease of financing costs on issued bonds and interbank liabilities benefiting from effective market and monetary policy study and acquisition of lower-cost funds. The NIM of BGY increased from 2.26% in 2021 to 2.27%, mainly due to the decrease in both deposit rates and interbank financing costs as the liability costs were improved appropriately. The NIM of JXB increased from 1.94% in 2021 to 1.98%, mainly due to increased proportion of loans and advances in total assets and decreased deposit rates. The NIM of the other 25 city commercial banks decreased, mainly due to the decline in return on interest-earning assets as banks were required to lower lending rates to reduce enterprises' financing costs and benefit the real economy. Specifically, BTJ and BCQ led the decrease by 38 bps and 32 bps, respectively.

The average NIM of rural commercial banks stood at 1.97% in 2022, down 15 bps from 2021. Specifically, the NIM of JYRCB increased by 4 bps from 2021, mainly due to steady rebound in interest margin as it implemented the policy guidance of serving the real economy, focused on serving "agriculture, rural areas and farmers" and small- and micro-sized enterprises, enhanced efforts to drive local economic development, and continued to optimize the structure of assets and liabilities. The NIM of the remaining 12 rural commercial banks recorded a year-on-year decrease. Specifically, the NIM of JTRCB decreased by 35 bps from 2021, mainly due to declined average return on interest-earning assets caused by lower market interest rates, and the rising average interest rate of interest-bearing liabilities driven by liberalized interest rates and the changes in category and maturity structure of deposits. The NIM of GRCB decreased by 31 bps, mainly due to the slower growth in interest income resulting from decline in the return on assets as the bank implemented the policies to support the real economy, as well as due to increased interest expenses resulting from increased liabilities.

Decrease in net fee and commission income

2.84 percentage points

In 2022, the net fee and commission income of the listed banks amounted to RMB838.21 billion, decreasing by 2.84% year-on-year. The decrease was due to the decline in fee income from fund distribution and wealth management business as the listed banks continued to lower fee charges in support of the real economy. However, decreases were mixed among individual listed banks, with 22 banks recording an increase in net fee and commission income and 36 reporting a decrease from 2021.

The net fee and commission income of large banks decreased by 2.86% year-on-year, down 9.07 percentage points from 2021. Specifically, PSBC registered an increase in net fee and commission income by 29.2%, which was mainly contributed by the agency business growing by 34.64%, wealth management business growing by 47.12%, and investment banking growing by 22.33%. The net fee and commission income of ABC grew by 1.19%, mainly due to the rapid growth of custody assets. The net fee and commission income of other large banks declined, with BOC recording the largest drop of 11.27%, mainly due to the weak performance of capital markets, which resulted in a sharp decrease in income from agency businesses such as wealth management and fund distribution.

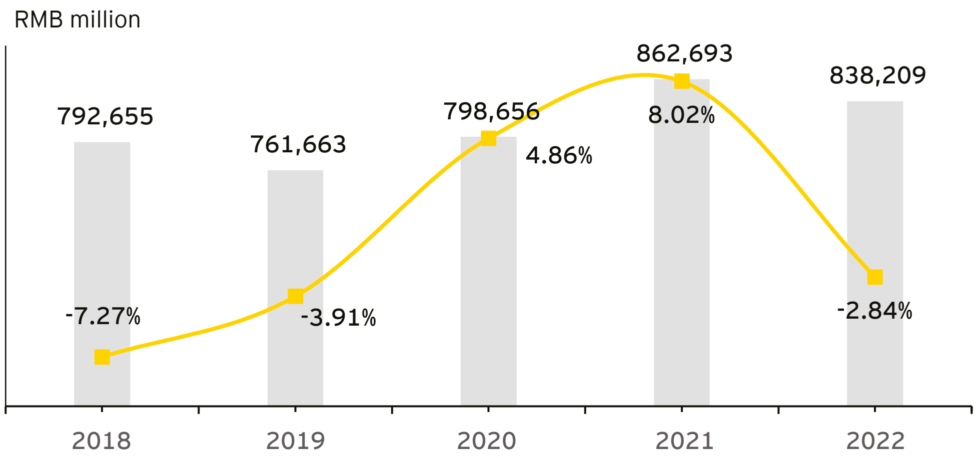
The net fee and commission income of national joint-stock banks decreased by 1.82%, down 11.19 percentage points from 2021. The net fee and commission income of CMB, SPDB, CMBC, CEB and PAB declined from 2021, while that of the other five national joint-stock banks saw an increase. Specifically, CMBC recorded the largest decrease of 26.45%, mainly due to the decline in fee income from agency business and fee-based business.

CZB's net fee and commission income exhibited the highest growth of 18.3%, mainly due to the year-on-year increases in fee income from agency and commission business, commitment and guarantee business, and underwriting and consulting business.

The net fee and commission income of city commercial banks dropped by 6.24% year-on-year, down 24.12 percentage points from 2021. Specifically, the net fee and commission income of 12 city commercial banks increased year-on-year, while that of 17 city commercial banks decreased year-on-year. LZB and QLB led the growth, at a rate of 64.91% and 30.41%, respectively. The increase in net fee and commission income of LZB was mainly due to the significant increase in fee income from wealth management business, while the increase in net fee and commission income of QLB was mainly due to the increase in fee income from commission and agency business driven by expanding wealth management segment. SJB, BGY and BZZ led the decline in net fee and commission income, by 38.46%, 37.65% and 36.31%, respectively. The decreases were mainly due to the active response to the national policy on lowering fee charges for enterprises, as well as the decline in the scale of agency and custodian business.

The net fee and commission income of rural commercial banks decreased by 13.13% year-on-year. Except for GRCB, JTRCB and WXRCB, which reported an increase from 2021, the remaining 10 rural commercial banks all reported a decrease. WXRCB recorded the highest growth rate of 24.04%, mainly due to the increase in fee income from agency business; ZJGRCB recorded the highest decline of 62.1%, mainly due to the decrease in income from agency and wealth management businesses.

Trend of net fee and commission income of the listed banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Net fee and commission income amount and growth rate* (Unit: RMB million)						
	2020		2021		2022	
	Amount	Growth rate	Amount	Growth rate	Amount	Growth rate
ICBC	131,215	0.49%	133,024	1.38%	129,265	-2.83%
CCB	114,582	3.32%	121,492	6.03%	116,085	-4.45%
ABC	74,545	2.22%	80,329	7.76%	81,282	1.19%
BOC	75,522	2.32%	81,426	7.82%	72,248	-11.27%
BOCOM	45,086	3.35%	47,573	5.52%	44,639	-6.17%
PSBC	16,495	12.80%	22,007	33.42%	28,434	29.20%
Large banks	**457,445**	**2.46%**	**485,851**	**6.21%**	**471,953**	**-2.86%**
CMB	79,486	11.18%	94,447	18.82%	94,275	-0.18%
IB	37,710	24.14%	42,680	13.18%	45,041	5.53%
CITIC	28,836	7.88%	35,870	24.39%	37,092	3.41%
SPDB	33,946	37.02%	29,134	-14.18%	28,691	-1.52%
PAB	29,661	-19.27%	33,062	11.47%	30,208	-8.63%
CEB	24,409	5.35%	27,314	11.90%	26,744	-2.09%
CMBC	27,664	-1.91%	27,566	-0.35%	20,274	-26.45%
HX	10,558	3.69%	9,252	-12.37%	10,369	12.07%
CZB	4,250	12.11%	4,050	-4.71%	4,791	18.30%
CBHB	2,902	-29.48%	2,238	-22.88%	2,569	14.79%
National joint-stock banks	**279,422**	**7.64%**	**305,613**	**9.37%**	**300,054**	**-1.82%**
BJS	5,357	17.92%	7,490	39.82%	6,252	-16.53%
BOB	6,390	-9.85%	5,990	-6.26%	7,066	17.96%
BONB	6,342	24.11%	8,262	30.27%	7,466	-9.63%
BSH	5,609	9.47%	9,047	61.29%	6,493	-28.23%
BONJ	4,965	25.03%	5,801	16.84%	5,344	-7.88%
HSB	3,617	1.92%	4,431	22.50%	4,180	-5.66%
BHZ	3,015	101.81%	3,608	45.36%	4,674	29.55%
BOCD	366	22.82%	532	33.50%	677	27.26%
BOCS	797	-6.24%	1,064	-23.59%	1,319	23.97%
BGY	869	18.07%	664	-25.84%	414	-37.65%
BCQ	1,037	9.27%	769	-22.80%	761	-1.04%
BSZ	945	32.54%	1,222	29.31%	1,317	7.77%
BGZ	363	282.11%	428	17.91%	363	-15.19%
ZYB	1,786	1.02%	1,933	8.23%	1,783	-7.76%
QLB	630	41.57%	947	50.32%	1,235	30.41%
BTJ	2,311	1.99%	1,784	-22.80%	1,686	-5.49%
BQD	1,692	39.03%	1,955	15.54%	1,445	-26.09%
BZZ	1,730	9.84%	1,242	-28.21%	791	-36.31%
XMB	327	-0.30%	376	14.98%	432	14.89%
BOXA	596	8.56%	560	-6.04%	407	-27.32%
WHCCB	464	70.59%	592	27.59%	677	14.36%
JSB	713	16.69%	765	7.29%	734	-4.05%
BLZ	224	-8.20%	384	71.43%	365	-4.95%
BJJ	624	82.46%	693	11.06%	842	21.5%
JXB	579	7.02%	699	20.73%	642	-8.15%
SJB	689	-40.35%	429	-37.74%	264	-38.46%
LZB	5	0.00%	57	1,040.00%	94	64.91%
HRB	880	-35.63%	697	-20.80%	732	5.02%
BGS	329	30.04%	351	6.69%	400	13.96%
City commercial banks	**53,251**	**12.21%**	**62,772**	**17.88%**	**58,855**	**-6.24%**
SRCB	2,332	-5.51%	2,166	-7.12%	2,156	-0.46%
CQRCB	2,903	29.66%	2,724	-6.17%	1,913	-29.77%
DRCB	940	-0.32%	792	-15.74%	686	-13.38%
GRCB	1,327	-2.64%	1,319	-0.60%	1,382	4.78%
CSRCB	148	-30.84%	238	60.81%	188	-21.01%
QRCB	302	51.76%	492	62.91%	459	-6.71%
WXRCB	176	91.30%	183	3.98%	227	24.04%
ZJGRCB	-10	-242.86%	124	1,340.00%	47	-62.10%
JTRCB	231	-27.13%	73	-68.40%	82	12.33%
JYRCB	100	1.01%	138	38%	93	-32.61%
ZJRCB	126	-43.75%	123	-2.38%	66	-46.34%
RRCB	-167	33.60%	-133	-20.36%	-83	-37.59%
SZRCB	130	1.56%	218	67.69%	131	-39.91%
Rural commercial banks	**8,538**	**4.53%**	**8,457**	**-0.95%**	**7,347**	**-13.13%**
All listed banks	**798,656**	**4.86%**	**862,693**	**8.02%**	**838,209**	**-2.84%**

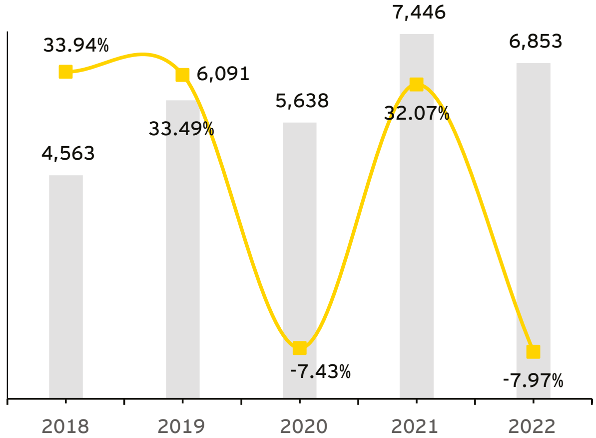
Source: The annual reports and prospectuses published by the listed banks.
*Net fee and commission income of the listed banks is presented in RMB million, on which the calculation of growth rates is based.

Year-on-year decrease in other operating income

↓ 7.97 percentage points

In 2022, the total other operating income of the listed banks was RMB685.3 billion, decreasing by 7.97% from 2021. The results were markedly divergent among the listed banks. Specifically, the other operating income of large banks decreased by 16.38% year-on-year, as other operating income such as investment returns and gains and losses from changes in fair value declined amid capital market volatility and exchange rate fluctuations. Other operating income of national joint-stock banks, city commercial banks and rural commercial banks in 2022 increased by 2.84%, 12.69% and 1.86%, respectively year-on-year. The city commercial banks recorded a significant increase in other operating income, with ZYB, HRB and BONJ registering a growth rate of 288.43%, 100.51% and 53.25%, respectively, mainly due to the rapid growth of investment returns on financial assets held for trading.

Trend of other operating income of the listed banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Rising cost-to-income ratio

1.20 percentage points

In 2022, the cost-to-income ratio of the listed banks continued to rise, with the weighted-average cost-to-income ratio standing at 30.7%, up 1.2 percentage points from 2021, mainly due to deepening strategic transformation and infrastructure enhancement that boosted investment in information technology and digital finance, customer marketing and education, and other key strategic business areas. The rise in cost-to-income ratio also resulted from a slower growth in operating income.

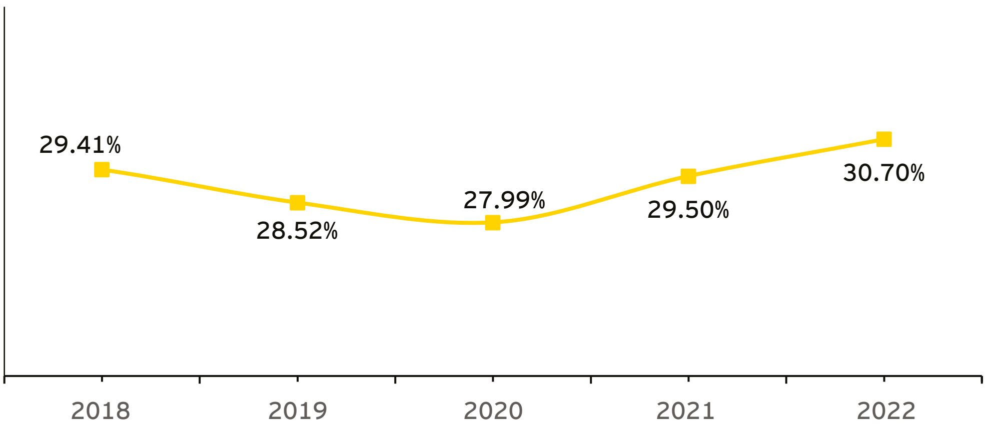
The cost-to-income ratio of large banks was 31.02% in 2022, up 1.01 percentage points from 2021. The cost-to-income ratio increased for all five banks except BOC. Particularly, PSBC recorded the largest increase in the cost-to-income ratio of 2.4 percentage points, mainly due to growing personal customer deposits at its agency outlets, as well as the steadily increased investment in human resources for the purpose of enhancing professional capability. The cost-to-income ratio of BOC decreased by 0.29 percentage point, mainly due to the bank's efforts to promote thrift, continuously optimize cost structure, and strictly control general expenses, seeing its operation and administrative expenses to increase slightly by 1% year-over-year, the smallest increase among large banks.

The average cost-to-income ratio of national joint-stock banks in 2022 was 30.42%, up 1.54 percentage points from 2021. PAB, CMB and CEB each saw a slight decrease in cost-to-income ratio, while the other seven banks saw an increase. The cost-to-income ratio of CBHB was the highest among the national joint-stock banks, standing at 39.24%, up 6.36 percentage points from 2021, mainly due to the decline in operating income, as well as the year-on-year increase in operating expenses for accelerating transformation, increasing the investment in new outlets and technology. The second highest cost-to-income ratio was reported by CMBC, which stood at 35.61%, up 6.44 percentage points from 2021, mainly due to a substantial year-on-year decline in operating income.

The average cost-to-income ratio of city commercial banks in 2022 was 28.99%, up 1.32 percentage points from 2021, with 22 banks seeing an increase in cost-to-income ratio, and seven banks registering a decrease. The cost-to-income ratio of BCQ and BTJ increased by 3.81 and 3.11 percentage points, respectively, mainly due to the decline in operating income. The cost-to-income ratio of JXB decreased by 3.96 percentage points, mainly due to the large increase in operating income, while operating expenses were basically the same as the prior year. The cost-income ratio of SJB decreased by 2.46%, mainly due to a 1.11% decrease in operating expenses under the measures like strengthening budget control, broadening sources of income, reducing costs, and improving efficiency.

The average cost-to-income ratio of rural commercial banks in 2022 was 33.15%, up 2.24 percentage points from 2021. The cost-to-income ratio of CSRCB and JYRCB declined, mainly due to the large year-on-year growth in operating income, while that of the remaining 11 rural commercial banks increased. Specifically, GRCB had the largest increase of 5.29 percentage points from 2021, mainly due to the significant rise in staff costs; CQRCB recorded an increase of 4.32 percentage points from 2021, mainly due to the increase in business promotion and marketing expenses under the initiative of continuously consolidating and improving the "comprehensive retail" ecosystem.

Trend of the cost-to-income ratio of the listed banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Cost-to-income ratios of the listed banks	2020	2021	2022
ICBC	22.3%	23.97%	25.01%
CCB	25.12%	27.43%	28.12%
ABC	29.23%	30.46%	31.63%
BOC	26.73%	28.17%	27.88%
BOCOM**	26.81%	27.67%	28.14%
PSBC	57.88%	59.01%	61.41%
Large banks*	**28.34%**	**30.01%**	**31.02%**
CMB	33.3%	33.12%	32.88%
IB	24.16%	25.68%	29.37%
CITIC	26.65%	29.2%	30.53%
SPDB	23.78%	26.17%	27.89%
PAB	29.11%	28.3%	27.45%
CEB	26.41%	28.02%	27.88%
CMBC	26.19%	29.17%	35.61%
HX	27.93%	29.06%	30.13%
CZB	25.96%	25.31%	27.46%
CBHB	26.52%	32.88%	39.24%
National joint-stock banks*	**27.43%**	**28.88%**	**30.42%**
BJS	23.46%	32.88%	24.52%
BOB	22.07%	24.96%	26.55%
BONB	37.96%	36.95%	37.29%
BSH	18.93%	21.52%	23.02%
BONJ	28.46%	29.22%	29.75%
HSB	23.71%	24.45%	26.15%
BHZ	26.35%	27.3%	29.64%
BOCD	23.87%	22.8%	24.39%
BOCS	29.69%	28.44%	28.3%
BGY	23.84%	27.46%	26.8%
BCQ	20.64%	21.44%	25.25%
BSZ	29.74%	32.02%	33.33%
BGZ	30.29%	31.09%	30.68%
ZYB	35.61%	35.95%	39.05%
QLB	28.81%	26.27%	26.46%
BTJ	21.8%	23.81%	26.92%
BQD	33.61%	33.91%	34.97%
BZZ	22.4%	22.98%	22.99%
XMB	28.64%	34.56%	34.3%
BOXA	25.33%	26.06%	28.92%
WHCCB	25.08%	20.5%	21.8%
JSB	36.01%	36.84%	39.93%
BLZ	29.49%	29.05%	31.24%
BJJ	27.28%	28.57%	28.91%
JXB	32.96%	31.46%	27.5%
SJB	29.76%	36.26%	33.8%
LZB	36.09%	38.59%	38.87%
HRB	32.06%	38.28%	39.41%
BGS	34.3%	34.52%	34.26%
City commercial banks*	**26.64%**	**27.67%**	**28.99%**
SRCB	28.86%	29.95%	30.5%
CQRCB	27.09%	27.52%	31.84%
DRCB	31.51%	34.18%	34.78%
GRCB	31.95%	26.08%	31.37%
CSRCB	42.77%	41.4%	38.58%
QRCB	28.79%	29.22%	30.34%
WXRCB	27.15%	28.77%	30.98%
ZJGRCB	31.27%	31.11%	32.61%
JTRCB	47.96%	46.9%	48.04%
JYRCB	31.47%	33.4%	30.39%
ZJRCB	30.36%	35.85%	38.57%
RRCB	32.86%	32.22%	33.3%
SZRCB	32.72%	32.88%	34.1%
Rural commercial banks*	**31.13%**	**30.91%**	**33.15%**
All listed banks*	**27.99%**	**29.5%**	**30.7%**

Source: The annual reports and prospectuses published by the listed banks.
*Data are weighted average.
**The cost-to-income ratio of BOCOM in 2022 is calculated based on operation and administrative expenses divided by operating income. The comparable data for 2020 and 2021 are restated according to the presentation basis for 2022.

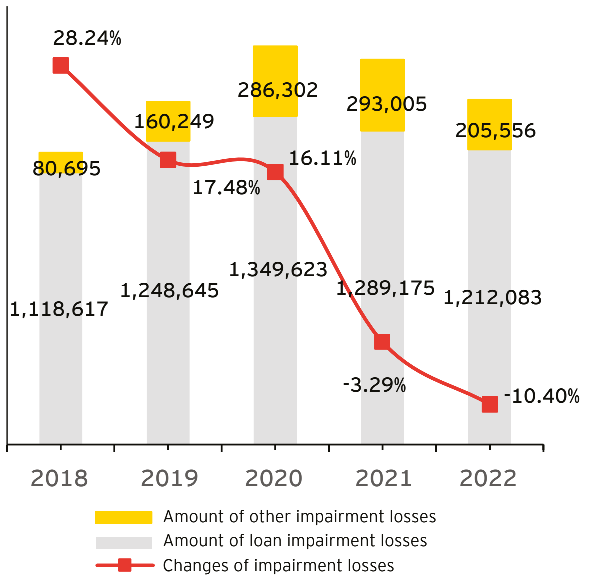
Decrease in impairment loss provision

10.4 percentage points

In 2022, the listed banks started to recover from the COVID-19 pandemic. In accordance with the Notice on Promulgation of the Administrative Measures for Implementation of the Expected Credit Losses Method by Commercial Banks (Yin Bao Jian Gui [2022] No. 10) issued by the China Banking and Insurance Regulatory Commission (CBIRC), the listed banks made provisions objectively and prudently, enhanced risk protection capability, adopted proactive and forward-looking risk management approaches, and continuously improved asset quality. In addition, the listed banks reduced provisions in 2022 because they didn't have to make higher level of provisions for impairment losses on financial investments as they did in 2021 when they transferred the wealth management assets back to the balance sheet. In 2022, the provision for credit impairment losses and other asset impairment losses recognized by the listed banks in the income statements totaled RMB1,417.64 billion, decreasing by 10.4% from 2021. The total loan loss provision amounted to RMB1,212.08 billion, representing a decrease of 5.98% over 2021. The impairment losses of large banks, national joint-stock banks and rural commercial banks decreased by 11.04%, 0.34% and 6.78%, respectively, while that of city commercial banks increased by 1.85% year-on-year. The impairment losses on other assets than loans totaled RMB205.56 billion, decreasing by 29.85% from 2021. The impairment losses on other assets of large banks increased by 5.01% year-on-year, while those of national joint-stock banks, city commercial banks and rural commercial banks decreased by 46.29%, 25.21% and 54.01%, respectively.

Changes in impairment losses of the listed banks

RMB million



Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*The change in impairment loss is the proportion of the total change in loan impairment loss changes and other impairment loss changes.

02

Continued efforts to support economic stability and high quality development

In 2022, in response to the government's call to stabilize the economic fundamentals, the listed banks stepped up efforts in supporting the real economy and improving the quality and efficiency of financial services. They grew credit assets at a higher pace and further refined credit structure. As deposits was growing rapidly and time deposits tended to become dominant, the listed banks gained stable sources of funds to serve the real economy, which in turn weighed on their deposit-taking costs.

Faster growth of total assets

3.49 percentage points

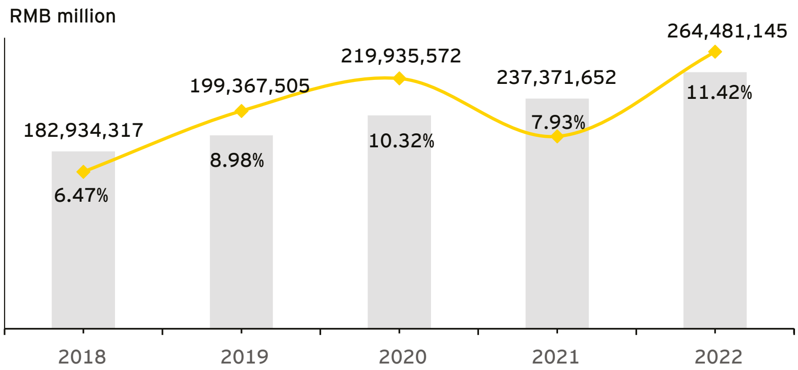
As at 31 December 2022, the total assets of the listed banks amounted to RMB264,481.15 billion, growing by RMB27,109.49 billion, or 11.42% year-on-year, a faster growth rate than that of 2021. The total assets of large banks grew by 12.82%, up 5.17 percentage points from 2021. ABC recorded the highest growth rate of 16.71%, mainly contributed by fast growing loans and financial investment; the growth in total assets of CCB, ICBC, PSBC and BOCOM was 14.37%, 12.62%, 11.75% and 11.37%, respectively, up 6.83 percentage points, 7.14 percentage points, 0.88 percentage point and 2.32 percentage points; and that of BOC slowed down.

The total assets of national joint-stock banks grew by 7.35%, up 0.11 percentage point from 2021. CZB saw the highest growth rate of 14.66%, up 3.01 percentage points from 2021, mainly contributed by fast-growing loans and financial investment; the growth in total assets of SPDB and CMBC accelerated; and that of the other seven banks slowed down.

The total assets of city commercial banks grew by 13.5%, up 2.97 percentage points from 2021. Fifteen banks recorded a faster growth in total assets, while 14 banks reported slower growth. ZYB registered the highest growth rate of 72.7%, up 71.28 percentage points from 2021, mainly contributed by the bank's acquisition of Bank of Luoyang, Bank of Pingdingshan and Bank of JZCTS. The total assets of JXB and BQD grew by 1.38% and 1.41%, respectively, down 9.49 percentage points and 12.17 percentage points from 2021.

The total assets of rural commercial banks grew by 8.74%, down 1.62 percentage points from 2021. CSRCB and RRCB led the growth, recording it at 16.75% and 16.63%, respectively, mainly contributed by fast growing credit assets and financial investment; while QRCB reported the lowest growth rate of 1.01%, down 4.8 percentage points from 2021.

Growth of total assets of the listed banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Total assets amount and growth rate* (Unit: RMB million)						
	31 December 2020		31 December 2021		31 December 2022	
	Amount	Growth rate	Amount	Growth rate	Amount	Growth rate
ICBC	33,345,058	10.75%	35,171,383	5.48%	39,609,657	12.62%
CCB	28,132,254	10.60%	30,253,979	7.54%	34,601,917	14.37%
ABC	27,205,047	9.36%	29,069,155	6.85%	33,927,533	16.71%
BOC	24,402,659	7.17%	26,722,408	9.51%	28,913,857	8.20%
BOCOM	10,697,616	8.00%	11,665,757	9.05%	12,992,419	11.37%
PSBC	11,353,263	11.12%	12,587,873	10.87%	14,067,282	11.75%
Large banks	**135,135,897**	**9.59%**	**145,470,555**	**7.65%**	**164,112,665**	**12.82%**
CMB	8,361,448	12.73%	9,249,021	10.62%	10,138,912	9.62%
IB	7,894,000	10.47%	8,603,024	8.98%	9,266,671	7.71%
CITIC	7,511,161	11.27%	8,042,884	7.08%	8,547,543	6.27%
SPDB	7,950,218	13.48%	8,136,757	2.35%	8,704,651	6.98%
CEB	5,368,163	13.41%	5,902,069	9.95%	6,300,510	6.75%
PAB	4,468,514	13.44%	4,921,380	10.13%	5,321,514	8.13%
CMBC	6,950,233	4.02%	6,952,786	0.04%	7,255,673	4.36%
HX	3,399,816	12.55%	3,676,287	8.13%	3,900,167	6.09%
CZB	2,048,225	13.74%	2,286,723	11.64%	2,621,930	14.66%
CBHB	1,393,523	24.76%	1,582,708	13.58%	1,659,460	4.85%
National joint-stock banks	**55,345,301**	**11.56%**	**59,353,639**	**7.24%**	**63,717,031**	**7.35%**
BOB	2,900,014	5.95%	3,058,959	5.48%	3,387,952	10.76%
BSH	2,462,144	10.06%	2,653,199	7.76%	2,878,525	8.49%
BJS	2,337,893	13.21%	2,618,874	12.02%	2,980,295	13.80%
BONB**	1,626,749	23.45%	2,015,548	23.90%	2,366,097	17.39%
BONJ	1,517,076	12.93%	1,748,947	15.28%	2,059,484	17.76%
HSB	1,271,701	12.37%	1,383,662	8.80%	1,580,236	14.21%
HRB	598,604	2.66%	645,046	7.76%	712,733	10.49%
BHZ	1,169,257	14.18%	1,390,565	18.93%	1,616,538	16.25%
BGY	590,680	5.40%	608,687	3.05%	645,998	6.13%
SJB	1,037,958	1.61%	1,006,126	-3.07%	1,082,413	7.58%
BOCD	652,434	16.84%	768,346	17.77%	917,650	19.43%
BOCS	704,235	16.98%	796,150	13.05%	904,733	13.64%
BTJ	687,760	2.74%	719,904	4.67%	761,083	5.72%
BCQ	561,641	12.05%	618,954	10.20%	684,713	10.62%
BGS	342,364	2.18%	358,505	4.71%	377,202	5.22%
BZZ	547,813	9.46%	574,980	4.96%	591,514	2.88%
JXB	458,693	0.56%	508,560	10.87%	515,573	1.38%
ZYB	757,483	6.71%	768,233	1.42%	1,326,736	72.70%
BOXA	306,392	10.10%	345,864	12.88%	405,839	17.34%
BQD	459,828	23.07%	522,250	13.58%	529,614	1.41%
BJJ	415,794	14.43%	461,503	10.99%	479,704	3.94%
LZB	118,886	29.67%	134,510	13.14%	148,630	10.50%
BSZ	388,068	12.98%	453,029	16.74%	524,549	15.79%
JSB	270,944	9.44%	303,292	11.94%	336,420	10.92%
BGZ	456,401	11.48%	503,880	10.40%	533,781	5.93%
XMB	285,150	15.51%	329,495	15.55%	371,208	12.66%
WHCCB	267,602	19.13%	304,521	13.80%	343,703	12.87%
QLB	360,232	17.14%	433,414	20.32%	506,013	16.75%
BLZ	362,319	7.61%	400,341	10.49%	435,926	8.89%
City commercial banks	**23,916,115**	**10.84%**	**26,435,344**	**10.53%**	**30,004,862**	**13.50%**
CQRCB	1,135,927	10.31%	1,265,851	11.44%	1,351,861	6.79%
GRCB	1,027,872	14.95%	1,161,629	13.01%	1,233,454	6.18%
QRCB	406,811	19.07%	430,438	5.81%	434,791	1.01%
CSRCB	208,685	12.90%	246,583	18.16%	287,881	16.75%
ZJRCB	217,664	8.12%	206,666	-5.05%	224,722	8.74%
JTRCB	200,363	15.63%	234,140	16.86%	267,001	14.03%
WXRCB	180,018	11.18%	201,770	12.08%	211,603	4.87%
ZJGRCB	143,818	16.88%	164,579	14.44%	187,533	13.95%
SZRCB	139,440	10.71%	158,725	13.83%	180,278	13.58%
JYRCB	142,766	13.00%	153,128	7.26%	168,751	10.20%
RRCB	129,516	17.83%	136,868	5.68%	159,623	16.63%
SRCB	1,056,977	13.66%	1,158,376	9.59%	1,281,399	10.62%
DRCB	548,402	18.91%	593,361	8.20%	657,690	10.84%
Rural commercial banks	**5,538,259**	**13.88%**	**6,112,114**	**10.36%**	**6,646,587**	**8.74%**
All listed banks	**219,935,572**	**10.32%**	**237,371,652**	**7.93%**	**264,481,145**	**11.42%**

Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*Total assets of the listed banks are presented in RMB million, on which the calculation of growth rates is based.
**BONB restated the amount of total assets as at 31 December 2021 in 2022.

Fast growth in credit assets

In 2022, the listed banks stepped up support for key areas and vulnerable areas in China's economy by stably increasing credit supply under the policy guidance. The loan balance (net of provision for impairment) of the listed banks in 2022 increased by 11.38%. The loan growth had remained above 11% during the past five years. The average growth in loans of large banks in 2022 was 12.81%, with ABC recording the highest growth of 15.37%, and the other five banks each recording a growth of over 11%. The national joint-stock banks' average growth in loans was 6.79%, with CZB reporting the highest growth of 13.29%, and IB reporting a growth of over 10%. The average growth in loans of city commercial banks was 14.69%. The results were divergent among the banks. ZYB recorded the highest growth in loans of 76.37%, mainly contributed by the acquisition of Bank of Luoyang, Bank of Pingdingshan and Bank of JZCTS. HRB's loan balance decreased by 4.18% from 2021 year-end, mainly due to the decrease in small business loans to natural persons by 33.68% from 2021 year-end, while all other city commercial banks saw an increase in their loan balance. The growth in loans of rural commercial banks in 2022 was 9.56%. All banks saw a positive growth in loans from 2021, with RRCB reporting the highest growth rate of 21.19%.

In 2022, as loans and total assets largely kept pace with each other in growth, the proportion of loans in total assets remained flat from 2021 year-end, standing at 55.68%.

The proportion of loans in total assets of large banks was 56.85%, with CCB reporting the largest proportion of 59.23%. The proportion of loans in total assets of national joint-stock banks was 56.46%, with PAB reporting the largest proportion of 60.93%. The proportion of loans in total assets of city commercial bank was 48.21%, with SJB reporting the largest proportion of 58.26%. The proportion of loans in total assets of rural commercial bank was 52.94%, with ZJRCB reporting the largest proportion of 69.37%.

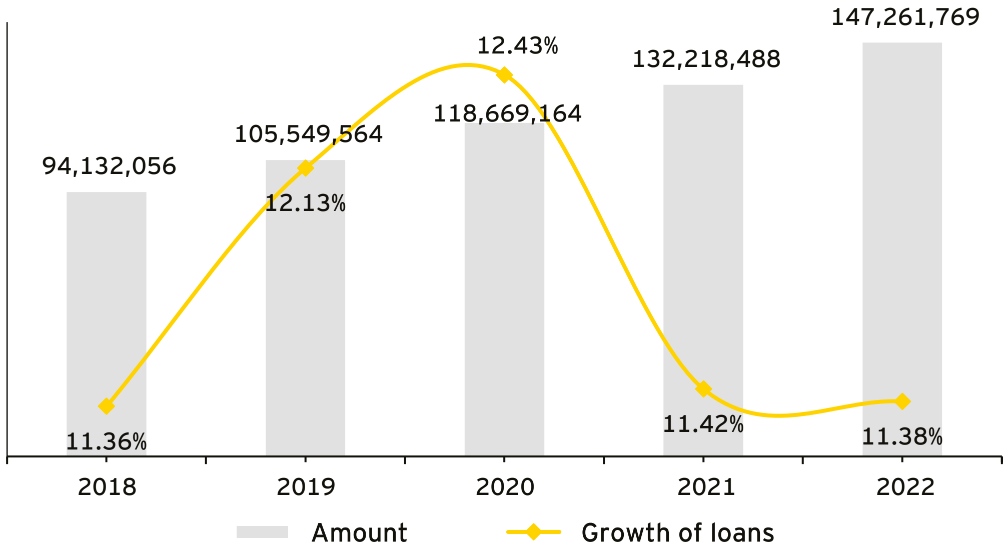
Asset structure of the listed banks

	31 December 2020	31 December 2021	31 December 2022
Credit assets	53.96%	55.70%	55.68%
Financial investment	28.81%	28.82%	28.99%
Interbank assets*	5.53%	4.93%	5.35%
Others	11.70%	10.55%	9.98%

Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*Interbank assets, including assets due from banks and other financial institutions, placements with banks and financial assets under reverse repo.

Growth in loans of the listed banks

RMB million



By loan structure, corporate loans and advances (excluding discounts) of the listed banks accounted for the largest proportion of total loans, at 55.45% as at the end of 2022, up 0.96 percentage point from 2021 year-end; the proportion of personal loans and advances was 38.79%, down 2.29 percentage points from 2021 year-end; and the proportion of bill discounting was 5.76%, up 1.33 percentage points from 2021 year-end.

Loan structure of the listed banks

	31 December 2020	31 December 2021	31 December 2022
Corporate loans and advances	54.97%	54.49%	55.45%
Personal loans and advances	40.87%	41.08%	38.79%
Bill discounting	4.16%	4.43%	5.76%

Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*The data disclosed by PSBC include information on interests receivable.

Accelerating growth of loans to support high-quality development of manufacturing sector

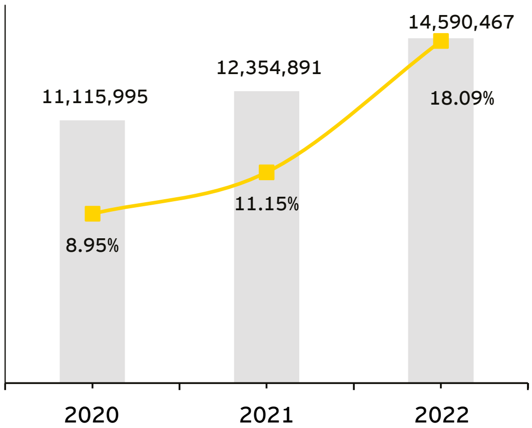
6.94 percentage points

In the Report to the 20th National Congress of the Communist Party of China (CPC), President Xi stressed that "to ensure economic growth, we must remain focused on developing the real economy. We will advance new industrialization and move faster to boost China's strength in manufacturing, product quality, aerospace, transportation, cyberspace, and digital development." In July 2022, the CBIRC issued the Notice on Further Promoting Financial Services for the High-quality Development of Manufacturing Industry, which emphasized that "the high-quality development of manufacturing industry is the top priority in China's high-quality development course." Later in August, the State Council executive meeting proposed "to step up policy support for equipment upgrading and modification across manufacturing enterprises and vocational colleges, including guidance for commercial banks to increase medium- and long-term loans, providing adequate funds for the construction of key projects, equipment upgrading and modification."

In 2022, the listed banks increased loans to the manufacturing sector as a move to implement the national strategic decisions. The total manufacturing loans grew by 18.09%, up 6.94 percentage points from 11.15% in 2021. The total manufacturing loans of large banks increased by 17.34%, up 7.13 percentage points from 2021, with PSBC recording the biggest increase of 20.74 percentage points in growth. The total manufacturing loans of national joint-stock banks grew by 19.14%, up 6.6 percentage points from 2021, with SPDB, CMBC, CZB and CBHB recording a lower growth rate while the other banks reporting a higher growth. The total manufacturing loans of city commercial banks increased by 22.65%, up 8.95 percentage points from 2021, with ZYB reporting a high growth rate of 139.94%, up 153.64 percentage points from 2021, contributed by the acquisition of three city commercial banks in Henan Province in 2022. The total manufacturing loans of rural commercial banks grew by 13.02%, down 0.25 percentage point from 2021, with QRCB reporting the highest growth rate of 74.23%.

Growth of manufacturing loans of the listed banks

RMB million



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

The listed banks increased medium- and long-term loans in 2022 to support the construction of key projects, equipment upgrading and renovation. Specifically, CCB's medium- and long-term loans to manufacturing sector increased by RMB324.91 billion in 2022 from 2021, and those for equipment upgrading and renovation in key areas totaled RMB35.82 billion. BOC's medium- and long-term loans to manufacturing sector increased by 39% in 2022 from 2021 year-end. BOCCM's medium- and long-term loans to manufacturing sector and medium- and long-term loans to high-tech manufacturing sector rose by 57.72% and 129.82%, respectively. PSBC supported specialized and sophisticated enterprises that produce new and unique products and other segments in advanced manufacturing industry, with medium- and long-term loans to manufacturing sector increasing by 50.06% in 2022 from 2021 year-end. CITIC's medium- and long-term loans to manufacturing sector as at the end of 2022 increased by 34.74% from the beginning of the year. CEB's medium- and long-term loans to manufacturing sector increased by 40.74% to RMB193.62 billion in 2022 from 2021 year-end.

According to the financial statistics for 2022, the total balance of medium- and long-term loans to manufacturing sector in the year increased by 36.7% year-on-year, 25.6 percentage points higher than the overall growth of loans. The balance of medium- and long-term loans to small- and medium-sized high-tech enterprises increased by 24.3% year-on-year, 13.2 percentage points higher than the overall growth of loans. The balance of medium- and long-term loans to specialized and sophisticated enterprises that produce new and unique products increased by 24% year-on-year, 12.9 percentage points higher than the overall growth of loans.

Rebounding growth of real estate loans to support stable and healthy development of the real estate market

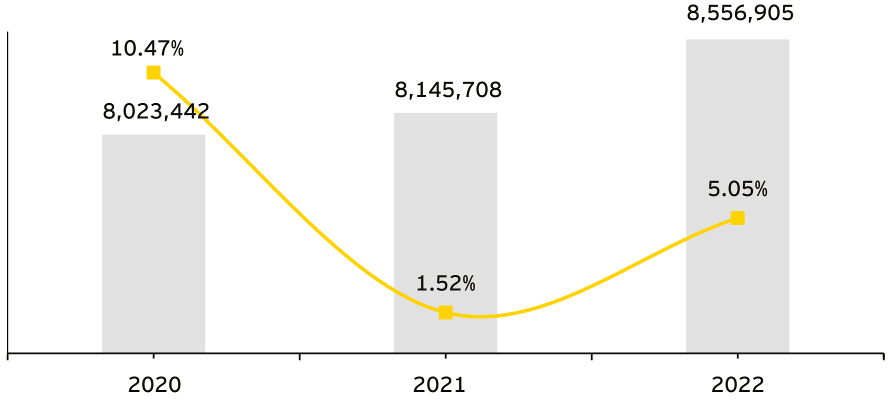
3.53 percentage points

China 2022 Central Economic Work Conference noted that "people's basic housing needs and the need for improved housing conditions should be met", and the country will "support housing improvement" on top of "focusing on boosting domestic demand". In 2022, the real estate market was stabilized by a raft of regulatory policies, including the Notice on Phased Adjustments to Differentiated Housing Loan Policies issued by the People's Bank of China (PBOC) and the CBIRC, and the Announcement on Individual Income Tax Policies for Supporting the Trade of Housing Property by Residents issued by the Ministry of Finance and State Administration of Taxation in September 2022. In November 2022, the PBOC and the CBIRC issued the Notice on Providing Financial Support for the Stable and Healthy Development of the Real Estate Market. The 16 measures in the Notice were rolled out to ensure steady and orderly growth of real estate financing, ensure completion of pre-sale housing projects, facilitate risk resolution by distressed property developers, protect the legitimate rights and interests of housing financial consumers by law, make ad-hoc adjustment of some financial regulatory policies, and ramp up financial support for rental properties.

In 2022, the balance of the listed banks' corporate loans to the real estate sector increased by 5.05%, up 3.53 percentage points from 2021. The large banks' real estate loans grew by 9.73%, up 2.61 percentage points from 2021. The balance of national joint-stock banks' real estate loans continued to decrease, down 1.97% from 2021 year-end, but the decrease narrowed by 3.06 percentage points as compared with the prior year. The real estate loans of city commercial banks grew by 4.25% in 2022, reversing a deceleration of 3.83% growth in 2021. The real estate loans of rural commercial banks decreased by 3% in 2022, while the loans increased by 0.84% in 2021.

Growth of real estate loans of the listed banks

RMB million

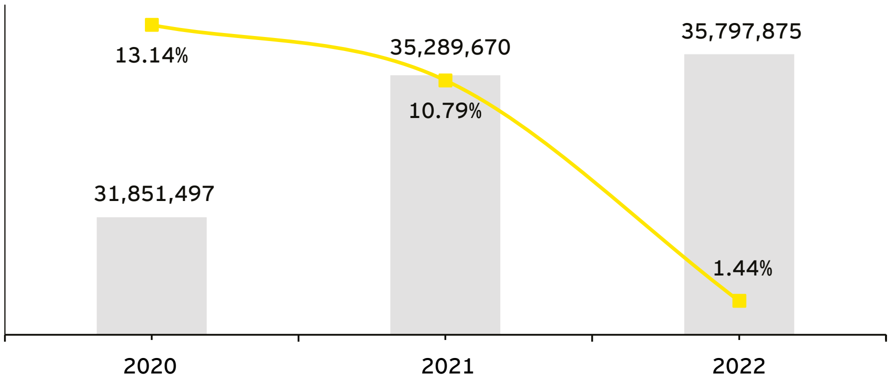


Source: Calculated based on the annual reports and prospectuses published by the listed banks.

While the growth of corporate loans to the real estate sector rebounded, the balance of personal housing loans grew slightly by 1.44% in 2022, down 9.35 percentage points from the 10.79% growth in 2021. The balance of large banks' personal housing loans increased by 1.8%, down 9.2 percentage points from 2021. The balance of national joint-stock banks' personal housing loans decreased by 0.22% in 2022, relative to an increase of 9.32% in 2021. The balance of city commercial banks' personal housing loans increased by 3.07%, down 9.97 percentage points from 2021. The balance of rural commercial banks' personal housing loans decreased by 2.99%, relative to an increase of 10.63% in 2021.

Growth in personal housing mortgage loans of the listed banks

RMB million



Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*The data cover 57 banks except ZJRCB who did not disclose personal housing loans in its annual reports.

Faster growth of discounted bills to better facilitate enterprise financing

25.87 percentage points

In 2022, the total balance of listed banks' discounted bills grew rapidly by 44.54% from 2021 year-end amid declining market rates on discounting bills. The growth was driven by increasing enterprise demands as the highly accessible short-maturity bills better addressed their needs in terms of inter-enterprise payment, settlement and financing. However, the results were divergent among the banks.

Large banks saw discounted bills grow by 98.61%, up 88.76 percentage points from 2021, with ICBC, CCB and ABC recording the balance of discounted bills as at 31 December 2022 at above RMB1 trillion. Particularly, ICBC grew its discounted bills by 117.67% from the end of 2021 as the bank harnessed its business connectivity with corporate customers and introduced more flexible offerings to better address enterprises' demands for bill discounting.

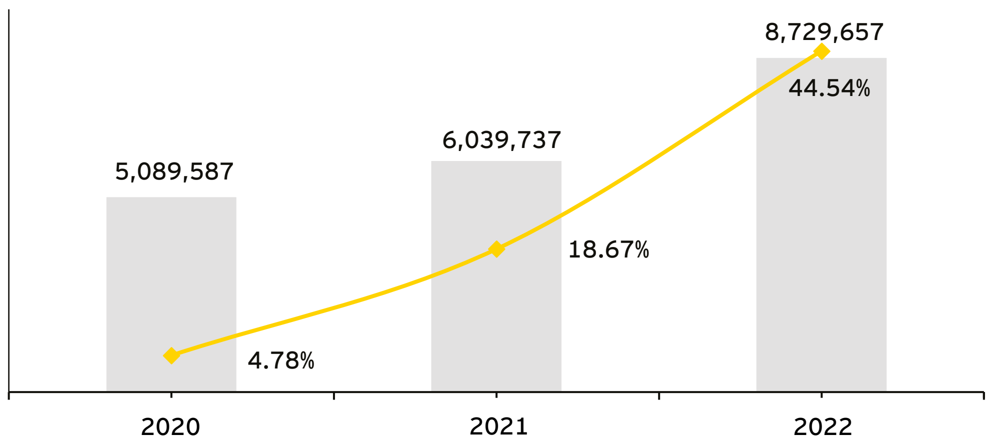
The balance of national joint-stock banks' discounted bills increased by 6.92%, down 17.89 percentage points from 2021. The balance of discounted bills reported by SPDB, CMBC and HX decreased, while that of the other banks increased. Particularly, CZB grew its discounted bills by 42.51% as it improved the overall returns on bill assets by optimizing the structure and promoting multi-level market interaction.

The balance of city commercial banks' discounted bills increased by 23.84%, up 0.65 percentage pointfrom 2021. Specifically, ZYB grew its discounted bills by 143.49% from the end of 2021, mainly due to the acquisition of three banks and expansion of bill discounting scale to meet the financing needs of customers. The balance of LZB's discounted bills decreased by 77.22% from 2021 year-end, as the bank reduced bill holdings to maintain a balanced credit asset structure, considering market competition and loan balance.

The balance of rural commercial banks' discounted bills increased by 18.61%, down 9.91 percentage points from 2021. Specifically, CQRCB grew its discounted bills by 94.56% from the end of 2021, as it better addressed the demand of enterprises for discount financing in day-to-day operations. The balance of GRCB's discounted bills decreased by 7.35% from 2021 year-end, mainly due to continued optimization of business structure by moderately reducing bill assets to improve returns on asset investment.

Growth in bill discounting loans of the listed banks

RMB million



Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*The data disclosed by PSBC include information on interests receivable.

Steady growth in liabilities

11.71 percentage points

As at 31 December 2022, the liabilities of the listed banks totaled RMB242,887.51 billion, an increase of RMB25,466 billion, or 11.71%,from the prior year-end, up 4.09 percentage points.

The total liabilities of large banks increased by 13.21% from the prior year-end, up 5.85 percentage points. Specifically, ABC recorded the largest increase of 17.28%, up 10.66 percentage points, mainly due to the growth of customer deposits. BOC recorded the lowest increase of 8.1%, down 1.49 percentage points.

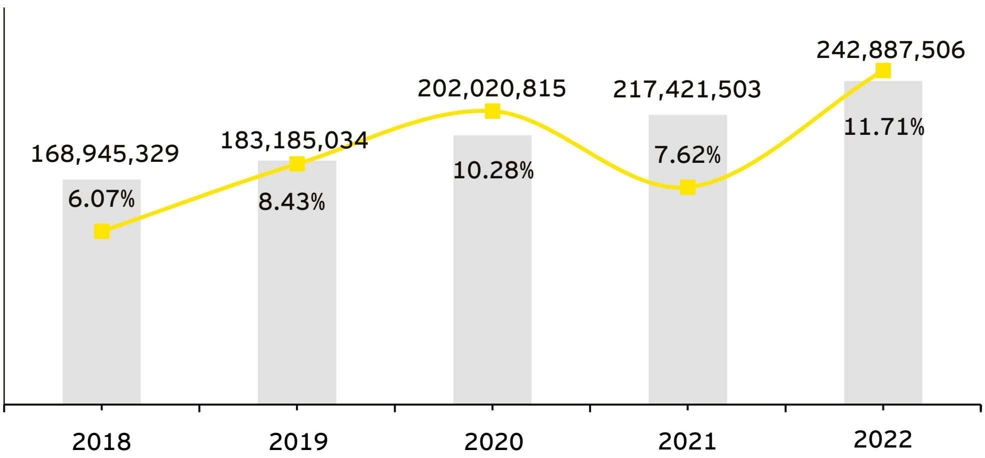
The total liabilities of national joint-stock banks increased by 7.39% from the prior year-end, down 0.46 percentage point, with seven banks excluding SPDB, CMBC and CZB, seeing a slower growth in liabilities as compared with the prior year. The total liabilities of CZB increased by 15.86% from the prior year-end, up 5.2 percentage points, as its customer deposits grew by 18.77% from the prior year-end.

The total liabilities of city commercial banks increased by 13.82% from the prior year-end, up 3.66 percentage points. Particularly, ZYB grew its liabilities by 74.7% from the prior year-end, mainly due to the acquisition of three banks in 2022.

The total liabilities of rural commercial banks increased by 8.86% from the prior year-end, down 1 percentage point. Specifically, RRCB grew its total liabilities by 17.39% from the prior year-end, up 13.34 percentage points, as its customer deposits increased by 23.15% from the prior year-end.

Growth in deposits of the listed banks

RMB million



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Amount and growth rate of total liabilities of the listed banks* (Unit: RMB million)						
	31 December 2020		31 December 2021		31 December 2022	
	Amount	Growth rate	Amount	Growth rate	Amount	Growth rate
ICBC	30,435,543	11.01%	31,896,125	4.80%	36,095,831	13.17%
CCB	25,742,901	10.96%	27,639,857	7.37%	31,723,157	14.77%
ABC	24,994,301	9.03%	26,647,796	6.62%	31,253,082	17.28%
BOC	22,239,822	6.96%	24,371,855	9.59%	26,346,286	8.10%
BOCOM	9,818,988	7.85%	10,688,521	8.86%	11,956,679	11.86%
PSBC	10,680,333	10.43%	11,792,324	10.41%	13,241,468	12.29%
Large banks	123,911,888	9.55%	133,036,478	7.36%	150,616,503	13.21%
CMB	7,631,094	12.23%	8,383,340	9.86%	9,184,674	9.56%
IB	7,269,197	10.21%	7,908,726	8.80%	8,509,373	7.59%
CITIC	6,951,123	11.79%	7,400,258	6.46%	7,861,713	6.24%
SPDB	7,304,401	13.34%	7,458,539	2.11%	7,997,876	7.23%
CEB	4,913,123	13.01%	5,417,703	10.27%	5,790,497	6.88%
PAB	4,104,383	13.19%	4,525,932	10.27%	4,886,834	7.97%
CMBC	6,408,985	4.19%	6,366,247	-0.67%	6,642,859	4.34%
HX	3,117,161	13.29%	3,375,585	8.29%	3,576,845	5.96%
CZB	1,915,682	14.52%	2,119,840	10.66%	2,456,000	15.86%
CBHB	1,290,277	24.75%	1,476,144	14.41%	1,549,509	4.97%
National joint-stock banks	50,905,426	11.53%	54,432,314	6.93%	58,456,180	7.39%
BOB	2,678,871	5.96%	2,761,881	3.10%	3,077,335	11.42%
BSH	2,271,205	10.26%	2,447,430	7.76%	2,656,876	8.56%
BJS	2,155,814	11.78%	2,420,819	12.29%	2,764,863	14.21%
BONB**	1,507,756	23.89%	1,865,613	23.73%	2,197,571	17.79%
BONJ	1,409,043	12.23%	1,626,382	15.42%	1,901,785	16.93%
HSB	1,166,028	11.88%	1,272,146	9.10%	1,457,414	14.56%
HRB	547,494	3.02%	582,266	6.35%	649,412	11.53%
BHZ	1,088,395	13.19%	1,300,494	19.49%	1,517,965	16.72%
BGY	546,229	5.03%	554,627	1.54%	587,346	5.90%
SJB	957,912	1.65%	925,623	-3.37%	1,000,976	8.14%
BOCD	606,319	15.99%	716,324	18.14%	856,224	19.53%
BOCS	658,512	17.56%	739,504	12.30%	842,561	13.94%
BTJ	633,812	2.52%	662,363	4.50%	700,464	5.75%
BCQ	519,647	12.33%	569,707	9.63%	633,217	11.15%
BGS	310,899	0.17%	326,448	5.00%	344,597	5.56%
BZZ	501,842	8.96%	515,568	2.74%	538,888	4.52%
JXB	422,750	0.41%	466,926	10.45%	468,758	0.39%
ZYB	698,127	7.07%	705,854	1.11%	1,233,102	74.70%
BOXA	280,768	10.27%	318,261	13.35%	376,591	18.33%
BQD	428,921	25.00%	488,922	13.99%	493,021	0.84%
BJJ	389,165	15.14%	426,090	9.49%	443,287	4.04%
LZB	109,937	29.66%	124,808	13.53%	138,434	10.92%
BSZ	356,837	13.46%	418,740	17.35%	484,087	15.61%
JSB	249,902	9.89%	281,134	12.50%	313,066	11.36%
BGZ	420,373	11.95%	464,892	10.59%	489,811	5.36%
XMB	265,477	14.78%	306,229	15.35%	346,464	13.14%
WHCCB	245,928	18.97%	280,351	14.00%	317,970	13.42%
QLB	332,934	16.87%	400,809	20.39%	470,424	17.37%
BLZ	334,887	6.33%	371,332	10.88%	404,007	8.80%
City commercial banks	22,095,784	10.64%	24,341,543	10.16%	27,706,516	13.82%
CQRCB	1,041,294	10.73%	1,159,807	11.38%	1,236,845	6.64%
GRCB	951,986	16.03%	1,074,743	12.89%	1,145,205	6.56%
QRCB	377,109	19.19%	395,388	4.85%	398,309	0.74%
CSRCB	189,578	13.56%	225,446	18.92%	263,766	17.00%
ZJRCB	202,849	8.15%	190,667	-6.01%	207,625	8.89%
JTRCB	184,112	16.81%	216,365	17.52%	248,381	14.80%
WXRCB	165,948	10.50%	185,846	11.99%	192,083	3.36%
ZJGRCB	132,508	17.99%	150,013	13.21%	171,807	14.53%
SZRCB	127,300	11.34%	145,456	14.26%	165,950	14.09%
JYRCB	130,506	14.01%	139,962	7.25%	154,336	10.27%
RRCB	118,263	18.89%	123,051	4.05%	144,447	17.39%
SRCB	976,505	14.11%	1,061,045	8.66%	1,175,683	10.80%
DRCB	509,759	19.74%	543,379	6.60%	603,870	11.13%
Rural commercial banks	5,107,717	14.48%	5,611,168	9.86%	6,108,307	8.86%
All listed banks	202,020,815	10.28%	217,421,503	7.62%	242,887,506	11.71%

Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*Total liabilities of the listed banks are presented in RMB million, on which the calculation of growth rates is based.
**BONB restated the amount of total liabilities as at 31 December 2021 in 2022.

Stable liability structure

In 2022, the liability structure of the listed banks was held relatively stable. The liability growth was mainly driven by deposits that accounted for the largest proportion in total liabilities. Interbank liabilities as a percentage of total liabilities increased, while bonds issued and other liabilities decreased.

Changes in the liability structure

	31 December 2020	31 December 2021	31 December 2022
Deposits	74.61%	74.62%	75.11%
Interbank liabilities*	11.63%	11.85%	11.94%
Bonds and debt securities issued	7.21%	7.83%	7.45%
Others	6.55%	5.70%	5.50%

Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*Interbank liabilities, including due to and placements from banks and other financial institutions and financial assets under reverse repo.

As at 31 December 2022, the deposits of the listed banks amounted to RMB182,429.69 billion, growing by RMB20,188.16 billion, or 12.44%, from the prior year-end, up 4.8 percentage points. The deposits of large banks, national joint-stock banks, city commercial banks and rural commercial banks grew by 12.69%, 10.75%, 14.87% and 10.89%, respectively. As at 31 December 2022, the total deposits accounted for 75.11% of total liabilities, up 0.49 percentage point from 2021. The proportions varied for large banks, national joint-stock banks, city commercial banks and rural commercial banks, standing at 80.26%, 65.68%, 66.28% and 78.52%, respectively, showing different deposit-taking capacity and varying degrees of reliance on deposits. Specifically, PSBC reported the largest proportion of 96.02%.

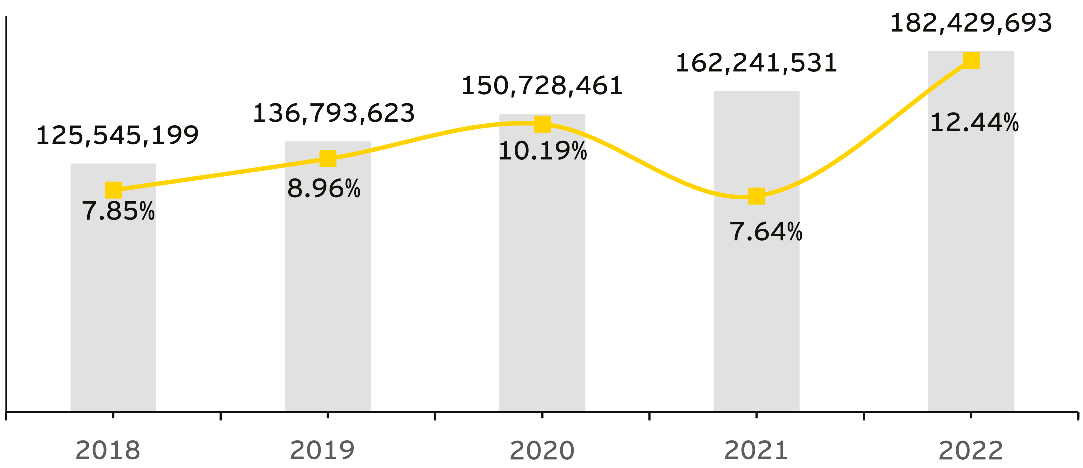
Growth rate in deposits of the listed banks

	31 December 2020	31 December 2021	31 December 2022
Large banks	9.38%	7.30%	12.69%
National joint-stock banks	11.51%	7.26%	10.75%
City commercial banks	12.03%	10.07%	14.87%
Rural commercial banks	13.60%	10.39%	10.89%
All listed banks	10.19%	7.64%	12.44%

Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Growth in total liabilities of the listed banks

RMB million



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

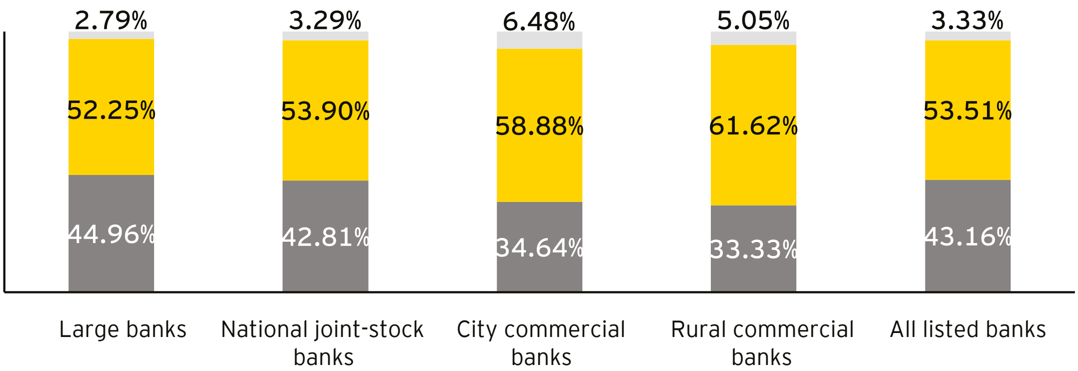
Increase in the proportion of time deposits

↑ 2.90 percentage points

In 2022, the proportion of time deposits of the listed banks increased significantly. As at 31 December 2022, the proportion was 53.51%, up 2.9 percentage points from 2021 year-end. The proportion of time deposits of large banks was 52.25%, up 2.92 percentage points from 2021 year-end, with PSBC reporting the largest proportion of 67.66%, up 2.1 percentage points from 2021 year-end. The proportion of time deposits of national joint-stock banks was 53.9%, up 3.09 percentage points from 2021 year-end, with CMBC reporting the largest proportion of 66.22%, up 5.95 percentage points from 2021 year-end.

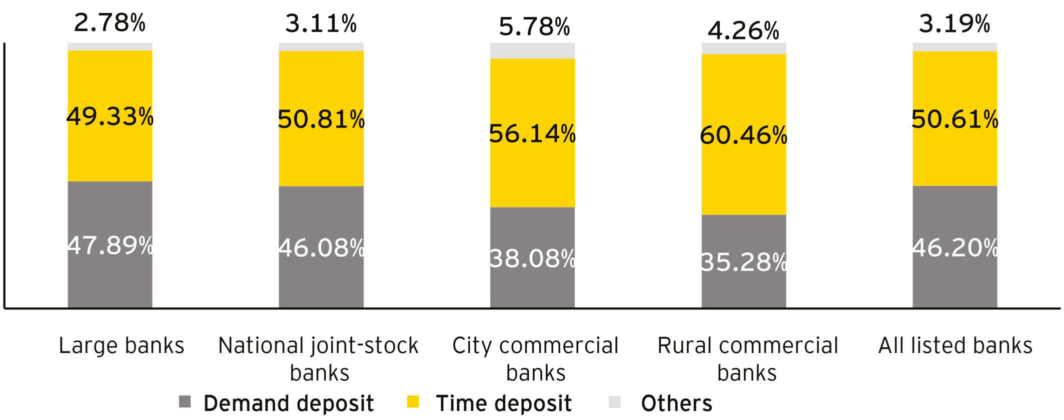
The proportion of time deposits of city commercial banks was 58.88%, up 2.74 percentage points from 2021 year-end, with HRB reporting the largest proportion of 75.73%, up 3.85 percentage points from 2021 year-end. The proportion of time deposits of rural commercial banks was 61.62%, up 1.16 percentage points from 2021 year-end, with JTRCB reporting the largest proportion of 71.42%, up 3.02 percentage points from 2021 year-end.

Breakdown of deposits of the listed banks in 2022 (demand deposits/time deposits)



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Breakdown of deposits of the listed banks in 2021 (demand deposits/time deposits)



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

In 2022, the personal deposits of the listed banks grew by 18.54%, up 8.94 percentage points from the prior year-end. The growth rate of personal deposits was 11.59 percentage points higher than that of corporate deposits. Except for BLZ that reported a growth rate of 9.08%, all other listed banks saw a growth rate of over 10%, mainly driven by growing time deposits.

Comparison of growth in different types of deposits of the listed banks

	31 December 2020	31 December 2021	31 December 2022
Corporate demand deposits	11.19%	4.42%	1.40%
Corporate time deposits	6.15%	7.64%	13.53%
Corporate deposits	**8.90%**	**5.85%**	**6.86%**
Personal demand deposits	11.29%	4.16%	10.82%
Personal time deposits	13.84%	13.32%	23.43%
Personal deposits	**12.77%**	**9.51%**	**18.45%**

Source: Calculated based on the annual reports and prospectuses published by the listed banks.

In 2022, against the backdrop of macroeconomic downturn and increased volatility in the capital market, corporate and household residential confidence in investment and consumption declined, which, compounding sharply fluctuating net value of wealth management products, led to rapid deposit growth across the listed banks, especially the proportion of time deposits, thus weighing on the cost control of the listed banks. The listed banks should continue to strengthen liability quality management, perform forward-looking price evaluations, and dynamically adjust response strategies from the perspective of liability structure, robustness, and proportionality of costs and assets.

03

Retail transformation to support customers' pursuit for a better financial life

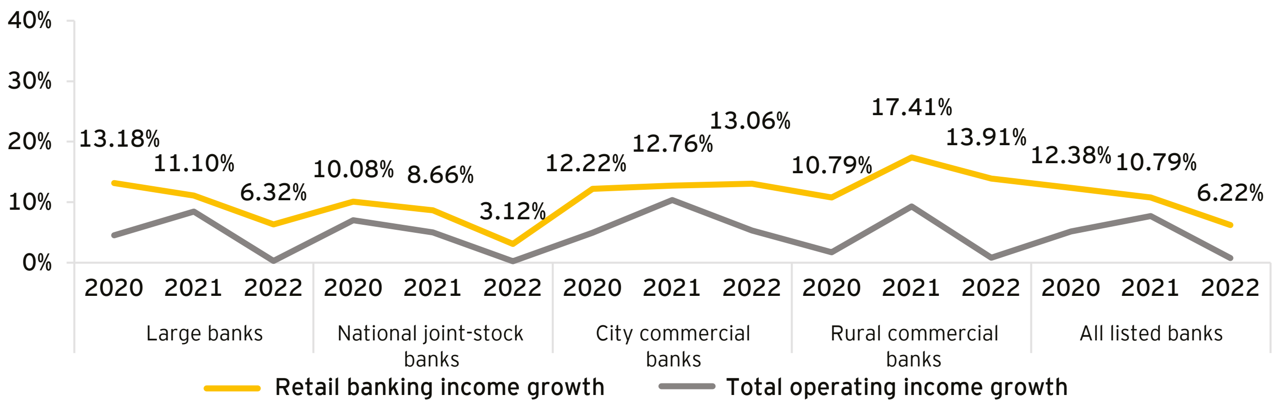
In 2022, the listed banks continued with their retail banking transformation commensurate with the rhythm of growing domestic demand, stimulating consumption and developing wealth management business, thus registering an increase in operating income from retail banking. However, as intense competition drove up customer acquisition costs, retail banking transformation shifted from "focusing on new growth" to "achieving new growth and maintaining existing portfolios", leading to a decline in profit contribution of retail banking.

Retail operating income rose at a slower pace while its profit contribution declined

In 2022, the operating income from retail banking of listed banks accounted for 45.61% of total operating income, up 2.27% from 2021, exceeding the contribution of corporate banking (40.8%) by 4.81 percentage points (2021: by 2.65 percentage points), as well as outperforming the contribution of financial market business (10.43%). Profit before tax of retail banking accounted for 45.34% of total profit before tax, down 0.8% over 2021. In contrast, the proportion was 39.39% for corporate banking and 14.27% for financial market business. Retail banking's lead narrowed over corporate banking and financial market business in terms of proportion of profit before tax.

As more listed banks strategically focused on developing retail banking, the competition was getting intense, thus slowing down the growth of operating income contributed by retail banking, which, nevertheless, remained faster than the growth rate of the total operating income. In 2022, the total operating income from retail banking of the listed banks amounted to RMB2,546.59 billion, growing by RMB149.02 billion, or 6.22%, from 2021. The growth rate of large banks, national joint-stock banks, city commercial banks and rural commercial banks stood at 6.32%, 3.12%, 13.06% and 13.91%, respectively.

Growth in operating income from retail banking



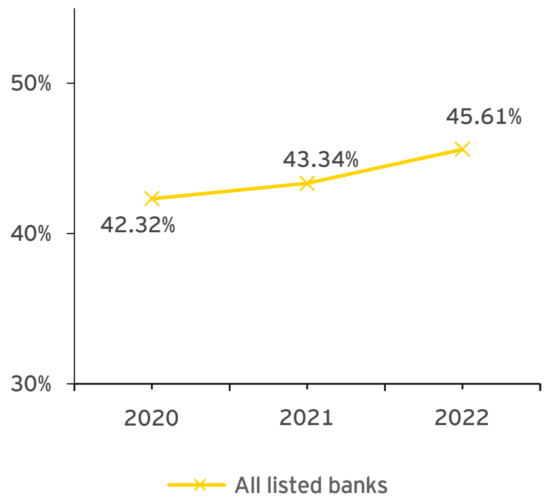
Source: Calculated based on the annual reports and prospectuses published by the listed banks.

In 2022, large banks saw a relatively stable performance in their retail banking, with operating income accounting for 48.34% of the total operating income, up 2.74 percentage points from 2021, and profit before tax representing 49.66% of the total profit before tax, up 1.21 percentage points from the prior year. By leveraging the extensive network of outlets and making continued efforts in developing retail banking, large banks achieved an operating income of RMB1.78 trillion and a profit of RMB0.79 trillion in retail banking, accounting for 70.07% and 75.8%, respectively, of the total retail operating income and total retail profit of all listed banks. Specifically, PSBC continued to implement the strategy of building a "first-class large retail bank" and accelerated the transformation towards a "wealth management bank". In 2022, PSBC saw its operating income from retail banking account for over 70% of the total operating income, the highest among large banks.

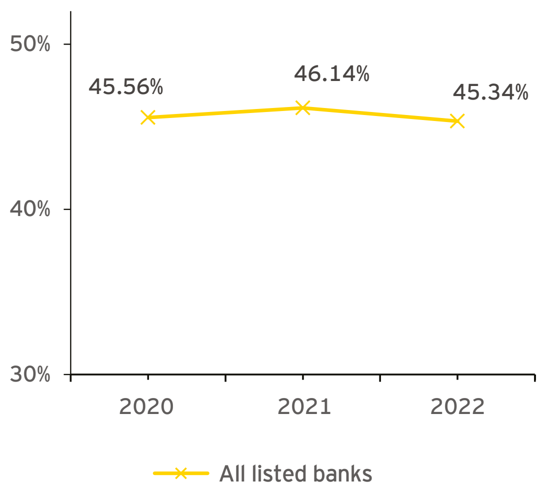
The retail operating income of national joint-stock banks accounted for 47.67% of total operating income (highest among all types of banks), up 1.14 percentage points from 2021. All joint-stock banks moved to press ahead with retail transformation. For example, guided by the strategic vision of building a "best value creation bank featuring innovation-driven development, leading business models and sharpened differentiators", CMB benchmarked itself against the first-tier banks and expanded its wealth management business, maintaining a dominant position in retail banking. PAB comprehensively promoted digital operations and committed to building "China's most outstanding, world-leading smart retail bank", seeing remarkable results. IB unleashed potentials on new arenas as it expedited the development of pension finance business such as pension wealth management, pension savings and personal pension fund, strengthened wealth management and private banking capacities and addressed financial and non-financial demands of long-tail retail customers through digital capability.

City commercial banks increasingly relied on corporate business or financial market business to generate profits. They all registered an increase in the proportion of operating income from retail banking, but a decline in retail profit contribution. In 2022, the retail operating income of city commercial banks and rural commercial banks accounted for 27.19% and 40.57% of total operating income, respectively, and the profit before tax from retail banking accounted for 24.88% and 37.79% of total profit before tax, respectively, all lower than the corresponding average of all listed banks.

Contribution of retail banking to operating income of the listed banks



Contribution of retail banking to pre-tax profits of the listed banks

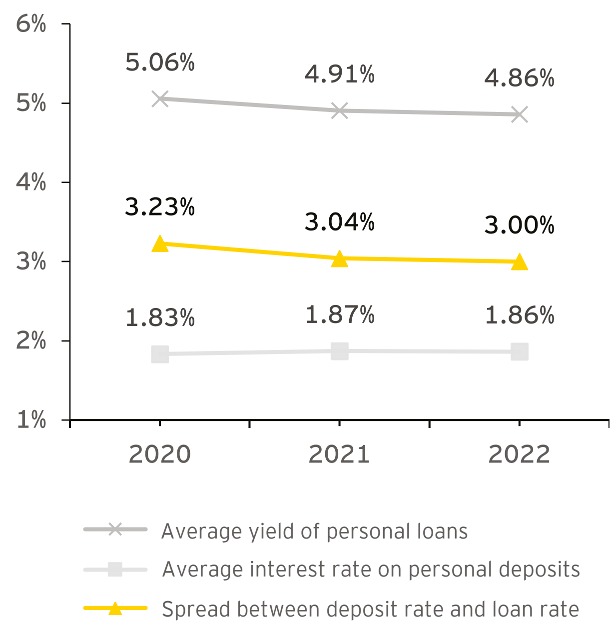


Source: Calculated based on the annual reports and prospectuses published by the listed banks.

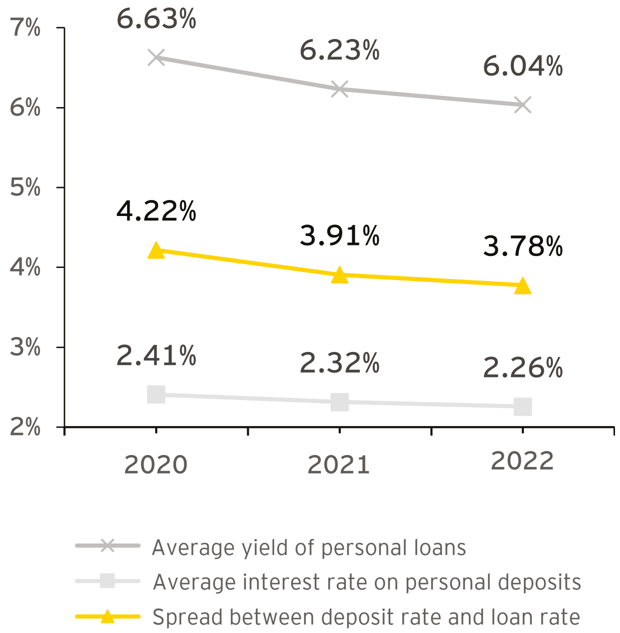
	Contribution of retail banking to operating income of the listed banks			Contribution of retail banking to pre-tax profits of the listed banks		
	2020	2021	2022	2020	2021	2022
Large banks	44.51%	45.60%	48.34%	49.57%	48.45%	49.66%
National joint-stock banks	45.44%	46.53%	47.67%	42.18%	46.57%	41.59%
City commercial banks	24.79%	25.33%	27.19%	23.60%	29.22%	24.88%
Rural commercial banks	33.42%	35.90%	40.57%	36.72%	43.44%	37.79%

Interest margin of deposits and loans in retail banking continued to decline. The average yield of retail loans of large banks decreased by 5 bps to 4.86% from 2021; the average interest rate of retail deposits decreased by 1 bp to 1.86% from 2021; and the interest spread between retail deposits and loans decreased by 4 bps to 3% from 2021. All of the above indicators of national joint-stock banks showed a downward trend. In 2022, among large banks and national joint-stock banks, PAB recorded the highest retail loan yield of 7.38% and saw its yield stand above 7.3% for three consecutive years. CMB registered the lowest interest rate of 1.22% on retail deposits, while CBHB reported the highest of 2.95%. The interest margins were divergent among the listed banks, with PAB, CMB and CZB recording higher interest spread, standing at 5.05%, 4.22% and 3.93%, respectively, in 2022.

Average yields of retail loans and average interest rates of retail deposits of large banks*



Average yields of retail loans and average interest rates of retail deposits of national joint-stock banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks. The data are arithmetic means.
*BOC is not included in the calculation.

Retail banking remained a strategic priority despite headwinds

In 2022, the listed banks continued to implement their retail strategies, highlighted by “comprehensive retail”, “wealth management” and “extensive wealth management”. They developed differentiated retail strategies based on the characteristics of their own business to navigate intensifying competition.

Summary of development and implementation of retail banking strategies of selected listed banks in 2022	
ICBC	The bank focused on the strategic requirements of further building the “No.1 Personal Bank” and accelerated the ecological construction and digital transformation of personal banking. The bank also improved the unified view of personal customer profiles, strengthened the construction of “Intelligent Brain” to build a new ecosystem of wealth management, consumer finance, payment and settlement, and account management services, innovated wealth management services, and *launched an open wealth management platform*.
CCB	Adhering to the “people-centered” philosophy, the bank followed the trend of the digital era and the wealth era, deepened the implementation of New Finance initiatives, and pressed ahead with the extensive wealth management strategy, to consolidate its position of being the largest retail banker, intensify digitalized operations, and expand construction of consumer ecosystem, driving the high-quality development of personal finance business.
ABC	The bank adhered to the “people-centered” development philosophy, and further implemented its retail development strategy featuring “One Main Body with Two Wings”. It enhanced its refined customer services, and pushed forward “extensive wealth management” and digital transformation. The bank also *implemented the “On-the-Wing Initiative” for private banking business*, accelerated the transformation and upgrading of customer service model, and continued to strengthen comprehensive marketing services for private banking customers to meet diverse financial needs of the people.
BOC	The bank remained committed to the concept of customer at the center, professionalism as the key, and innovation as the engine. It continued to develop a retail banking business with wealth finance at its core, cross-border finance and consumer finance as its features, and key regions as its breakthrough drivers. The bank *set up the “Entrepreneurs’ Office” in its private banking line*, to create a globally integrated platform providing all-around and full-cycle wealth management services.
BOCOM	The strategic goal of the bank is to “build a world-class banking group with business features and advantages”. Adhering to the customer orientation, the bank developed the feature of its wealth finance business, deeply promoted digital transformation, and *fully utilized the new elements empowerment business of “Data + Technology” to improve the quality and enhance the efficiency*. The bank also improved the tiered and categorized customer management system and strengthened the digital capability in retail operations.
PSBC	Unswervingly following the strategy of building a first-tier large retail bank and adhering to the concept of customer centricity and value creation for customers, the bank focused on improving capabilities in six aspects, fostered differentiated competitive advantages, and accelerated the transformation toward a “wealth management bank”. The bank paid attention to people’s livelihood and elderly care. It established a management and service platform for personal pension business and *created “U Enjoy Future” as its pension financial service brand*.
CMB	Under the strategic vision of “building the best value creation bank with innovation-driven development, leading model and distinguished features”, in line with the explosive growth of residents’ demand for wealth management and the long-term trend of narrowing net interest margin, the bank accelerated model transformation, actively promoted wealth management capacity building for the entire customer base, and *benchmarked against world-class banks to expand and strengthen the wealth management business*.
IB	Committed to serving people’s aspirations for a better life, the bank optimized the tiered and categorized management of customers, expanded the retail product system, and upgraded service models. It also *accelerated the development of pension financial services such as pension finance, pension savings and personal pension*, strengthened wealth management and private banking capacity, and effectively addressed the financial and non-financial demands of long-tail retail customers through digitalization.
CITIC	*With wealth management as the core to build “new retail”,* the bank remained customer-oriented and value-oriented, and used “digitalization and ecology” as its two wings to propel comprehensive engagement with customers that focus on five areas - “settlement, investment, financing, engagement, and service”, building itself into the wealth management bank preferred by customers.
SPDB	*The bank accelerated the construction of digitalized retail system (version 3.0),* to deepen integration of technology and business and improve the quality of wealth management services, building itself into the “smartest wealth management bank”. The bank also continued to enhance the intelligent wealth advisory capability featuring high-touch, professional customer services, and formed a new three-tier intelligent wealth management service system covering “Reaching - Engaging - Accompanying”.
CEB	Focusing on the building of digital retail banking and following the guideline of customer-oriented philosophy, the bank deepened the structural reform of retail banking, and formulated a “dual-curve” development model. The bank deeply engaged in the “first curve” by giving play to the advantages of outlets and professional customer managers to boost offline operation capacity. Meanwhile, the bank expanded the “second curve” to establish a more intensive, scenario-based and platform-based business model, and accelerated service transformation and upgrading.

Summary of development and implementation of retail banking strategies of selected listed banks in 2022	
PAB	The bank holistically deepened digital operation and put efforts in becoming "China's most outstanding, world-leading smart retail bank". It comprehensively implemented the new model of retail transformation, constantly enhanced technology-driven development, and promoted business model reform. The bank also *created "Smart Bank 3.0 " for retail business* by leveraging big data and AI capability to construct a customer-centric and data-driven management system, so as to infuse fresh dynamics into the sustainable development of retail business.
CMBC	The bank continued to deepen the development strategy of taking retail business as a long-term and fundamental strategic business. It *further advanced the development of customers through the "organic growth + external expansion" model*, and tapped potentials by focusing on segmented customer groups. The bank also continuously upgraded the product and service system, and built digital management capabilities, to improve customer experience, and achieve high-quality development of retail business.
HX	Adhering to the development philosophy of "being sustainable for a better future", the bank remained oriented to customer demands and committed to serving the society, and accelerated its retail transformation as an important bank-wide strategy. Toward the strategic goal of building a distinctive wealth management bank, HX empowered its retail finance transformation with enhanced mechanisms, expertise, technology and synergy, implemented the development strategy featuring "innovation, digitalization, scenarios and marketing", and built a professional wealth management system.
CZB	The bank actively created the new development pattern featuring coordinated development of the five major business segments and positioned the great retail segment as the "first segment". The bank *proactively advanced digital reform and made meticulous plan for the rebuilding of retail business operation system*. It also actively embraced the new financial wealth era to expedite the process of steering its wealth management business.
CBHB	The bank was committed to becoming "a modern wealth and treasury manager offering the best experience", transforming itself into a retail bank, a transaction bank and a light-model bank. The bank took MAU operation as the focus and AUM as the backbone of retail banking, and enhanced customer value by providing customers/users with personalized, differentiated, and customized products and services.
BOB	The bank relied on digital transformation to drive retail transformation and accelerated the construction of a new retail strategy system focusing on customer experience and value creation, to build a full life-cycle financial service system. The bank comprehensively improved digital operations and services, and enhanced wealth management and private banking services, with optimized business structure, leading asset quality, and strengthened brand characteristics.
BSH	*The bank seized the opportunities brought by the growing demand of customers for quality financial services, by proactively following new trends and meeting new needs of customers in their pursuit for a better life.* It continued to sharpen differentiators and advantages of retail business, and enhanced service capabilities. By integrating online and offline services, the bank strived to provide retail customers with more convenient and high-touch financial services, and continued to build up advantages in wealth management, consumer finance, pension finance, and basic retailing.
BJS	The bank adhered to the traditional vision of "centering on customers, growing together with customers, and creating value for customers" and deepened the construction of "customer-oriented smart retail system". Around the full life cycle of customers, the bank moved on the footing of "full customer coverage, omni-channel and comprehensive offerings", diversified service connotation and extended service scope through internal and external partnerships, broadening personal financial offerings for customers and improving service efficiency.
BONB	The bank adhered to the "customer-centered" philosophy and the principle of "creating value with professional services". It enhanced operational capability through digitalization and continuously optimized business model, laying a solid foundation for sustainable development of wealth management business. The bank further upgraded its product system and customer management capability *through "digital service platform, standardized operation model and systematic enablement"*.
SRCB	The bank's vision is that *"any area that is closely related to the people's life and can be empowered by finance to achieve the people's aspiration for a better life, is our main concern. Retail finance is the main area where we serve the people."* The bank adhered to the "people-centered" development philosophy, deepened professional operations, and accelerated digital transformation. Prioritizing the development of retail banking, it aimed to build a friendly community-centered bank, enhance its image as "a bank providing people with friendly, convenient and beneficial services", and create distinctive brands in pension finance, wealth management, social governance enablement and finance for all.
CQRCB	Under the guidance of the strategic goal of "striving to become a leading regional bank in China", and implementing the strategy of "anchoring the bank with retail, propelling the bank with technology and empowering the bank with talents", the bank developed "large retail" business as its core competitiveness and created a leading "large retail" ecosystem with distinctive features and advantages, to become "a retail bank providing best customer experience in the central and western regions" and establish a solid foundation for high-quality development.

Source: Paraphrased excerpts from the annual reports published by the listed banks. The main changes from 2021 are underlined.

Growing retail loans at a slower pace

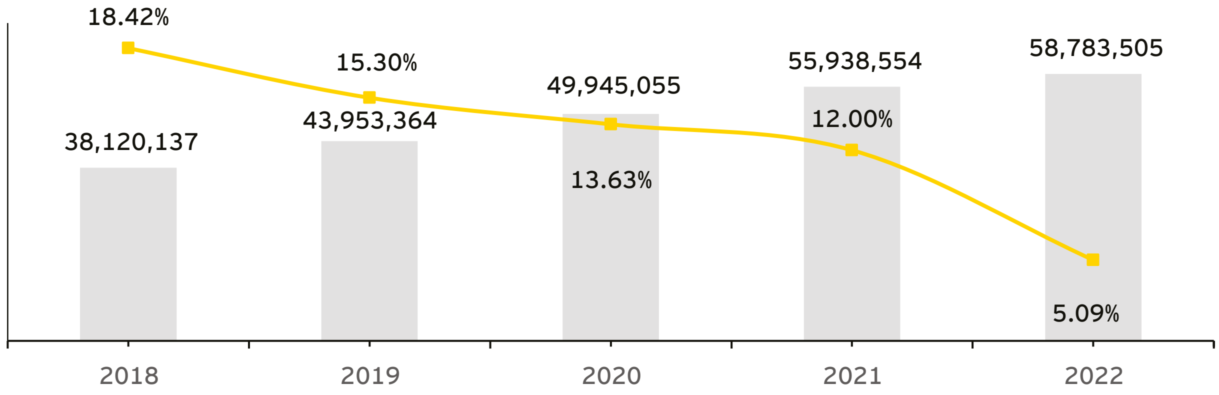
5.09 percentage points

Retail loans, the key component of retail assets of the listed banks, grew by 5.09% from 31 December 2021 to RMB58,783.51 billion as at the end of 2022. The retail loans of large banks, national joint-stock banks, city commercial banks and rural commercial banks increased by 4.99%, 4.24%, 8.47% and 6.48%, respectively. Most banks saw retail loan grow in varying degrees, with ZYB leading the growth with a rate of 28.99%.

commercial banks increased by 4.99%, 4.24%, 8.47% and 6.48%, respectively. Most banks saw retail loan grow in varying degrees, with ZYB leading the growth with a rate of 28.99%.

Growth of retail loans of the listed banks

RMB million

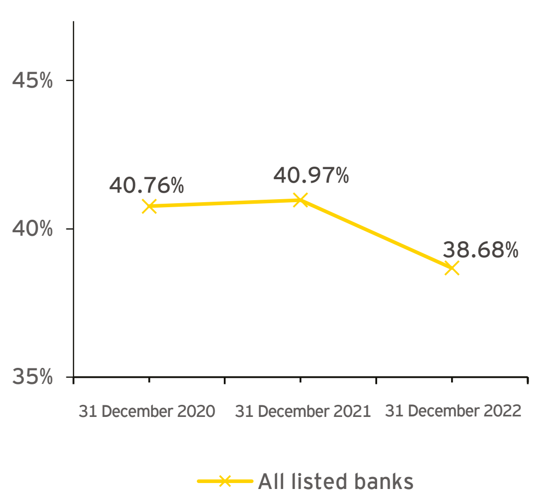


Source: Calculated based on the annual reports and prospectuses published by the listed banks.

At the end of 2022, the proportion of retail loans of the listed banks in total loans reached 38.68%, a decrease from the prior period. The proportion of retail loans in total loans was 38.37% for large banks and 43% for national joint-stock banks.

At the individual bank level, PAB, CSRCB, PSBC, CMB and RRCB each recorded a proportion of over 50%. All types of the listed banks registered a decrease in this proportion.

Retail loans as a proportion of total loans of the listed banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Retail loans as a proportion of total loans of the listed banks			
	2020	2021	2022
Large banks	41.17%	41.19%	38.37%
National joint-stock banks	43.37%	44.02%	43.00%
City commercial banks	32.86%	33.17%	31.39%
Rural commercial banks	32.36%	34.14%	33.14%

Personal housing mortgage loans remained a key component of retail loans. Personal housing mortgage loans of the listed banks as a percentage of total retail loans decreased by 2.19 percentage points from 2021 to 60.9%. For large banks, the proportion was above 60% except for PSBC. For national joint-stock banks, the proportion averaged 40.13%, and except for IB and CBHB, other bank peers reported a proportion of less than 50%. The proportion showed significant divergence among city commercial banks and rural commercial banks, which stood at between 11.2% and 80.72%[1]. At the end of 2022, the balance of personal housing mortgage loans of the listed banks increased by 1.44% from 2021 year-end, down 9.35 percentage points, mainly due to the fluctuations in the real estate market and the wave of early mortgage repayment.

The growth of retail loans was mainly driven by business loans. By the end of 2022, the balance of personal business loans of the listed banks increased by 23.79% from 2021, growing by over 20% for three consecutive years. The balance of personal business loans of large banks grew by 31.79%, with CCB reporting the largest increase of 83.4%, and the growth rate of the other five banks ranged from 20% to 35%. The balance of personal business loans of national joint-stock banks, city commercial banks and rural commercial banks grew by 15.23%, 21.56% and 19.01%, respectively.

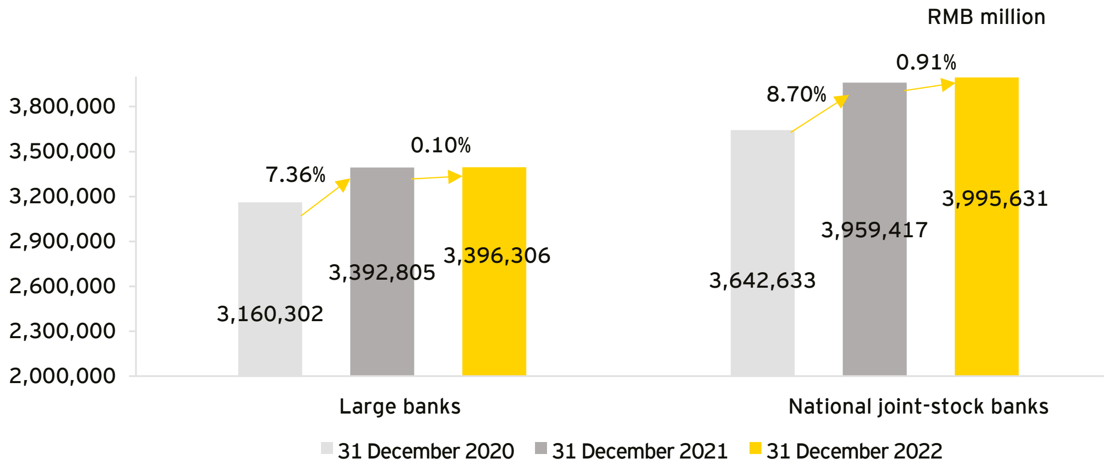
Personal consumer loans saw a slower growth. As at 31 December 2022, the balance of personal consumer loans of the listed banks increased by 4.58% from 2021 year-end, an decrease of 8.26% from the growth rate at 2021 year-end. Large banks recorded the highest growth rate of 10.84%, while city commercial banks and rural commercial banks saw a slower growth of 4.9% and 9.09%, respectively. For the first time in three years, the national joint-stock banks experienced negative growth. In the Outline of the 14th Five Year Plan, an objective is to "ensure the principal position of the people, adhere to the direction of common prosperity" and "standardize the development of consumer credit". In February 2023, the CBIRC held the 2023 working conference, with focus on prioritizing the revitalization and expansion of consumption, ensuring smooth investment and financing, and supporting social sectors to make up for gaps. In this context, financial institutions are expected to reasonably reduce interest rates and costs of consumer credit, offer innovative consumer credit products and services, and promote consumption of commodities and unleash consumption potential by introducing consumer credit services for automobiles and home appliances, meeting people's ever-growing financial needs in the pursuit of a better life.

In addition, to meet the financing needs of enterprises and residents therough more agile services in the wave of digital transformation, commercial banks have continuously improved financial facilities, expanded coverage of inclusive finance, and cooperated with third-party institutions to offer customers convenient Internet loan as an important supplement to traditional offline consumer loans. Meanwhile, the regulation was increasingly tightening. In July 2022, the CBIRC issued the Notice on Strengthening Management of Internet Lending Business of Commercial Banks and Improving the Quality and Efficiency of Financial Services, aiming to strengthen supervision over banking operations, improve the quality and efficiency of services and prevent financial risks. The Notice further clarifies and refines the requirements for commercial banks' loan management and independent risk control, regulates cooperative behaviors, and specifies the requirements on performing the primary responsibilities for loan management, strengthening the management of information and data, improving the management of loan funds, standardizing the management of cooperative businesses, and strengthening the protection of consumers' rights and interests. The transitional period is set to end in June 2023, taking into considerations the remediation progress of commercial banks and business continuity. Persistent regulatory guidance will promote the optimization of commercial banks' Internet lending process and enhance their independent risk control ability, which is conducive to stable and sound development of Internet loan busines

Credit card loan balance exhibited subdued growth. As at 31 December 2022, the credit card balance of large banks amounted to RMB3,396.31 billion, growing by 0.1% from 2021 year-end, down 7.26 percentage points from the growth in the prior year. The credit card balance of national joint-stock banks as at 31 December 2022 amounted to RMB3,995.63 billion, growing by 0.91% from 2021 year-end, down 7.79 percentage points from the growth in the prior year.

1. Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Credit card loans

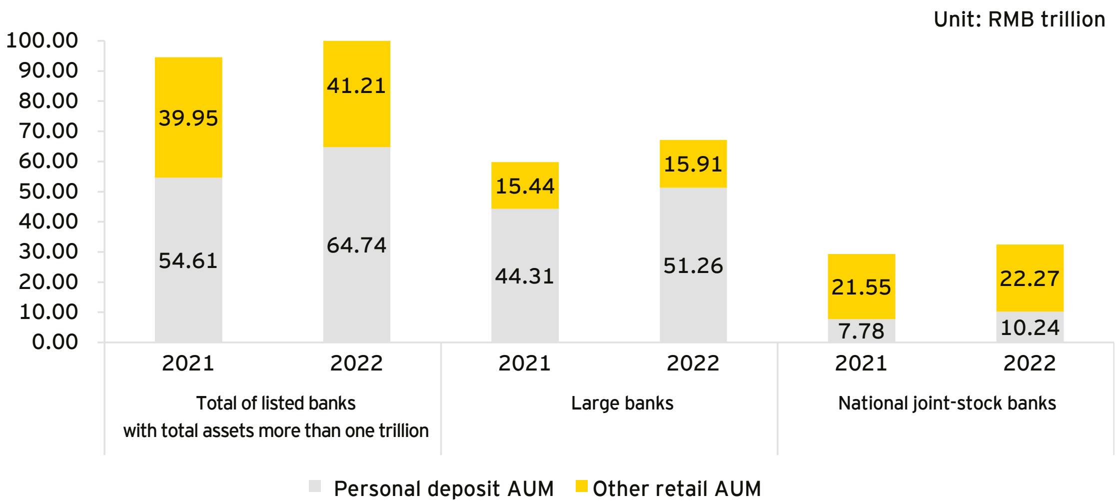


Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Growing retail assets under management in wealth management

Retail assets under management (AUM) of the listed banks showed a growing trend in 2022. Among the listed banks individually holding total assets of over RMB1 trillion, 21 listed banks disclosed retail AUM data in their annual reports, totaling RMB105.95 trillion at 2022 year-end, an increase of 12.05% from 2021 year-end. As at 31 December 2022, commercial banks individually holding over RMB10 trillion of retail AUM included ICBC, CCB, PSBC, BOC and CMB. Each of the above banks achieved an increase of more than RMB1 trillion in retail AUM (ICBC: RMB1.7 trillion; CCB: nearly RMB2 trillion; PSBC: RMB1.36 trillion; BOC: nearly RMB1 trillion; CBM: RMB1.36 trillion). HSB and BONB recorded a retail AUM growth of over 20% from 2021, which stood at 27.45% and 22.73%, respectively.

Retail AUM composition of listed banks with total assets of more than RMB 1 trillion*



Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*Only the listed banks that disclosed the data are included in calculation.

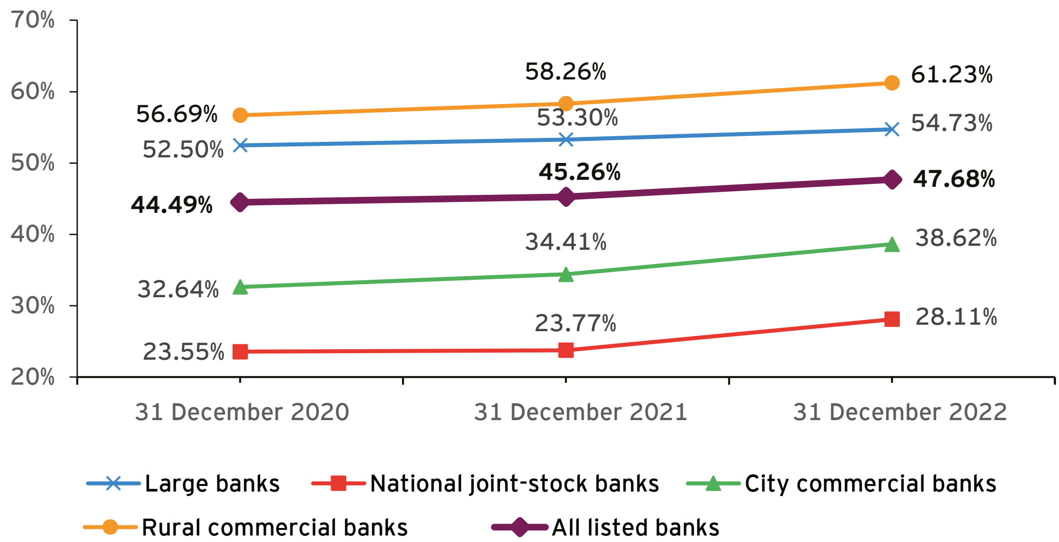
Retail AUM of listed banks with total assets of more than RMB1 trillion* (Unit: RMB trillion)		
	Retail AUM in 2021	Retail AUM in 2022
ICBC	16.96	18.66
CCB	Breakthrough 15.00	Almost 17.00
BOC	Breakthrough 11.00	Almost 13.00
BOCOM	4.26	4.62
PSBC	12.53	13.89
Large banks	**59.75**	**67.17**
CMB	10.76	12.12
IB	2.85	3.37
CITIC	3.48	3.91
SPDB	3.87	3.95
CEB	2.12	2.42
PAB	3.18	3.59
CMBC	2.09	2.20
HX	0.98	0.95
National joint-stock banks	**29.33**	**32.51**
BOB	0.88	0.97
BSH	0.90	0.97
BJS	0.92	1.07
BONB	0.66	0.81
BONJ	0.57	0.62
HSB	0.51	0.65
BHZ	0.42	0.48
SRCB	0.62	0.70
Total	**94.56**	**105.95**

Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*Only the listed banks that disclosed the data are included in calculation.

Analyzed by composition of retail AUM, retail deposits of large banks made greater contribution to retail AUM, ranging from 60% to 85%. In contrast, for the national joint-stock banks, the proportions of retail deposits in total retail AUM were low, ranging from 20% to 50%. Specifically, CMB recorded the lowest proportion of about 24%, and HX recorded the highest proportion of about 49%. Capital-light and high-yield wealth management services such as wealth management, family trusts, agency insurance and fund management have become major sources of retail AUM for national joint-stock banks.

As the main growth driver of retail AUM of large banks, the aggregate retail deposits of the listed banks amounted to RMB86,981.95 billion as at 31 December 2022, growing by 18.45% from a year earlier and accounting for 47.68% of total bank deposits, up 2.42 percentage points from the prior year-end. Rural commercial banks saw the largest proportion of retail deposits in total deposits, which was 61.23% as at the end of 2022, up 2.97 percentage points from the prior year-end. For large banks, city commercial banks and national joint-stock banks, the proportion was 54.73%, 38.62% and 28.11%, respectively.

Retail deposits as a proportion of the total deposits of the listed banks

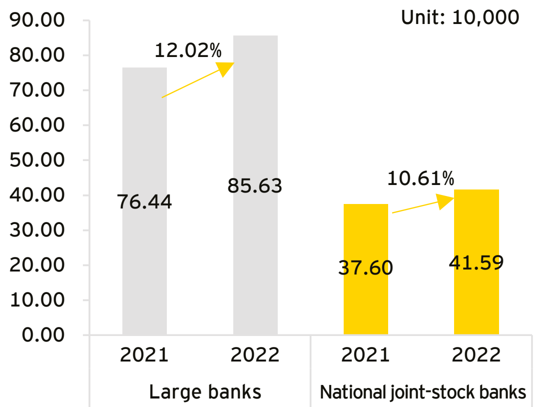


Source: Calculated based on the annual reports and prospectuses published by the listed banks.

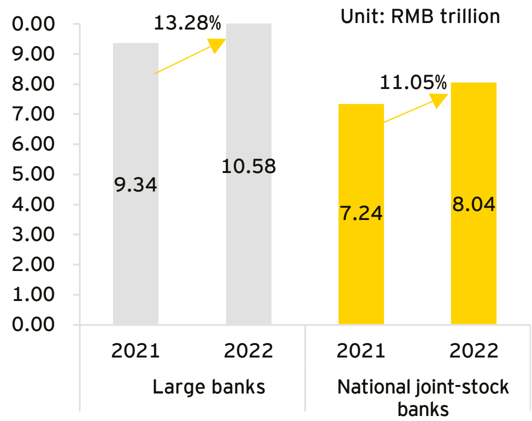
Stable growth of private banking contributed more by mid- and high-end customers

The account thresholds for private banking customers set by domestic listed banks based on regulatory requirements range from RMB6 million to RMB10 million. Twelve large banks and national joint-stock banks disclosed the number of private banking customers and AUM in their 2022 and 2021 annual reports. The total number of private banking customers reached 1,272,200 by the end of 2022, growing by 11.56% from the end of 2021, and the total private banking AUM amounted to RMB18.62 trillion, increasing by 12.3% from the end of 2021. The total number of private banking customers of large banks reached 856,300 by the end of 2022, an increase of 12.02% from the end of 2021, and the total private banking AUM balance reached RMB10.58 trillion, increasing by 13.28% from the end of 2021. The total number of private banking customers of national joint-stock banks reached 415,900 by the end of 2022, an increase of 10.61% from the end of 2021, and the total private banking AUM balance reached RMB8.04 trillion, increasing by 11.05% from the end of 2021.

Number of private banking customers of large banks and national joint-stock banks*



Private banking AUM of large banks and national joint-stock banks*



Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*Only the large banks and national joint-stock banks that disclosed the data are included in calculation.

Number of private banking customers and private banking AUM of large banks and national joint-stock banks*				
	Number of private banking customers (Unit: 10,000)		Private banking AUM (Unit: RMB trillion)	
	2021	2022	2021	2022
ICBC	19.95	22.60	2.32	2.63
CCB	17.72	19.37	2.02	2.25
ABC	17.00	20.00	1.84	2.20
BOC	14.73	15.96	2.16	2.42
BOCOM	7.04	7.70	1.00	1.08
Large banks	**76.44**	**85.63**	**9.34**	**10.58**
CMB	12.21	13.48	3.39	3.79
IB	5.83	Monthly average 6.30	Monthly average0.74	Monthly average 0.80
SPDB	2.70	2.80	0.51	0.53
CEB	5.00	5.65	0.50	0.57
PAB	6.97	8.05	1.41	1.62
CMBC	3.85	4.22	0.53	0.57
CZB	1.04	1.09	0.16	0.16
National joint-stock banks	**37.60**	**41.59**	**7.24**	**8.04**

Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*Only the large banks and national joint-stock banks that disclosed the data are included in calculation.

In 2022, the number of private banking customers of ICBC reached 226,000, an increase of 13.28% over 2021; the number of private banking customers of CCB reached 193,700, an increase of 9.31% over 2021; the number of private banking customers of ABC reached 200,000, an increase of 17.65% over 2021; the number of private banking customers of BOC reached 159,600; and the number of private banking customers of CMB also exceeded 130,000. Among these listed banks, CMB ranked first by size of AUM in private banking for three consecutive years, and recorded an amount of over RMB3.5 trillion for the first time in 2022, standing at RMB3.79 trillion. The size of private banking AUM of ICBC, BOC, CCB and ABC exceeded RMB2 trillion at the end of 2022, which was RMB2.63 trillion, RMB2.42 trillion, RMB2.25 trillion and RMB2.2 trillion, respectively.

The private pension plan to complement the "three-pillar" old-age insurance

According to the information released by the National Bureau of Statistics, as at 31 December 2022, population aged 60 and above in China increased by 12.68 million year-on-year to 280 million, accounting for 19.8% of the total population, up 0.9 percentage point. The aging population has aroused broad concern in recent years. In October 2022, the Report to the 20th National Congress of CPC clearly emphasized that "China will pursue a proactive national strategy in response to an aging population and develop elderly care programs and services". The year 2022 first witnessed the implementation of private pension plan, accompanied by policies such as the Opinions on the Development of Private Pension, the Measures for the Implementation of Private Pension, the Announcement on Personal Income Tax Policies related to Private Pension, the Interim Provisions on the Management of Securities Investment Fund Publicly Raised by Private Pension Investment, the Interim Measures on the Management of Private Pension Service of Commercial Banks and Wealth Management Companies. With these policies in place, people's increasing wealth management needs for pension will be well met as the listed banks play a vital role in pension finance development, relying on close relationships with residents established through inclusive services. It is foreseeable that a wealth of new customers will generate from third-pillar pension plans (the commercial old-age financial products, and the private pension plan).
At present, products under third-pillar pension plans in China mainly include savings products and insurance products "for security", as well as fund products and wealth management products "for stable store of value". According to the data at national social insurance service platform, as at 11 May 2023, the private pension product catalog introduced 465 savings products, 137 fund products, 32 insurance products, and 18 wealth management products, totaling 652 products. Among the 23 large banks and joint-stock banks qualified for provision of private pension services, 21 banks provided private pension fund account services and savings products; 18 banks provided fund products and 15 banks launched insurance products; and only seven banks offered transaction of wealth management products. Particularly, ICBC, ABC, BOC, BOCOM, PSBC, CMB and PAB handled a full spectrum of transactions covering pension fund, insurance, wealth management and savings.

Provision of private pension services of qualified listed banks

	Fund account services	Fund products	Insurance products	Wealth management products	Savings products
ICBC	√	√	√	√	√
ABC	√	√	√	√	√
BOC	√	√	√	√	√
CCB	√	√	√		√
BOCOM	√	√	√	√	√
PSBC	√	√	√	√	√
CITIC	√	√	√		√
CEB	√	√	√		√
HX	√	√			√
CMBC	√	√			√
CMB	√	√	√	√	√
IB	√	√	√		√
PAB	√	√	√	√	√
SPDB	√	√	√		√
CZB	√		√		√
CBHB	√				√
BOB	√	√	√		√
BSH	√	√			√
BJS	√	√			√
BONB	√	√	√		√
BONJ	√				√

Source: National social insurance service platform.

Most listed banks highlighted private pension business in their 2022 annual reports. Some banks also disclosed data on private pension accounts and products. IB and CMB each held more than 1 million accounts. IB "opened 2,291,600 private pension accounts as at the end of 2022, ranking third in the industry, with a market share of more than 10%. The bank built a product system of 'IB Select Pension Products' and introduced 125 private pension investment products, outshining most peers by more targeted and diverse offerings". For CMB, "the private pension service, as part of third pillar, was launched on 25 November 2022, supporting the opening of private pension accounts through various channels such as CMB APP, CMB Life APP, counter and visual equipment, and a total of 1,659,200 private pension fund accounts had been opened by the end of 2022; the bank had admitted and performed agency sales of 121 private pension fund products, three private pension insurance products, and 10 private pension wealth management products". For CMBC, "the number of newly-opened private pension accounts was 395,200, as a result of the head start in the market". For CITIC, "as at the end of 2022, a total of 302,500 private pension accounts were opened, with a cumulative balance of RMB508 million, and an average amount of RMB1,678.65 per account. CITIC is one of the first commercial banks in China to launch exclusive services for elderly customers, and also a strategic cooperative bank of the China National Committee on Ageing". To sum up, "private pension", "third pillar", "pension finance" and other key words appeared frequently in annual reports of the listed banks. Each bank developed differentiated strategies and made their debut in the third pillar of pension finance.

Summary of the strategies and highlights of private pension services of large banks in 2022	
ICBC	The bank worked closely with the regulators to carry out private pension policy research, process system design and construction. The bank made every effort to create a private pension financial service system satisfying the people, and helped formulate and promote private pension system. The bank was among the first qualified to operate pension and wealth management products, personal pension insurance products and other personal pension products. The pension funds under custody stood at RMB2.5 trillion, ranking first in the industry.
CCB	With "One Goal" of building a "professional bank in pension finance", the bank harnessed advantages of "customers, assets and technology", highlighted the characteristics of "professional, sound and one-stop" pension finance, built an integrated service system of "pension finance, pension industry finance, pension service finance and pension finance ecosystem", and shaped itself as a professional and trustworthy bank in pension finance with CCB characteristics.
ABC	The bank actively deployed the private pension service in the third pillar, leading the market in terms of policy, system, product and customer service. It deepened the cooperation with leading fund firms, strengthened agency sales of low-risk public funds, early planned pension FOF, public REITs and other strategic areas, and obtained the first batch of qualification for private pension fund sales. The number and scale of personal pension FOF under custody ranked top in the industry. The bank was also one of the first institutions that launched pension wealth management custody service.
BOC	The bank continued with building of a private pension business system by optimizing technical functions and diversifying product supply, with the aim of providing whole-process and high-quality financial services to private pension system participants. It improved mobile banking functions and put into operation special mobile banking service zone for private pension participants. As at the end of 2022, the bank had partnered with 10 wealth management companies, once again leading the comparable peers. It also ranked first in the number of private pension funds and insurance agent product provision.
BOCOM	The bank actively served the national strategy of addressing the aging population and boosted the development of pension finance and elderly care finance to facilitate the overall planning for pension financial services. It actively participated in the construction of the third-pillar pension insurance system and was among the first batch of companies to obtain qualifications for private pension business. It was also approved as a qualified pilot bank for pension wealth management products, ranking first in the industry in terms of the scale of funds under management for elderly care.
PSBC	The bank paid attention to people's needs for pension products. It established a management and service platform for private pension business, created "U Enjoy Future" as its pension financial service brand. In order to promote pension finance, it took the lead to launch pension wealth management products among the second batch of pilot institutions, raised RMB5 billion of funds ahead of schedule, and was selected as one of the first batch of institutions with its products entering the catalog of private pension financial products.

Source: Paraphrased excerpts from the annual reports published by the listed banks.

According to the statistics of the Ministry of Human Resources and Social Security, by the end of 2022, 19.54 million people participated in the private pension scheme, and 6.13 million people paid contributions, which totaled RMB14.2 billion. Based on the above data, the contributors accounted for only 30% of the participants, and the per capita contribution amount was only more than RMB2,000, which was still far from the policy ceiling of RMB12,000. The private pension fund account is opened exclusively, and each person can only open an account at a qualified bank upon verification through the information platform of the Ministry of Human Resources and Social Security, but the account can be migrated across banks subsequently. Although the private pension business just begins, the listed banks have rushed into the battle for customer acquisition. However, the challenge is that not so many products are available for consumers to choose from for their private pension accounts. The listed banks should improve policies, expand product categories, target potential customers reaching retirement age, enhance system construction, and carry out digital pension finance. They can also further enhance the attractiveness as a provider of pension finance by adopting cutting-edge technologies such as AI, improving customer service and management, optimizing investment management and insurance pension finance services, and strengthening risk management and monitoring.

Mixed results amid implementation of new regulations on net value-based wealth management service

In 2022, as the transition period for the implementation of the new regulations on asset management came to an end and related regulatory policies were released, the listed banks started to be fully engaged with net value-based and standardized wealth management products (WMPs). Folllwing two waves of "WMPs falling below their net value" amid complex and challenging economic environment, the listed banks saw slower growth in WMPs, but maintained stable development. In 2023, with the gradual recovery of the domestic economy, the overall size of WMPs is expected to expand and see more intense competition. It is crucial for the listed banks to innovate featured products and services to meet customer needs, improve overall competitiveness, and seize emerging opportunities.

As at the end of 2022, the existing WMPs of the listed banks amounted to RMB25.13 trillion, decreasing by RMB1.24 trillion, or 4.69%, from the end of 2021. In 2022, due to declining stock markets and bond prices, the net value of WMPs dropped sharply, triggering a tide of redemptions at the end of the year. The overall size of WMPs decreased steadily in 2022, and the results were divergent among the banks amid market fluctuations.

Large banks saw a negative growth (-10.78%) in WMPs, down 17.08 percentage points from the 6.3% growth in 2021. Specifically, ICBC recorded the largest decrease of 17.11%, and it was the only large bank seeing a decline for two straight years, mainly due to the reduction of legacy WMPs under regulatory requirements. The WMPs of BOCOM and CCB decreased by 15.38% and 15.08%, respectively, down 33.06 percentage points and 21.71 percentage points from 2021. BOC was the only large bank recording a growth in WMPs, at 2.9%, as the bank adopted a buy-side strategy and built a "group-wide + market-wide" wealth management platform.

The WMP growth of national joint-stock banks was -0.37%, down 12.19 percentage points from 2021. IB, CITIC, CEB and PAB recorded an increase in WMPs. Specifically, IB saw the fastest growth of 16.76%, only 4.54 percentage points lower than the growth in 2021, benefiting from continued optimization of organizational model and the synergy mechanism. SPDB, HX, CZB, CBHB, CMBC and CMB recorded a decrease in WMPs. The growth rate of PAB's WMPs experienced the sharpest fall of 32.85 percentage points from 2021.

The WMP growth of city commercial banks was -0.14%, down 4.24 percentage points from 2021. Specifically, LZB recorded the largest growth of 62.42%, followed by BLZ's WMP growth of 40.75%. BOXA recorded the sharpest decline of 48.1%.

The WMPs of rural commercial banks increased by 0.94%, down 4.02 percentage points from 2021. Specifically, CQRCB, RRCB, CSRCB and SRCB saw an increase of 14.11%, 10.31%, 8.95% and 8.92%, respectively. ZJRCB recorded the sharpest fall of 78.67%.

WMPs of the listed banks and subsidiaries (Unit: RMB million)				
	31 December 2021		31 December 2022	
	Growth rate	Amount	Growth rate	Amount
ICBC	2,586,900	-4.49%	2,144,256	-17.11%
CCB	2,372,279	6.63%	2,014,460	-15.08%
ABC	2,072,533	2.21%	1,933,155	-6.73%
BOC	1,710,750	23.17%	1,760,322	2.90%
BOCOM	1,426,253	17.68%	1,206,901	-15.38%
PSBC	915,255	5.77%	830,062	-9.31%
Large banks	**11,083,970**	**6.30%**	**9,889,156**	**-10.78%**
CMB	2,777,537	13.57%	2,667,663	-3.96%
IB	1,790,000	21.30%	2,090,000	16.76%
CITIC	1,403,275	13.15%	1,577,077	12.39%
SPDB	1.089,600	-12.83%	839,303	-22.97%
PAB	872,066	34.54%	886,840	1.69%
CEB	1,067,709	27.67%	1,185,241	11.01%
CMBC	1,012,833	17.62%	883,977	-12.72%
HX	610,054	3.66%	513,397	-15.84%
CZB	245,092	-15.17%	210,705	-14.03%
CBHB	196,067	-8.02%	168,992	-13.81%
National joint-stock banks	**11,064,233**	**11.82%**	**11,023,195**	**-0.37%**
BJS	414,900	18.00%	438,300	5.64%
BOB	355,564	8.37%	303,828	-14.55%
BONB	332,270	16.49%	396,652	19.38%
BSH	428,755	12.17%	397,881	-7.20%
BONJ	327,107	19.46%	342,646	4.75%
HSB	225,225	11.59%	211,489	-6.10%
BHZ	306,721	16.39%	359,902	17.34%
BOCD	63,100	19.48%	66,000	4.60%
BOCS	69,257	38.74%	53,422	-22.86%
BGY	83,783	-4.65%	67,358	-19.60%
BCQ	52,276	1.53%	53,549	2.44%
BSZ	77,742	37.82%	71,391	-8.17%
ZYB	95,598	31.34%	93,269	-2.44%
QLB	68,488	14.00%	55,660	-18.73%
BTJ	101,762	3.77%	79,600	-21.78%
BQD	167,804	35.19%	200,815	19.67%
BZZ	47,973	-2.20%	45,731	-4.67%
XMB	20,344	-1.63%	12,302	-39.53%
BOXA	54,628	51.54%	28,351	-48.10%
WHCCB	33,776	-90.74%	39,866	18.03%
JSB	52,081	35.86%	48,231	-7.39%
BLZ	37,484	74.46%	52,757	40.75%
BJJ	42,619	22.52%	39,929	-6.31%
JXB	35,523	4.21%	30,023	-15.48%
SJB	43,588	-28.24%	43,819	0.53%
LZB	10,041	234.59%	16,309	62.42%
HRB	48,772	-7.95%	43,223	-11.38%
BGS	24,300	6.94%	24,076	-0.92%
City commercial banks	**3,621,481**	**4.10%**	**3,616,379**	**-0.14%**
SRCB	169,843	20.03%	184,999	8.92%
CQRCB	121,929	-11.81%	139,135	14.11%
DRCB*	48,461	11.16%	43,282	-10.69%
GRCB	86,023	9.01%	69,946	-18.69%
CSRCB	30,986	8.07%	33,758	8.95%
QRCB	36,970	5.44%	35,114	-5.02%
WXRCB	19,206	12.49%	18,526	-3.54%
ZJGRCB	23,488	9.56%	21,233	-9.60%
JYRCB	19,320	11.84%	18,414	-4.69%
ZJRCB	2,517	-55.40%	537	-78.67%
RRCB	12,915	67.79%	14,247	10.31%
SZRCB	20,398	-21.55%	18,451	-9.55%
Rural commercial banks	**592,056**	**4.96%**	**597,642**	**0.94%**
All listed banks	**26,361,740**	**8.20%**	**25,126,372**	**-4.69%**

Source: The data are sourced from the annual reports published by the listed banks that disclosed WMP data for two consecutive years, including data on WMPs for the listed banks that separately disclosed the size of WMPs as at the end of the period, or data on non-principal guaranteed WMPs issued by the Group in the structured entity that are not included in the consolidation for the listed banks that did not separately disclose the size of WMPs.
*The data include non-principal guaranteed WMPs included in the consolidation and not included in the consolidation.

Decreased proportion of management fee income from WMPs

0.34 percentage points

In 2022, management fee income from WMPs accounted for 19.68% of net fee and commission income, a decrease of 0.34 percentage point from 2021. National joint-stock banks saw a rise in the proportion of fee income from WMPs in net fee and commission income, while the other types of banks saw a decline, with the contribution of WMP fee income to net fee and commission income exhibiting divergent results.

Management fee income from WMPs of large banks accounted for 13.83% of net fee and commission income, down 1.45 percentage points from 2021. Particularly, PSBC recorded the highest proportion of 26.75%, and the only increased proportion among large banks, while ABC saw the lowest proportion of 7.06%.

Management fee income from WMPs of national joint-stock banks accounted for 22.49% of net fee and commission income, up 1.6 percentage points from 2021. The proportion of CMB, IB, CITIC, CEB, HX and CZB increased, with IB recording the largest increase of 5.82 percentage points. The proportion of SPDB, CMBC and CBHB decreased, with CBHB recording the largest decrease of 21.79 percentage points.

Management fee income from WMPs of city commercial banks accounted for 44.99% of net fee and commission income, down 1.18 percentage points from 2021. Particularly, LZB registered the highest proportion of 108.51%. BOB, BHZ, BGY, BOCD, BCQ, BSZ, ZYB, QLB, BQD, BOXA, BLZ, JXB, SJB and LZB each recorded a proportion of over 50%. XMB saw the lowest proportion of 18.06%, down 0.82 percentage point from 2021. SJB recorded the largest decrease in the proportion of 30.4 percentage points.

Management fee income from WMPs of rural commercial banks accounted for 31.22% of net fee and commission income, down 14.12 percentage points from 2021. ZJGRCB recorded the largest proportion of 329.79%, up 153.98 percentage points from 2021. SZRCB recorded the second largest proportion of 127.48%, up 19.68 percentage points from 2021. The proportion of WXRCB was 86.34%, maintaining flat from the prior year. QRCB registered the lowest proportion of 0.22%. CQRCB recorded the largest decrease in the proportion of 35.98 percentage points.

Management fee income from WMPs of the listed banks and subsidiaries (Unit: RMB million)				
	2021		2022	
	Management fee income	Proportion in net fee and commission income	Management fee income	Proportion in net fee and commission income
CCB*	18,550	15.27%	16,185	13.94%
ABC	6,129	7.63%	5,742	7.06%
BOC*	12,280	15.08%	7,705	10.66%
BOCOM	11,775	24.75%	10,154	22.75%
PSBC	5,170	23.49%	7,606	26.75%
Large banks	**53,904**	**15.28%**	**47,392**	**13.83%**
CMB	11,998	12.70%	17,037	18.07%
IB	12,267	28.74%	15,565	34.56%
CITIC	7,485	20.87%	8,523	22.98%
SPDB	6,980	23.96%	5,199	18.12%
CEB	3,976	14.56%	4,677	17.49%
CMBC*	9,611	34.87%	4,756	23.46%
HX	2,832	30.61%	3,366	32.46%
CZB*	529	13.06%	676	14.11%
CBHB	1,262	56.39%	889	34.60%
National joint-stock banks	**56,940**	**20.89%**	**60,688**	**22.49%**
BOB	2,840	47.41%	3,827	54.16%
BONB	2,582	31.25%	1,532	20.52%
BSH	5,010	55.38%	2,196	33.82%
HSB	2,189	49.40%	2,062	49.33%
BHZ	1,903	52.74%	3,182	68.08%
BGY	382	57.53%	355	85.75%
BOCD*	376	70.68%	449	66.32%
BOCS	438	41.17%	507	38.44%
BCQ	567	73.73%	616	80.95%
BSZ	798	65.30%	854	64.84%
ZYB	588	30.42%	963	54.01%
QLB	476	50.26%	683	55.30%
BTJ	887	49.72%	548	32.50%
BQD	1,265	64.71%	859	59.45%
BZZ	248	19.97%	235	29.71%
XMB	71	18.88%	78	18.06%
BOXA	233	41.61%	234	57.49%
WHCCB	202	34.12%	281	41.51%
JSB	178	23.27%	205	27.93%
BLZ	226	58.85%	211	57.81%
BJJ	229	33.04%	237	28.15%
JXB	276	39.48%	352	54.83%
SJB	392	91.38%	161	60.98%
LZB	56	98.25%	102	108.51%
BGS	76	21.65%	82	20.50%
HRB	158	22.67%	289	39.48%
City commercial banks	**22,646**	**46.17%**	**21,100**	**44.99%**
CQRCB	1,638	60.13%	462	24.15%
DRCB	360	45.45%	298	43.44%
GRCB	124	9.40%	239	17.29%
QRCB	4	0.81%	1	0.22%
WXRCB	158	86.34%	196	86.34%
ZJGRCB	218	175.81%	155	329.79%
ZJRCB	1	0.81%	3	4.55%
JTRCB	4	5.48%	38	46.34%
SZRCB	235	107.80%	167	127.48%
Rural commercial banks	**2,742**	**45.34%**	**1,559**	**31.22%**
All listed banks	**136,232**	**20.02%**	**130,739**	**19.68%**

Source: The data are sourced from the annual reports published by the listed banks that disclosed management fee data for two consecutive years, including data on the service fee income from wealth management business, fee income from wealth management business or management fee income from non-principal guaranteed WMPs in structured entities.
*CCB, CZB and BOCD did not disclose management fee income from wealth management business separately, which is expressed as income from asset management business; BOC and CMBC did not disclose fee income from wealth management business separately, which is expressed as income from fee, custody fee and management fee related to structured entities (including WMPs, funds and asset management plans).
**The proportion of management fee income in net fee and commission income is calculated based on amounts in RMB million.

Growing wealth management companies to shape balanced competition patterns

In 2022, five new wealth management companies were approved to operate, including three wealth management companies of joint-stock banks and two of city commercial banks. As at 31 December 2022, there were 30 wealth management companies in operation, including six wealth management companies of large banks, 11 of national joint-stock banks, eight of city merchant banks, one of rural merchant banks, and four joint venture wealth management companies. The wealth management companies of large banks and national joint-stock banks remined the main force, representing a high proportion in issued products.

As at 31 December 2022, the WMPs issued by wealth management companies of large banks and national joint-stock banks accounted for 83.23% of total WMPs, down 0.78 percentage point from the prior year-end. The WMPs issued by wealth management companies of city commercial banks and rural commercial banks accounted for 14.39% and 2.38%, respectively, up 0.65 percentage point and 0.13 percentage point.

Twenty-one wealth management companies that disclosed data achieved net profit of RMB33.56 billion in 2022. Seventeen wealth management companies that disclosed data in both 2022 and 2021 achieved net profit of RMB29.09 billion in 2022, increasing by RMB5.66 billion, or 24.16%, from 2021. While the net market value of WMPs declined amid net value fluctuations, the absolute amount and the pace of growth of net profit rose, with the growth of net profit higher than the growth of management fee income, indicating significant improvement in profitability.

Wealth management subsidiaries	Opening date	Registered capital	2022			2021		
			Total asset	Net asset	Net profit	Total asset	Net asset	Net profit
Jianxin Wealth Management Co.	2019/5	150	210.87	202.89	28.40	185.30	174.47	20.62
ICBC Wealth Management Co.	2019/5	160	199.60	189.10	12.36	187.91	177.00	8.92
Bank of Communications Wealth Management Co.	2019/6	80	114.58	110.99	11.88	102.06	99.29	11.55
BOC Wealth Management Co.	2019/7	100	157.20	149.35	18.54	144.29	130.82	26.09
ABC Wealth Management Co.	2019/7	120	187.99	185.80	35.23	152.38	150.61	17.21
Everbright Wealth Management Co.	2019/9	50	88.61	82.49	18.79	74.75	70.19	15.86
China Merchants Bank Wealth Management Co.	2019/11	56	180.94	169.35	35.93	120.97	106.78	32.03
Industrial Bank Wealth Management Co.	2019/12	50	127.94	122.72	31.11	95.07	91.62	28.06
PSBC Wealth Management Co.	2019/12	80	122.63	117.25	12.71	111.07	104.64	12.25
Bank of Hangzhou Wealth Management Co.	2019/12	10	36.66	31.03	13.62	21.15	17.40	6.11
Bank of Ningbo Wealth Management Co.	2019/12	15	34.78	31.48	9.14	24.93	22.34	4.35
Huishang Bank Wealth Management Co.	2020/4	20	43.54	40.10	Undis-closed	32.14	28.16	6.96
CQRCB Wealth Management Co.	2020/6	20	27.96	27.17	3.58	24.76	23.66	3.56
CITIC Wealth Management Co.	2020/7	50	103.40	94.49	20.48	82.00	74.01	18.06
Bank of Nanjing Wealth Management Co.	2020/8	20	42.46	37.93	8.13	29.89	26.79	6.46
Bank of Jiangsu Wealth Management Co.	2020/8	20	37.39	Undisclosed	Undisclosed	25.88	22.43	2.39
PAB Wealth Management Co.	2020/8	50	96.25	86.60	18.82	73.82	67.83	16.16
HX Wealth Management Co.	2020/9	30	43.70	42.08	8.75	34.74	33.37	2.95
BQD Wealth Management Co.	2020/9	10	16.37	15.55	3.45	16.09	14.10	4.08
SPDB Wealth Management Co.	2022/1	50	Undisclosed	Undisclosed	18.60	Unopened	Unopened	Unopened
BSH Wealth Management Co.	2022/3	30	39.17	37.90	7.90	Unopened	Unopened	Unopened
CMBC Wealth Management Co.	2022/6	50	66.38	60.38	10.38	Unopened	Unopened	Unopened
CBHB Wealth Management Co.	2022/9	20	No business	No business	No business	Unopened	Unopened	Unopened
BOB Wealth Management Co.	2022/10	20	21.14	Undisclosed	7.78	Unopened	Unopened	Unopened
Total			**1,999.56**	**1,834.65**	**335.58**	**1,539.20**	**1,435.51**	**243.67**

Source: The annual reports published by the listed banks.
*The amounts are presented in RMB100 million.
**The companies are listed in sequence of the opening date.

Wealth management business to embrace the era of high-quality development

The 20th CPC National Congress in 2023 delivered a message that China's economy will enter a new stage of high-quality development. Rapidly growing residential wealth is expected to increase people's awareness of wealth management and demand for investment amid continued policy support. Thus, China's asset management industry will see new development opportunities and embrace new forms of inclusive asset management. As more wealth management subsidiaries have operated, the asset management industry is witnessing more intense competition and formation of new market patterns. The landscape is in favor of banking institutions as solid market players because they enjoy advantages in funds and channels. However, against the backdrop of volatile internal and external economic environment, necessary investor education remains a long-term task. As the driving force and key participants in asset management, wealth management subsidiaries should enhance their core competence to compete with other types of asset managers, identify investors' preference favoring products with stable and growth-oriented returns, seize the opportunities of the times to improve investment and research capabilities, and create a diversified product systems that meets customers' investment needs. They should also invest more in FinTech and promote digital transformation of bank wealth management.

Creating a differentiated competitive edge. At present, large banks and joint-stock banks have largely transferred wealth management business to their wealth management subsidiaries, and city commercial banks are ready to set up wealth management subsidiaries. As China continues to open up the financial sector, the number of Sino-foreign joint venture wealth management companies is expected to increase, diversifying the market activities. The wealth management subsidiaries of large banks and joint-stock banks should explore business channels beyond parent banks to reach a wider customer base, and gradually expand market share through cooperation with parent banks. Joint venture wealth management companies may provide WMPs from a global perspective, relying on foreign partner's mature investment and research capability and product strategies. City commercial banks and rural commercial banks should leverage advantages in regional resources, explore unique features, and provide differentiated offerings to gain a foothold in the fierce competition.

Building diversified product systems. As China's economy is set to embrace high-quality development, residential wealth will gradually accumulate, increasing their demand for wealth maintenance and value appreciation. At present, the WMPs issued are mainly fixed-returns products, but future investors are expected to focus more on stable long-term absolute returns after experiencing declines in stock and bond markets and witnessing net value falls amid market fluctuations. With more investment experience, investors will attach more importance to asset allocation to maintain and increase the value of assets. Meanwhile, as the remediation period set by new asset management regulations ended, competition has intensified in the asset management industry. To sharpen competitiveness, wealth management companies should diversify their products and improve the product system to meet the needs of diverse investors.

Improving service capabilities and offering companionship to investors. In 2022, both the bond market and the stock market exhibited downward trends caused by various shocks, and the net value of some WMPs decreased, causing investor jitters and sharper fluctuations on the liability side. In the future, net value fluctuations will become the norm, and WMP categories will be more diversified, and the product design will be increasingly complex. For different types of products, the investment scope and trading strategies should be distinct, so it is necessary to provide investors with constant guidance to deepen their understanding of VMP net values and normal fluctuations. To maintain customer loyalty and enhance brand influence, financial institutions should attract investors with premium offerings, offer high-quality life-cycle companionship, and provide comprehensive services throughout the investment cycle.

Tapping into long-tail customer value with digital enablement. Most financial institutions have harnessed wealth management to fuel growth and vigorously expanded the high-net-value customer base. In contrast, they have been reluctant to better maintain long-tail customers with less disposable income and lower value contribution due to higher costs caused by large customer base, low net value per customer, lack of financial knowledge and investment experience, and substantially divergent customer needs. With rapid development of FinTech and fierce competition for high-quality customers, the large base of long-tail customers will instead become a new growth driver.

The FinTech, such as big data and AI, enables financial institutions to tap into the value of long-tail customers, identify their needs more efficiently and accurately, and reach customers more easily. This is the best time for financial institutions to ride the digital wave and explore the value of long-tail customers. In practice, they should broaden business channels and marketing models, strengthen cooperation with external partners, and improve the availability of financial services.

Building investment and research capacities to drive high-quality development. In 2022, bank WMPs fell below net value twice amid the heightened volatility in the capital market, and some wealth management institutions were squeezed by panic redemptions, which posed a severe challenge to WMP managers handling net value-based products. As investors were reluctant to invest in volatile markets, it is crucial for financial institutions to earn their trust. Thus, financial institutions should continuously improve their investment and research capabilities and make intensive efforts in areas such as information technology, talent reserve, and internal control process to satisfy customer needs and navigate market risk and volatility, aiming at creating steady long-term returns for customers and driving high-quality development.

04

Creating value for society as responsible banks

In 2022, the listed banks actively carried out socially responsible financial activities and pressed ahead with green finance and inclusive finance gaining ground as new arenas. While pursuing economic benefits, the listed banks shouldered social responsibility and increasingly aligned their operations with environmental and social benefits. To move towards being "responsible" banks, the listed banks have integrated ESG practices into their development strategies and business management, trying to achieve carbon neutrality within their own operations and facilitating carbon neutrality across the real economy.

Improving green finance policies and standards

"A Chinese path to modernization means modernization of harmony between humanity and nature". The Report to the 20th National Congress of the CPC highlighted the importance of green economic and social development, pointing out that "a green and low-carbon economy and society are crucial to high-quality development, and enterprises should prioritize social benefits while producing economic returns. The Report also required financial institutions to support green development by accelerating green transformation of the development model and improving fiscal, taxation, financial, investment, and pricing policies and standards. At 2023 Two Sessions, nearly 100 proposals were submitted on achieving carbon dioxide peaking and carbon neutrality goals from dimensions such as improving carbon sink capacity, refining carbon market mechanism, accelerating the formulation of laws, regulations and standards, promoting the development of low-carbon industries such as energy storage, photovoltaics, wind power and hydrogen, and supporting the transformation of carbon-intensive industries. The 2022 Government Work Report reaffirmed the importance of pursuing green and low-carbon development, including steadily building up the capacity for sustainable development, taking concrete steps to ensure and improve the people's wellbeing, and accelerating the development of social programs. In 2022, the central government unveiled green finance standards such as the China Green Bond Principles and the Carbon Financial Products (JR/T 0244-2022), as well as the Green Finance Guidelines for Banking and Insurance Industry that set rules for the green development of financial institutions. At the local level, several local governments also issued policies to explore inclusive carbon system.

Summary of national and local green finance policies in 2022

Release date	Document	Authority	Content
April 2022	Carbon Financial Products	China Securities Regulatory Commission (CSRC)	The Standard puts forward the implementation requirements on classification-based carbon financial products (CFPs), provides guidance for financial institutions to design and issue CFPs, facilitates the orderly development of CFPs, deepens stakeholders' understanding of carbon finance, helps entities identify, apply, and manage CFPs, channels financial resources to green fields, and supports green and low-carbon development.
June 2022	Green Finance Guidelines for Banking and Insurance Industry	CBIRC	The Guidelines, which consist of 36 articles, require banking and insurance institutions to strategically promote green finance, step up support for green, low-carbon and circular economy, prevent ESG risks, improve ESG performance, and promote a comprehensive green transformation of economic and social development.
July 2022	China Green Bond Principles (CGBP)	Green Bond Standards Committee	CGBP, as the first green principles framework in China, defines four core elements of green bonds and set basic requirements for green bond issuers and relevant institutions. The release of CGBP is a milestone in the high-quality development of China's green bond market, signaling that China has begun to standardize the domestic market and benchmark against global markets.
November 2022	Statistical System for Green Insurance Business	CBIRC	The System specifies that green insurance refers to the economic acts of the insurance industry to provide protection against risks and financial support in relation to environmental resources protection and social governance, green industry operation and green consumption. Step by step, the green insurance liability business of insurance companies will be counted by product and by customer.
December 2022	Joint Initiative of Banking Institutions in Support of Biodiversity Conservation	China Banking Association	The Initiative points out that banking institutions should focus on building an earth community and unleash financial vehicles' function in biodiversity conservation; promote global transformation towards green and low-carbon economy, incorporate biodiversity conservation and climate actions in governance structure, strategic objective and business; promote green finance to benefit enterprises and residents around the world, and invest more in biodiversity conservation and climate actions; advocate global cooperation on biodiversity and climate, and express opinions financially around climate- and nature-related disclosures.
June 2022	Common Ground Taxonomy (CGT) (updated)	International Platform on Sustainable Finance (IPSF)	The updated CGT is prepared by IPSF Working Group based on the existing green and sustainable finance taxonomies in China and EU. It covers 72 climate change mitigation activities that share common ground for both the EU and China taxonomies around the "substantial contribution" criteria. The updated version includes additional economic activities that contribute to the green transition of construction and manufacturing sectors.
November 2022	G20 Transition Finance Framework	G20 Sustainable Finance Working Group (SFWG)	The Framework is designed to encourage the financial industry to support the industrial transition from high-carbon emissions to low-carbon and zero-carbon emissions. It consists of 22 principles across five pillars: identification of transitional activities and investments, disclosures on transformation activities and investments, diversified and innovative transition-related financial instruments, designing and improving incentives and supporting policies, as well as just transition.
January 2022	Action Plan of Shanghai Banking and Insurance Industries for Promoting Green Finance Development to Serve Carbon Peak and Carbon Neutrality Strategy during the 14th Five-Year Plan Period	Eight departments including Shanghai Banking and Insurance Regulatory Bureau and Shanghai Municipal Development & Reform Commission	The Action Plan proposes that by 2025, Shanghai will establish a green finance service ecosystem aligned with carbon peak goals for banking and insurance industries and develop some model enterprises in green finance. Visons include steadily improving the efficiency of integrated green finance services; achieving an estimate of RMB1.5 trillion in green financing; maintaining stable development of businesses such as green insurance, green bonds, green funds, green trusts, green asset management and green leasing; continuously enhancing innovation capability in green finance; and creating a Shanghai model of green finance that can be replicated by other regions.
June 2022	Provisions on Green Finance Development in Pudong New Area of Shanghai	Standing Committee of Shanghai Municipal People's Congress	The Provisions introduced first national green finance standards and supplementary local standards for green finance to Pudong New Area, consolidating the foundation for green finance development, supporting national financial authorities in Shanghai to accelerate the establishment of pilot reform mechanisms in Pudong New Area, and promoting innovative regulatory interaction in areas such as green finance.
June 2022	Notice on Promulgation of the Implementation Plan of Guangdong Province for Developing Green Finance to Support Carbon Peak Initiatives	General Office of Guangdong Province People's Government	The Notice demonstrates supports to carbon peak initiatives in key areas. Setting carbon emission intensity and green attribute as the core indicators, Guangdong will establish a three-tier green project library at provincial, municipal and county levels, collecting major green industry projects with low-carbon emission across the province. Guangdong will also regularly release financing demands for green and low-carbon projects to facilitate regular financing consultation.
July 2022	Implementation Opinions on Improving Green Financial System to Pursue Green and Low-carbon Development in Liaoning Province	Eight departments including Shenyang Branch of the PBOC	The Implementation Opinions propose specific measures on nine aspects, such as establishing systems of green policies, promoting innovative development of green credit, and supporting direct green industry financing, to direct financial capital inflows to green fields and promote the green and low-carbon development of Liaoning Province.
July 2022	Tianjin Inclusive Carbon System Construction Plan (Exposure Draft)	Tianjin Ecology and Environment Bureau	The Plan sets a timeline for the construction of Tianjin inclusive carbon system: conduct top-level engineering from 2022 to 2024; largely complete the framework from 2025 to 2026; and improve standards and operating mechanisms from 2027 to 2030. It proposes an inclusion of certified inclusive carbon emission reduction in the trading catalog of certified voluntary emission reductions of Tianjin carbon market, defines the offset rules, and encourages regulated enterprises in Tianjin to purchase inclusive carbon credits to offset carbon market obligations.
August 2022	Beijing Financial Industry Development Plan during the 14th Five-Year Plan Period	Beijing Financial Services Leading Group	The Plan requires acceleration of green finance reform and efforts to build Beijing into a green financial center. Specifically, Beijing shall: (1) cultivate a green financial organization system; (2) improve green financial products and services; (3) encourage the financial industry to support green city construction; (4) build digital and green financial infrastructure; and (5) actively participate in the formulation and application of international green finance standards.

Release date	Document	Authority	Content
August 2022	Policies and Measures on Further Supporting the High-quality Development of the Demonstration Zone for Integrated Ecological and Green Development in the Yangtze River Delta Region	Shanghai Municipal People's Government, the People's Government of Jiangsu Province, the People's Government of Zhejiang Province	These supporting policies consist of 22 specific policies and measures on eight aspects, including reform and empowerment, fiscal and financial support, land use support, new infrastructure construction, co-construction and sharing of public services, resource flows, administration and service innovation, and organizational support, to accelerate the development of the demonstration zone covering areas of Qingpu, Shanghai Municipality, Wujiang, Jiangsu Province, and Jiashan, Zhejiang Province. These supporting policies also specify that Shanghai, Jiangsu and Zhejiang will jointly invest no less than RMB10 billion in three years to set up a special fund for the construction and development of the pilot area of the demonstration zone and operation supports.
August 2022	Implementation Opinions on Financial Support for Biodiversity Conservation	The People's Government of Huzhou City, Zhejiang Province	The Implementation Opinions are designed to explore the construction of a green financial service system suitable for biodiversity conservation and to set up exploratory practices in supporting biodiversity conservation with Huzhou characteristics. The Implementation Opinions propose to build a financial service system for biodiversity from five aspects, including products and services, organizational structure, incentive policies, risk prevention, knowledge sharing and cooperation, to promote the high-quality development of biodiversity finance with highly enhanced protection and governance.
August 2022	Overall Plan for the Construction of Chongqing Green Finance Reform and Innovation Pilot Zone	Six departments including the PBOC	According to the Plan, through about five years of efforts, Chongqing will establish a green finance system with diversified structure, rich products, sound policies, safe and efficient market operation. Chongqing will implement the concept of green development, refer to international green finance standards, and identify green and low-carbon transition opportunities for major industries and sectors. The projected achievements include effective and efficient green allocation of financial resources, rapid growth of green credit and green bonds, new innovations in green financial products, instruments and service models, and better financing environment for green industries.
September 2022	Guidelines on Environmental Information Disclosures by Financial Institutions of Shenzhen	Local Financial Supervision Bureau of Shenzhen Municipality	The Guidelines set the requirements for environmental information disclosures by financial institutions from nine dimensions: strategic objective, governance structure, policies and systems, environmental risk management, environmental impact of operating activities, environmental impact of investment and financing activities, capacity building, innovation research, and data quality management. The scope of environmental information disclosures in the Guidelines is expanded from green assets to non-green assets such as brown assets. The Guidelines innovatively incorporate carbon dioxide disclosures of the overall investment into carbon accounting, refine disclosure indicators, and detail references to methodologies and tools in the disclosure indicator system, gradually moving towards the practice of disclosing information on overall investment and financing environment.
September 2022	Guiding Opinions on Financial Support for the Construction of Carbon Account System for Enterprises	Local Financial Supervision Bureau of Guangzhou Municipality, etc	The Guiding Opinions propose a series of actions: at the industry level, building and improving the carbon accounting system of enterprises, and strengthening the carbon accounting capacity of various industries, to facilitate regional carbon emission monitoring; and at the society level, promoting the integration of green finance and industrial development needs, innovate financial products, and smoothening financing channels for industries, to facilitate carbon dioxide peaking and carbon neutrality.
September 2022	14th Five-Year Plan for Ecological Civilization Construction of Guangzhou	Guangzhou Municipal People's Government	According to the Plan, by 2025, Guangzhou will make new progress in "dual carbon" initiatives. The municipality plans to establish the Carbon Emission Exchange of the Guangdong-Hong Kong-Macao Greater Bay Area, and actively participate in the construction of the national carbon trading system and in the international carbon trading business. The municipality will innovate trading models and products, actively explore pilot spot trading of energy use rights, support Guangzhou Futures Exchange in the research and development of carbon futures, and actively promote the research and development of other types of green development futures offerings. The municipality will also advance the pilot programs of carbon credit pledge financing and ecological compensation for forestry carbon sink.
December 2022	Shanghai Inclusive Carbon System Construction Plan	Eight departments including Shanghai Municipal Bureau of Ecology and Environment	The Plan proposes to complete top-level design of the inclusive carbon system, develop standards and methodologies, and establish an inclusive carbon platform by 2025. The construction of the inclusive carbon system is important to improve ecology and environment quality, accelerate the green transformation of production and lives, and lead a new trend of green and low-carbon lifestyle. Enterprises and institutions can trade their carbon credits obtained from building and operating projects and scenarios in Shanghai carbon market, or offset emissions from their own businesses or activities to achieve carbon neutrality.
November 2022	Guidelines for Green Financial Products of Guangzhou (2022)	Guangzhou Green Finance Association	The Guidelines summarize over 350 green financial products and services from 70 organizations, including financial institutions, local financial organizations, and third-party green finance service providers. These products and services are divided into five categories: green loans, green bonds, green insurance, third-party green finance services and other green financial products. The Guidelines provide full product information to green enterprises and projects seeking green financing, and fully open up financing channels for green financial industry, giving green finance full steam to serve the "dual carbon" goals.
January 2023	Inclusive Carbon System Construction Plan of Shandong Province	Department of Ecology and Environment of Shandong Province, Shandong Development & Reform Commission	The Plan focuses on the system construction for four key areas including administrative policies, technical support, project development and carbon emission reduction and absorption, and defines 11 key tasks. It sets a timeline for relevant work: (1) by the end of 2023, complete the top-level design of the inclusive carbon system, build an inclusive carbon platform, explore the establishment of personal carbon accounts and multi-level absorption channels for certified inclusive carbon emission reduction; and (2) from 2024 to 2025, gradually improve the inclusive carbon system, expand the coverage of inclusive carbon, diversify project types, and basically form an inclusive carbon ecosystem with clear rules, diverse scenarios and sustainable development.
January 2023	Tianjin Inclusive Carbon System Construction Plan	Tianjin Ecology and Environment Bureau, etc.	The Plan sets the goal of building an inclusive carbon system by the middle of the 15th Five-Year Plan period, including completing the top-level design of the system in 2024, largely completing the framework of the system in 2026, and continuously refining standards and operation mechanisms of the system in the middle of the 15th Five-Year Plan period.
January 2023	Implementing Rules for Voluntary Inclusive Carbon Emission Reduction of Guangzhou	Guangzhou Ecology and Environment Bureau	The Rules encourage and support the development and implementation of inclusive carbon methodologies and self-initiated emission reductions in Guangzhou.

Rapid growth in green loan balance of listed banks

In 2022, the listed banks maintained rapid growth in green loans. The 47 listed banks that disclosed the data on green loans had a total balance of RMB16,293.9 billion as at 2022 year-end, increasing by 45.02% from 2021 year-end. The green loans of six large banks totaled RMB8,12,545.2 billion, increasing by 44.54% year-on-year, up 6.08 percentage points over the previous year. Specifically, ICBC recorded the largest balance of RMB3,978.5 billion, with the highest growth rate of 60.38%. By the end of 2022, the green loans of 10 national joint-stock banks amounted to 2,662.9 billion, a year-on-year increase of 42.59%, up 2.32 percentage points over the previous year. Particularly, IB recorded the largest balance of RMB637.1 billion, while CMBC had the highest growth rate at 67.65%. As at the end of 2022, 23 city commercial banks held a total balance of RMB960.6 billion in green loans, increasing by 58.2% from 2021.The green loan balance of eight rural commercial banks as at 2022 year-end was RMB125.2 billion, increasing by 53.06% year-on-year.

According to the Statistics Report on Loan Issuance by Financial Institutions in 2022 issued by the PBOC, at the end of 2022, the balance of RMB and foreign currency green loans totaled RMB22.03 trillion, a year-on-year increase of RMB6.01 trillion, or 38.5% (up 5.5 percentage points from the end of 2021), 28.1 percentage points higher than the overall growth rate of loans. The loans issued to the projects with direct and indirect carbon reduction benefits amounted to RMB8.62 trillion and RMB6.08 trillion, respectively, accumulatively accounting for 66.7% of total green loans. By purpose, the green loan balance for infrastructure upgrade towards eco-friendliness, clean energy, and energy conservation and environmental protection were RMB9.82 trillion, RMB5.68 trillion and RMB3.08 trillion, respectively, increasing by 32.8%, 34.9% and 59.1% year-on-year. By industry, the green loan balance for the electricity, heat, gas and water production and supply sector was RMB5.62 trillion, increasing by RMB1.15 trillion, or 27.4%, year-on-year; the green loan balance for the transportation, storage and postal sector was RMB4.58 trillion, increasing by RMB454.6 billion, or 10.8%, year-on-year.

Green loan balance and growth rate of the listed banks (Unit: RMB100 million)

	31 December 2021		31 December 2022	
	Amount	Growth rate	Amount	Growth rate
ICBC	24,806	34.4%	39,785	60.38%
CCB	19,631	35.61%	27,501	40.09%
ABC	19,778	30.6%	26,975	36.4%
BOC	14,086	57%	19,872	41.08%
BOCOM**	4,768	31.37%	6,354	33.28%
PSBC	3,723	32.52%	4,965	33.38%
Large banks	**86,792**	**38.46%**	**125,452**	**44.54%**
CMB	2,638	26.49%	3,554	34.69%
IB	4,539	42.11%	6,371	40.34%
CITIC**	2,001	140.75%	3,341	66.97%
SPDB**	3,113	18.46%	4,271	37.2%
PAB	691	204.6%	1,098	58.8%
CEB	1,246	20.12%	1,993	59.95%
CMBC	1,073	103.76%	1,799	67.65%
HX	2,085	15.79%	2,470	18.49%
CZB	1,042	32.75%	1,459	39.98%
CBHB	247	24.33%	273	10.46%
National joint-stock banks	**18,675**	**40.27%**	**26,629**	**42.59%**
BJS	1,272	29.27%	2,015	58.41%
BOB	477	82.1%	1,103	131.03%
BONB***	158	79.16%	237	49.74%
BSH	302	180.07%	654	116.38%
BONJ***	988	46.39%	1,330	34.61%
HSB	322	53.86%	546	69.59%
BHZ	419	33.19%	540	28.78%
BOCD***	107	141.89%	263	145.11%
BOCS	254	36.42%	326	28.33%
BGY	227	17.41%	282	24.03%
BCQ	191	32.64%	276	44.5%
BSZ	113	45%	179	58.12%
BGZ***	350	53.03%	466	33.34%
ZYB****	144	Undisclosed	271	88.4%
BTJ	121	29.38%	164	36%
BQD	191	25%	209	9.68%
BZZ	21	66.61%	29	35.52%
XMB**	18	116.73%	41	126.06%
BLZ****	49	Undisclosed	94	93.34%
BJJ**	176	49.72%	259	47%
JXB	170	46.05%	227	33.46%
SJB***	Undisclosed	Undisclosed	64	Undisclosed
HRB	2	-91.71%	31	1444.5%
City commercial banks	**6,072**	**N/A**	**9,606**	**58.2%**
SRCB	198	201%	436	120.2%
CQRCB	367	49.24%	487	32.87%
DRCB****	73	Undisclosed	99	35.3%
CSRCB***	16	23%	23	20%
WXRCB	29	25.92%	39	35.42%
ZJGRCB	11	133.92%	22	110.52%
ZJRCB	95	34.12%	109	14.82%
SZRCB****	29	Undisclosed	37	28.34%
Rural commercial banks	**818**	**N/A**	**1,252**	**53.06%**
All listed banks	**112,357**	**N/A**	**162,939**	**45.02%**

*Data disclosed in the listed bank's annual reports or social responsibility reports/ESG reports or environmental information disclosure reports, where the amounts are rounded to RMB100 million and the growth rates are rounded to two decimal places. The names of indicators disclosed by the banks may be different, and those in the banks' public reports shall prevail.
**The indicator of BOCOM, XMB and BJJ for 2022 is the special green loans defined by the PBOC. The indicator of SPDB and CITIC for 2021 and 2022 is the special green loans defined by the PBOC.
***Data for BONB, BONJ, BOCD, SJB and CSRCB are from social responsibility (ESG) reports, and data for BGZ are from the annual environmental information disclosure report for 2022.
****ZYB, BLZ, DRCB and SZRCB's green credit balances as at 31 December 2021 are calculated based on their respective credit balances as at 31 December 2022 and 2022 growth rates.

Expanding innovation scenarios, and fast-growing sustainable bonds

As China's green finance market continues to grow, green bonds have become the second largest carrier of the green finance system. The listed banks are actively working on the liability side to support radical transition to green economy and green society by issuing, underwriting and investing in green bonds. According to Wind data, China issued 802 green bonds in 2022, with a total issuance value of RMB1,133.32 billion, increasing by 41.2% from RMB802.72 billion in 757 bonds in the prior year. BOC's domestic and foreign green finance bonds totaled RMB87.7 billion, ranking first among Chinese banks.

01

Expanding product innovation scenarios and increasing varieties of carbon neutrality bonds and blue bonds. According to China Green Bond Principles, green bonds contain two sub-categories, namely blue bond and carbon neutrality bond. In 2022, ICBC successfully issued RMB10 billion in carbon neutrality bonds in the China Interbank Bond Market, which was the first carbon neutrality bond of a commercial bank in China recognized by regulators. PSBC unveiled the first blue bond business in the industry, raising funds for offshore wind farm construction projects. Among the 56 green bonds underwritten by ABC, 12 were carbon neutrality bonds that raised nearly 30% of the funds. BOC underwrote the first blue bond in the interbank market of Guangdong-Hong Kong-Macao Greater Bay Area. ESG investment concepts should be considered when investing in bonds. For example, ICBC explicitly stated that it will actively participate in the investment in assets that meet ESG standards, with a focus on investment opportunities in green bonds and carbon neutrality bonds.

02

Exploring transformation finance and just transformation regime, and promoting transformation bonds, sustainability-linked bonds and other featured products. To meet the demand for funding the transition of traditional industries towards sustainable development, China's transformation-related bond market has been experiencing accelerating development. In 2022, ABC underwrote a tranche of sustainability-linked bonds, raising RMB2 billion. PSBC launched a series of sustainability-linked financial products, including bonds, with a balance of RMB7.8 billion at the end of 2022.

Increasing inclusive finance support for SMEs

The Report on the Work of the Government in 2022 proposed agenda on encouraging and supporting private sectors and private businesses to grow and expand, and support micro-, small-, and medium-sized enterprises (MSMEs) and self-employed individuals in business development. Inclusive credit supply for micro- and small-sized businesses will remain the focus of banks as part of moves to support the real economy. In 2022, the listed banks continued to increase credit supply for MSMEs. For the 49 listed banks that disclosed inclusive credit loans, the balance totaled RMB14,104.7 billion as at the year-end, increasing by 28.69% from the prior year-end. As at 31 December 2022, the balance of inclusive loans of large banks reached RMB8,537.1 billion, increasing by 31.83% from the prior year-end. Particularly, CCB reported the largest balance of inclusive finance loans of RMB2,351.4 billion, and ICBC reported the fastest year-on-year growth of inclusive loans to small- and micro-sized enterprises (SMEs), which stood at 41.1%. The balance of inclusive loans of national joint-stock banks was RMB3,791.6 billion, increasing by 20.58% from the prior year-end, with CMBC recording the largest balance of RMB678.3 billion, and PAB presenting the fastest year-on-year growth of 38.2% in inclusive loans. As at 31 December 2022, the balance of inclusive credit loans of city commercial banks increased by 35.95% from the prior year-end.

Inclusive finance loan balance and growth rate of the listed banks (Unit: RMB100 million)				
	31 December 2021		31 December 2022	
	Amount	Growth rate	Amount	Growth rate
ICBC	10,990	52.50%	15,503	41.10%
CCB	18,737	31.60%	23,514	25.49%
ABC	13,220	38.80%	17,690	33.80%
BOC	8,815	53.15%	12,283	39.34%
BOCOM	3,388	49.23%	4,562	34.66%
PSBC	9,606	19.89%	11,819	23.04%
Large banks	**64,756**	**34.24%**	**85,371**	**31.83%**
CMB	6,011	18.22%	6,783	12.85%
IB	2,987	46.96%	4,042	35.27%
CITIC	3,669	23.03%	4,460	21.57%
SPDB	3,197	17.98%	3,766	17.80%
PAB	3,822	35.70%	5,282	38.20%
CEB	2,370	26.72%	3,053	28.82%
CMBC	5,048	12.59%	5,491	8.76%
HX	1,380	23.69%	1,609	16.56%
CZB	2,366	17.06%	2,773	17.22%
CBHB	595	62.91%	657	10.51%
National joint-stock banks	**31,445**	**20.62%**	**37,916**	**20.58%**
BJS	1,121	31.73%	1,385	29.30%
BOB**	1,261	35.70%	1,721	36.49%
BONB	1,222	35.00%	1,538	25.86%
BSH**	722	64.55%	1,071	48.35%
BONJ	656	30.42%	906	38.10%
HSB	829	22.97%	1,046	26.12%
BHZ	917	20.86%	1,123	22.40%
BOCS	Undisclosed	Undisclosed	494	Undisclosed
BGY	267	10.95%	320	20.05%
BCQ	398	Undisclosed	436	9.64%
BSZ	433	19.78%	527	21.69%
ZYB	444	20.26%	762	71.61%
QLB	371	35.67%	486	30.89%
BTJ**	33	Undisclosed	41	24.15%
BQD	220	21.14%	271	23.26%
BZZ**	389	23.36%	443	13.72%
XMB	444	29.20%	610	37.37%
BOXA***	48	Undisclosed	59	23.33%
WHCCB	208	19.77%	240	15.44%
JSB	57	27.72%	75	31.58%
BLZ***	107	Undisclosed	114	6.55%
BJJ	330	84.62%	458	38.78%
JXB	235	33.61%	354	50.51%
LZB	Undisclosed	Undisclosed	103	Undisclosed
BGS	103	0.35%	120	16.29%
City commercial banks	**10,815**	**N/A**	**14,703**	**35.95%**
SRCB	553	36.00%	641	16.01%
CQRCB	962	28.70%	1,130	17.54%
DRCB***	266	Undisclosed	330	23.96%
GRCB**	67	Undisclosed	84	24.66%
WXRCB***	149	38.45%	190	27.41%
ZJGRCB**	193	Undisclosed	220	13.94%
JYRCB**	151	Undisclosed	178	18.00%
ZJRCB	249	48.04%	284	14.02%
Rural commercial banks	**2,590**	**N/A**	**3,057**	**18.03%**
All listed banks	**109,606**	**N/A**	**141,047**	**28.69%**

Earlier this year, the PBOC said it would continuously roll out favorable structural monetary policies for key areas and vulnerable areas requiring long-term support, such as inclusive finance. In April this year, the CBIRC issued the Notice on Stepping up Efforts to Improve the Quality of Financial Services for Micro- and Small-sized Enterprises in 2023 (Yin Bao Jian Ban Fa [2023] No. 42) (the "Notice"), specifying the objectives for the year: establish a financial service system for SMEs adaptive to the development of the real economy, maintain the expansion of both size and coverage of the services, optimize the service structure, and improve the precision of services in key areas; remain largely stable lending rates, and gradually reduce the overall financing costs for SMEs. The Notice focuses on the needs of SMEs in key areas and requires banking and insurance institutions to strengthen their precise support and to develop credit products based on the production and operation characteristics of individually owned businesses, so as to better meet their urgent, short-term and highly frequent funding needs.

As inclusive finance is designed to serve diversified customer groups and meet their complex and distinct needs, the listed banks should actively pursue changes, increasing efforts to improve the quality of financial services for SMEs, and innovating products and services based on customers' needs. For example, ZYB has created a dual-feature model of entire-village credit and migrant worker service, on the one hand, aiming to replace the "whitelist" recommendation system with a "blacklist" exclusion system for the whole village credit, so that jobless farmers who are able to work but unable to leave home can benefit from inclusive finance, and on the other hand, focusing on the most pressing needs of migrant workers and explores the special service structure to provide both the financial and non-financial services to migrant workers inside and outside the province. Inclusive loans to SMEs are becoming an independent service line of credit business in banking financial institutions, with the potential for achieving medium- and long-term profits. By establishing an independent inclusive finance department, CMB has built a long-term mechanism for the development of inclusive finance, focusing on two key objectives - expanding coverage and increasing size, and the three main areas - supply chain and scenario finance, technology finance and SME finance.

Inclusive finance, which is not a public welfare service, should be identified as a sustainable business and a real commercial activity. Provision of inclusive financial services should be based on the principle of commercial sustainability, with the aim of improving people's well-being, and enabling all classes and groups to equally enjoy financial services that meet their needs and at reasonable and affordable costs. The listed banks should continuously explore the sustainable development model of inclusive finance going forward.

*Data disclosed in the listed bank's annual reports or social responsibility reports/ESG reports, where the amounts are rounded to RMB100 million and the growth rates are rounded to two decimal places. The names of indicators disclosed by the banks may be different, and those in the banks' public reports shall prevail.
**CCB, BOB and BSH reported the balance of inclusive loans, and BTJ, GRCB, ZJGRCB and JYRCB reported the balance of inclusive loans related to agriculture, rural areas, and rural people, while the other banks reported the balance of inclusive loans to SMEs. GRCB, ZJGRCB and JYRCB adjusted the indicator of 2022 inclusive loans.
***The balance of inclusive loans of BOXA, BLZ, DRCB and WXRCB as at 31 December 2021 is calculated based on their respective inclusive loan balance as at 31 December 2022 and 2022 growth rate.

Becoming a "responsible bank" with sustainable development goals

The Principles for Responsible Banking (PRB or the Principles) were developed in November 2018 under the leadership of the UN Environment Programme Finance Initiative (UNEP FI) and were officially launched at the UN General Assembly in September 2019. The Principles are designed to encourage and guide banks to align their business development goals with the UN 2030 Sustainable Development Goals (SDGs) and the Paris Climate Agreement, and to create a common language for sustainable development for global banks. The PRB consists of six principles, including alignment, impact and target setting, clients and customers, stakeholders, corporate governance and culture, and transparency and accountability. Specifically, "impact and target setting" refers to a signatory bank's commitment to continuously provide positive push while reducing negative impacts on, and managing risks to, people and environment resulting from its activities and offerings. To this end, banks will set and publish targets where they can have the most significant impacts, as reflected in the three key steps of "identifying the most significant impacts of products and services on societies, economies and environments that the bank operates in", "setting and achieving measurable targets in a bank's areas of most significant impact based on the analysis", and "publicly reporting on progress" to continuously improve their impact and contribution to society. According to the UNEP FI, the PRB signatory banks shall publish the first self-assessment report on their implementation of the Principles within 18 months from signing the Principles and annually thereafter (in line with their annual reporting cycle), and shall obtain third-party independent verification or assurance within four years from signing the Principles.

By April 2023, 324 banks around the world have become signatories of the Principles, including 129 founding signatories who collectively hold assets of USD89.4 trillion and manage around 50% of global banking assets. So far, China has 22 PRB signatory banks, including 15 listed banks.

Listed signatory bank	Date signed
ICBC	2019/9
IB	2019/9
HX	2019/9
BJJ	2020/4
BJS	2021/3
PSBC	2021/4
QRCB	2021/4
ZJRCB	2021/6
BOC	2021/7
ABC	2021/9
BONJ	2021/10
CMBC	2022/4
BSZ	2022/5
BOB	2022/7
SRCB	2022/10

Source: UNEP FI official website.

Except CMBC, 14 of signatory listed banks have disclosed their implementation of the Principles by April 2023. According to the disclosures, they mainly focused on green finance and inclusive finance, with defined targets and actions.

Impact and target setting of listed responsible banks	
ICBC	**Green finance:** ICBC will establish and improve the long-term development mechanism. It will include green finance actions in the performance assessment, set up a green finance committee, formulate a medium-term green finance development plan once every three years, and annually issue the industry (green) credit policy every year. In 2022, ICBC issued the Notice on Relevant Matters Concerning the Implementation of Green Finance Guidelines for Banking and Insurance Industries and the Green Guide for Investment and Financing of Industrial and Commercial Investment and Financing of ICBC (Trial). It comprehensively implemented green taxonomy management of investing and financing, embedded environmental (climate) risk and social risk compliance requirements into the whole-process management of investment and financing, iteratively upgraded the enterprise-wide risk management system, further improved the climate risk management system, and actively performed special audit of green credit.
ABC	**Green finance:** During the 14th Five-Year Plan period, ABS will secure better results in green credit - higher growth rate than averaged loan growth of the bank, higher proportion in total loans, and lower NPL ratio than the bank's average, and vigorously develop businesses such as green credit, green bond, and green investment. It will improve financial services to encourage green consumption of personal customers, strengthen green financial services for agriculture, rural areas and farmers ("San Nong"), and increase the synergy between green development and rural revitalization. **Inclusive finance:** ABC will continuously increase the supply of inclusive loans to maintain a higher growth than the average of total loans, enable tech-driven innovation of inclusive financial service models to refine "ABC E-loan" products, prevent and control credit risk by digital means to secure the stable quality of inclusive loan assets, improve the long-term mechanism of inclusive financial services, and develop solid service teams.
BOC	**Green finance:** During 2021 to 2025, BOC will provide financial support of no less than RMB1 trillion to green industries; maintain year-on-year growth of green credit; realize annual average growth rate of domestic personal green loans of no less than 30% and strive for 60%; and strengthen control over loans to brown industries. BOC has ceased financing any new coal mining and coal power projects outside China since the fourth quarter of 2021, except for projects already contracted. **Inclusive finance:** During 2021 to 2025, BOC will meet the growth and control targets set for inclusive loans to SMEs, with growth rate and customer acquisition complying with the regulatory requirements. By 2025, the balance of inclusive loans for SMEs will exceed RMB2 trillion.
PSBC	**Green finance:** During the 14th Five-Year Plan period, PSBC will vigorously develop sustainable finance, green finance, and climate financing; focus on green and low-carbon development priorities; actively explore transition finance; develop diversified financial products and services such as green credit, green bond and carbon finance; develop and promote green and inclusive financial products; and build itself into a first-class green, inclusive bank and climate-friendly bank. **Inclusive finance:** During the 14th Five-Year Plan period, PSBC will continue to improve the long-term mechanism of "having proper risk appetite, strong lending intent, ability and risk control" around SMEs loans, accelerate the digital transformation of inclusive finance, and give full play to its role as a leader and pioneer of inclusive finance. **Wealth finance:** During the 14th Five-Year Plan period, PSBC will build a new, open and innovation-driven model of wealth finance, ride the tide of residents' wealth growth and consumption upgrading, refine tiered customer operations, and upgrade customer experience from all aspects. **Industrial finance:** During the 14th Five-Year Plan period, PBOC will support the transformation and upgrading of industrial structure with industrial finance, actively serve the national strategy of building China into a solid manufacturing state, improve the long-term mechanism for supporting the manufacturing industry to achieve high-end, intelligent and green development.
IB	**Green Bank:** By the end of 2025, IB expects the balance of green finance to reach RMB2 trillion, to have 55,000 green finance corporate customers, and reduce the GHG emissions to reach -61171.4 tCO2. IB will reduce carbon emissions by 20% from 2020 to 2025, and realize carbon neutrality of its own activities (including Scope 1 and Scope 2 emissions) by 2030 and carbon neutrality of its upstream and downstream activities (including Scope 3 emissions) by 2035.
HX	**Green finance:** During the 14th Five-Year Plan period, HX will continuously promote credit structure transformation, innovate green financial products and services, increase the proportion of green loans and the size of green finance business, strengthen environmental risk management and support biodiversity conservation. It will strive to achieve its own carbon neutrality (Scope 1 and Scope 2 emissions) by 2025, and pursue green office, green procurement and green public welfare. **Inclusive finance:** HX will continuously strengthen its position as a financial service provider for SMEs, expand the service coverage through FinTech, address difficulties and high-cost financing faced by SMEs, create featured loan products, and set up the financial service center for SMEs.
BJS	**Green finance:** During the 14th Five-Year Plan period, BJS will provide no less than RMB200 billion in investment and financing for climate change mitigation and no less than RMB50 billion for the clean energy industry. It will achieve a higher growth rate of green credit and a larger proportion of green bonds, with projected average annual growth rates standing at no lower than 20% in green credit, clean energy loans and green bonds. **Inclusive finance:** During the 14th Five-Year Plan period, BSJ will ensure that the growth rate of inclusive loans to SMEs is no less than the overall growth rate of total loans.
BOB	**Green finance:** BOB has formulated the action plan for green finance from 2021 to 2025. It will track the progress in realizing the annual growth target of green credit by monitoring indicators such as the size and proportion of green loans and the number of green credit customers served. **Inclusive finance:** BOB will deepen the development of inclusive finance. It will increase financial supports to SMEs by monitoring the size of inclusive financial loans, deferring repayment of principal and interest, and expediting digital transformation of corporate inclusive finance; and support the implementation of strategies of "San Nong" services and "Rural revitalization" by monitoring the balance of agricultural loans and the implementation of the "Wanyuan Plan" (providing loans for 10,000 small rural courtyards to develop homestay business)
BONJ	**Green finance:** BONJ will continuously expand green sub-branches, maintain a 10% to 20% annual growth of green credit balance, steadily increase green bond investment and green direct financing, diversify "Xindong Green" product lines, gradually form four series of green credit, green investment banking, green consumption and carbon finance, and create a green finance brand. **Inclusive finance:** BONJ will continue to increase inclusive finance loans and ensure that the growth rate of inclusive loans for SMEs is no less than that of total loans, and the number of borrowers with an outstanding balance is no lower than the level as at the beginning of the year.

Impact and target setting of listed responsible banks	
BSZ	**Green finance:** BSZ has formulated the Three-Year Action Outline for Accelerating the High-quality Development of Green Finance Business of Bank of Suzhou. BSZ will maintain a higher growth rate of green credit than the average of credit business of the bank, and a rising proportion of green credit in total loans. It will establish a multi-dimensional business system covering green credit, direct green financing and carbon finance, create green products, innovate green practices and promote green operation.
BJJ	**Green finance:** BJJ has defined the objectives of green credit business. In the short term, it will continuously roll out innovative green credit products organically integrated with local real-economy industries in Jiangxi Province, pursue green finance cooperation with external parties, upgrade the green credit process, and innovate products and services. In the long term, it will rely on national development policies to facilitate the green transformation of local high-carbon industries through green and inclusive credit products and cooperation with local industries, provide sustainable development solutions for enterprises and support the reform of industrial supply chain, contributing to regional sustainable development.
SRCB	**Green finance:** SRCB will increase support for green industries, expand green investment and financing, innovate green products and services, enhance environmental and climate risk management, and improve environmental information disclosure, to build its brand as a green bank. **Inclusive finance:** SRCB has put forward the model of inclusive finance-enabled social governance featuring extensive coverage, effective breakthrough, warm care, close collaboration, cross-industry engagement and in-depth services; and will focus on customers from "San Nong, SMEs, sci-tech innovation enterprises and community residents", support the real economy and create job opportunities. It will continuously increase inclusive financial loans, keep the growth of inclusive loans for SMEs at a rate no less than that of total loans, and the number of borrowers with an outstanding loan balance no lower than that at the beginning of the year.
QRCB	**Green finance:** QRCB will secure a year-on-year growth of green credit in five years and achieve a growth rate of no lower than that of total loans, effectively channel financial resources to such areas as energy conservation and environmental protection, clean energy, ecological restoration, industrial upgrading, green transportation, and green building. It will actively explore credit guarantee channels and provide preferential FTP transfer pricing for green corporate loans. **Inclusive finance:** QRCB will serve San Nong by providing financial relief, building platforms such as "e-connection between government and bank" and "e-channel for agricultural product purchase", and providing inclusive financial payment services for rural areas. It will also serve MSMEs with innovative and inclusive financial products.
ZJRCB	**Green finance:** ZJRCB will promote the all-round development of green finance, actively meet financial needs of low-carbon and environment-friendly enterprises, increase green loans, accelerate paperless practice, reduce water and electricity consumption, and advocate green travel and green office. **Inclusive finance:** ZJRCB will be committed to serving the real economy and focus on SMEs and self-employed individuals. It will channel more resources to inclusive finance, launch customer acquisition initiatives and achieve higher growth rates of agricultural loans and SME loans than the averages of total loans.

Source: Social responsibility reports or PRB-related special reports published by the banks.

According to the disclosures available, all of the above 14 domestic listed banks committed to the Principles implementation have viewed green finance as a key area of influence, and more than half of them also viewed inclusive finance as a key area of influence. For green finance, the targets set by PRB signatory banks are mainly linked with green finance policies, green credit growth, green product innovation, and the banks are actively exploring carbon neutrality of their own activities. For example, ICBC has formulated the Green Guide for Investment and Financing of Industrial and Commercial Investment and Financing of ICBC (Trial) and fully implemented the green and taxonomy management of investment and financing; BOC has defined the growth target of green loans and planned on a RMB1 trillion financial support for green industries; HX has launched a series of carbon financial products; and IB has set three five-year carbon neutrality targets for its own activities. For inclusive finance, the targets are mainly related to the growth rate of inclusive loans, the digital transformation of inclusive finance, and the services for rural revitalization. For example, ABC has proposed to ensure that the growth rate of inclusive loans would be higher than the average of total loans during the 14th Five-Year Plan period; PSBC has actively digitalized the whole process of small loans at platforms such as "PSBC E Chain" and "YOU+ Villages"; and BOB has actively supported rural revitalization by helping underprivileged areas build their own featured product brands, strengthening credit support for San Nong, and issuing SME-themed financial bonds.

Establishing and improving environmental and climate risk management system

According to the Green Finance Guidelines for Banking and Insurance Industry issued by the CBIRC in 2022, banking and insurance institutions should effectively identify, monitor and prevent ESG risks (including climate risk), incorporate ESG requirements into their management process and enterprise risk management (ERM) system, and strengthen dynamic analysis, scenario analysis and stress test. Unlike generic financial risks, climate risk can be transmitted to the financial system through multiple channels, threatening financial stability by overlapping credit risk, market risk, liquidity risk, operational risk and reputation risk. Half of the CROs of global systemically important banks (G-SIBs) identified climate change risk as an inherent factor in assessing significant credit risks, according to the 12th annual EY/IIF global bank risk management survey[2].

Driven by regulatory requirements and their own transformation, the listed banks generally pay close attention to climate risk. They conduct research on the transmission of climate risk and other types of risks, exploring approaches to establishing a system for environmental and climate risk identification, assessment, measurement, monitoring and stress test, and gradually include climate risk into their risk management system. For example, from the perspective of physical risk and transition risk, BOC has identified and analyzed the interplay of climate risk with the bank's other major risks and how climate risk transmits and exerts impacts, added qualitative statement on environmental and social risk appetite to its risk appetite statement, and included the management of environmental and social risks into the group's risk report, which is submitted to the risk policy committee of the board of directors for review on a regular basis. ICBC has included the chapter of "Climate Risk Management" in the Regulations on Comprehensive Risk Management (2022) to describe the governance structure and division of duties and responsibilities for climate risk management, developed the components and requirements of climate risk management system, and completed the construction of climate risk database. ABC is actively studying and promoting the integration of climate-related risks into the corporate governance and internal control framework, emphasizing the requirements on climate-related risk management in the basic documents of risk management such as the group's risk appetite and ERM strategy, and considering climate and environmental risks in the economic capital measurement policy.

Many listed banks have identified and assessed climate-related risks and opportunities with reference to the TCFD framework. For example, CMB has developed a framework of "Identification - Assessment – Response" around climate change risks and opportunities, described the types of risks and potential major financial impacts and provided solutions. In terms of physical risks, IB believed that extreme weather events such as typhoons, droughts and storms could damage the value of assets held by customers, causing the collateral to be damaged or devalued, or disrupting the supply chain, thus compromising operations, profitability, and viability of customers, and probably resulting in higher default rates. In terms of climate transition risks, CCB noted that higher pricing of greenhouse gas emissions may cause credit risk for high-carbon industries. In terms of opportunities, ABC believed that the in-depth adjustment of economic, energy and industrial structures will increase demand for green investment and financing, suggesting huge opportunities for business expansion, business model optimization, product innovation and asset allocation.

Climate change-related risks are not considered as a separate risk category, but rather as an aggravating factor for existing categories in the original risk management system (including credit risk, operational risk and market risk). A common approach to climate risk identification is to determine specific risk management processes and elements subject to adjustment in the integration of climate-related risks, and define the functions and departments responsible for these processes and elements, so as to incorporate the risks into the existing risk management system, after fully considering the type of the risks (physical risk or transition risk), the time horizon of the risks (short-, medium-, or long-term risk), and risk indicators. Therefore, the listed banks may simply make necessary updates to incorporate climate risk factors therein on the basis of existing risk management governance frameworks and processes.

2 Seeking stability within volatility: How interdependent risks put CROs at the heart of the banking business——12th annual EY/IIF global bank risk management survey

Beyond implications for operations of financial institutions themselves, climate change risk might erode the quality and profits of bank loans through multiple transmission channels, even threaten the stability of the whole financial system. In 2022, the listed banks expanded their climate stress test scope to cover more industries. ABC and BOC are expected to participate in the evaluation on inclusion of eight major emission control industries[3] for the national carbon market transaction. Based on the previous year's climate risk stress test for the thermal power, iron and steel and cement industries, IB expanded the coverage of the test to eight high-carbon industries in 2022, including power and iron and steel, so as to assess the potential impact of carbon peaking and carbon neutrality transition on the quality of credit assets and capital adequacy.

The listed banks should consider macro-level stress test and the inclusion of biodiversity risk. Climate change and biodiversity are relevant to the security of the financial system and can feed into industries amid macroeconomic changes, which in turn will weigh on the financial risk resilience of financial institutions. On top of existing micro-level stress test, the PBOC is currently conducting studies on the stress test against the entire macro-system. Another highlight is the Taskforce on Nature-related Financial Disclosures (TNFD) established in 2021, a platform designed to facilitate institutions' report on nature-related risks and incorporation of nature-related risks and opportunities into decision-making mechanisms. Thus, the listed banks should also consider including the risk of biodiversity change in stress test in the future. For example, CCB pointed out in risk management disclosures that its risk management committee of the board of directors would review the environmental and climate risk appetite and include biodiversity risk factors in settings.

In addition, the listed banks continuously strengthened the integration of credit policies and ESG, increased new green loans, promoted the transformation of existing loans to green and sustainable structure, and reduced exposures to industries with high environmental risks such as those burdened with "high energy consumption, high pollution and serious overcapacity". The Green Finance Guidelines for Banking and Insurance Industry require banks to focus on ESG risks of loan customers and incorporate ESG requirements into their management process and ERM system. For example, ICBC proposed "strengthening the construction of green finance and ESG system", embedding ESG risks into domestic credit approval process and decision-making process. CCB developed an automated ESG rating tool for all corporate customers and promoted the bank-wide use of the tool. CMB added "ESG and social environment information" sub-section in its iterative credit platform (under risk portal "Risk Report").

3 Power, petrochemicals, chemicals, building materials, iron and steel, non-ferrous metals, paper making, aviation

Accelerating construction of carbon accounting system to meet sustainability disclosure requirements

As expediting the low-carbon transformation initiative has become a global consensus on sustainable economic development, actions are taken to speed up the formulation of sustainability disclosure standards. Since 2022, the International Sustainability Standards Board (ISSB), the US Securities and Exchange Commission (SEC) and the European Financial Reporting Advisory Group (EFRAG) have successively released exposure drafts of climate-related disclosure standards, to regulate the information disclosure of enterprises on climate and sustainability. The ISSB published the Exposure Drafts on IFRS Sustainability Disclosure Standard No. 1 - General Requirements for Disclosure of Sustainability-related Financial Information (IFRS S1) and IFRS Sustainability Disclosure Standard No. 2 - Climate-related Disclosures (IFRS S2) in March 2022, and planned to issue the final IFRS S1 and IFRS S2 standards in June 2023 to meet the needs of major users of general-purpose financial reports for more consistent, complete, comparable and verifiable sustainability-related financial information. On 14 April 2023, the Hong Kong Exchanges and Clearing Limited (HKEx) issued a consultation paper on climate-related disclosure regarding the Environmental, Social and Governance Reporting Guide (hereinafter referred to as the "ESG Reporting Guide"), to strengthen the climate-related disclosure by companies listed in Hong Kong. The consultation paper proposes disclosure of climate-related information by listed companies to in their ESG reports and updates climate-related disclosure requirements in line with ISSB standards, extending the original climate-related disclosure provisions to a systematic framework based on the four core pillars of "governance - strategy - risk management - metrics and targets". The revised ESG Reporting Code is scheduled to take effect on 1 January 2024 and applies to ESG reporting for fiscal years beginning on or after the effective date. HKEx has moved to achieve consistency with international ESG governance by gradually improving ESG reporting standards based on international ESG frameworks.

The evolving metrics and regulations on information disclosure are posing multiple challenges to the sustainability disclosure of banks, including the lack of key data and information. For banking institutions, the availability of carbon accounting methods and data sources are important prerequisites for sustainability disclosure. For banking institutions, most of the carbon emissions generate from financial asset trading, lending and investment activities, so their Scope 3 emissions are far higher than those in Scope 1 and Scope 2. Thus, the carbon accounting data of listed banks largely rely on disclosures of invested and borrowing entities. Constraints also include low availability of data reported by non-emission-control enterprises and poor quality of disclosed data. In addition, data are less comparable among banks as financed emissions require complex data, measurement and monitoring processes, and many methods, tools and strategies are subject to constant updates. All in all, Chinese banking institutions face difficulties in carbon accounting, especially in quantitative measurement of Scope 3 emissions.

The disclosure formats and criteria are another issue. Regulators have issued guidelines and implementation rules, but mandatory assurance requirements for sustainability disclosure and unified disclosure standards are not yet in place, and banks are largely disclosing data subjectively and spontaneously in sustainability disclosures. They may apply different accounting standards and define different accounting scopes, resulting in inaccurate and irregular disclosure, and making it difficult for users to obtain useful information.

The listed banks should establish a sustainability disclosure mechanism and a carbon accounting system as soon as practicable, considering the essential role of carbon accounting in carbon peaking and carbon neutrality initiatives. This is also aligned with the global trend of achieving disclosure standards on comparable sustainability information. The following are suggestions for the listed banks on how they can build the sustainability disclosure mechanism and carbon accounting system, respectively.

01

Establishing an internal control system for sustainability disclosure based on business conditions and industry characteristics. For example, the listed banks can set up dedicated carbon accounting management duties and functions, bring in professionals in carbon emission management and accounting, invite industry experts to provide all-round and diversified trainings, formulate training plans to cultivate talent in carbon accounting, and improve capabilities in carbon finance work; design the processes to collect, process and disclose sustainability information, define the responsibilities of each function, develop investment and financing management systems, and improve essential policies; involve internal auditors to execute audit and supervision and to assist in building internal control processes.

02

Building a data management system for carbon accounting empowered by digital and intelligent tools. For example, the listed banks can automate the collection and classification of data on carbon emissions for investment and financing projects, develop requirements for structured and standardized basic data entry, and improve the quality of carbon accounting data sources; establish automatic calculation of carbon accounting indicators such as carbon intensity, implement data tracking and alert system, differentiate the management of various asset classes, and promote the transformation to carbon peaking and carbon neutrality based on investment decision-making and benefit evaluation.

Some listed banks have begun to build their carbon accounting systems. BOC is actively exploring a carbon accounting methodology suitable for its asset portfolio, and has tentatively calculated the carbon footprint of asset portfolio exposure to carbon-intensive industries. For the carbon footprint of investment and financing activities, IB has probed into the methodology on the carbon footprint of loans and calculated the carbon footprint in accordance with the Technical Guidelines on Carbon Accounting for Investment and Financing Business of Financial Institutions (Trial) issued by the PBOC and with reference to PCAF[4] and TCFD[5] recommendations. The listed banks, especially the H-share listed banks, should closely follow the developments of ISSB standards, look into the changes in reporting requirements, and early establish a carbon accounting system to navigate tightening regulation and meet investors' expectations.

4. Partnership for Carbon Accounting Financials (PCAF)

5. Task Force on Climate-Related Financial Disclosure (TCFD)

05

Enhancing risk control to safeguard value creation

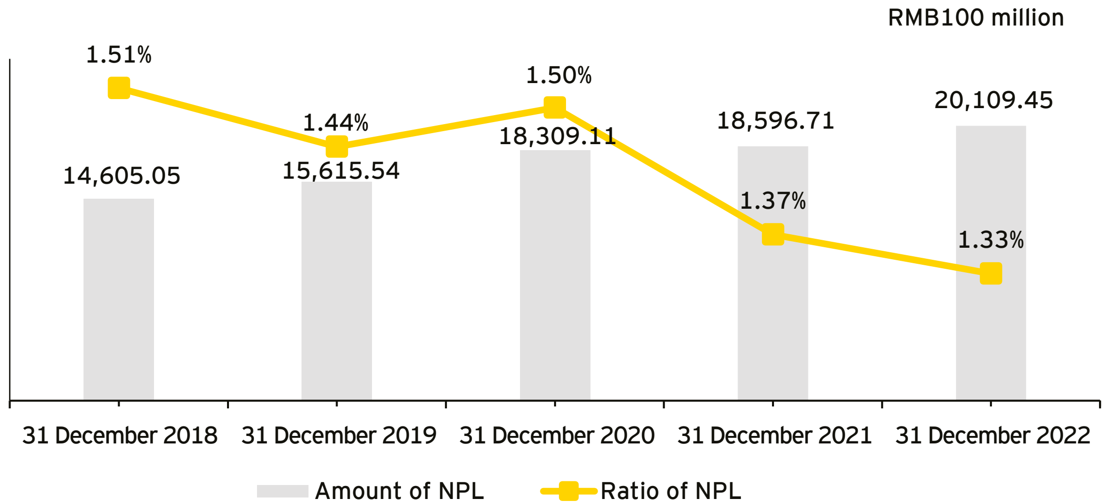
In 2022, the listed banks actively adopted measures to rein in and mitigate underlying risks. Despite increasing lending risks in the real estate sector, the overall NPL ratio declined steadily thanks to continued efforts in NPL resolution. Meanwhile, with provision coverage ratio (PCR) and capital adequacy ratio (CAR) on the rise, the banks' risk resilience was enhanced. However, small- and medium-sized banks remained under great pressure from poor asset quality. The implementation of regulations such as new risk classification measures and new capital rules will also present challenges to the listed banks.

Steady decline in overall NPL ratio

0.04 percentage points

As at 31 December 2022, the NPL balance of the listed banks was RMB2,010.95 billion, increasing by RMB151.27 billion from the prior year-end. The weighted average NPL ratio declined by 0.04 percentage point to 1.33% from 1.37% at the end of 2021. Particularly, the NPL ratio of large banks was 1.33%, decreasing by 0.04 percentage point from the prior year-end. The NPL ratio of national joint-stock banks was 1.3%, decreasing by 0.05 percentage point from the prior year-end. The NPL ratio of city commercial banks was 1.38%, decreasing by 0.06 percentage point from the prior year-end. The NPL ratio of rural commercial banks was 1.34%, increasing by 0.04 percentage point from the prior year-end. While the overall NPL ratio of the listed banks was declining, some listed banks saw a rise in NPL ratio amid macroeconomic volatility.

Changes in the NPL balance and NPL ratio of the listed banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

NPL balance and NPL ratio of the listed banks (Unit: RMB million)						
	31 December 2020		31 December 2021		31 December 2022	
	NPL amount	NPL ratio	NPL amount	NPL ratio	NPL amount	NPL ratio
ICBC	293,978	1.58%	293,429	1.42%	321,170	1.38%
CCB	260,729	1.56%	266,071	1.42%	292,825	1.38%
ABC	237,113	1.57%	245,782	1.43%	271,062	1.37%
BOC	207,273	1.46%	208,792	1.33%	231,677	1.32%
BOCOM	97,698	1.67%	96,796	1.48%	98,526	1.35%
PSBC	50,367	0.88%	52,685	0.82%	60,736	0.84%
Large banks	**1,147,158**	**1.50%**	**1,163,555**	**1.37%**	**1,275,996**	**1.33%**
CMB	53,615	1.07%	50,862	0.91%	58,004	0.96%
IB	49,656	1.25%	48,714	1.10%	54,488	1.09%
SPDB	78,461	1.73%	76,829	1.61%	74,619	1.52%
CMBC	70,049	1.82%	72,338	1.79%	69,387	1.68%
CITIC	73,452	1.64%	67,459	1.39%	65,213	1.27%
CEB	41,666	1.38%	41,366	1.25%	44,674	1.25%
PAB	31,390	1.18%	31,275	1.02%	34,861	1.05%
HX	37,976	1.80%	39,073	1.77%	39,870	1.75%
CZB	17,045	1.42%	20,667	1.53%	22,353	1.47%
CBHB	15,714	1.77%	16,835	1.76%	16,807	1.76%
National joint-stock banks	**469,024**	**1.48%**	**465,418**	**1.35%**	**480,276**	**1.30%**
BOB	24,551	1.57%	24,121	1.44%	25,712	1.43%
BSH	13,401	1.22%	15,295	1.25%	16,294	1.25%
BJS	15,829	1.32%	15,138	1.08%	15,103	0.94%
BONB	5,456	0.79%	6,619	0.77%	7,846	0.75%
BONJ	6,174	0.91%	7,233	0.91%	8,516	0.90%
HSB	11,358	1.98%	11,660	1.78%	11,361	1.49%
HRB	8,333	2.97%	8,483	2.88%	8,219	2.89%
BHZ	5,175	1.07%	5,041	0.86%	5,420	0.77%
BGY	3,536	1.53%	3,704	1.45%	4,144	1.45%
SJB	17,830	3.26%	19,198	3.28%	19,762	3.22%
BOCD	3,868	1.37%	3,806	0.98%	3,777	0.78%
BOCS	3,813	1.21%	4,423	1.20%	4,937	1.16%
BTJ	6,580	2.16%	8,046	2.41%	6,299	1.84%
BCQ	3,564	1.27%	4,106	1.30%	4,835	1.38%
BGS	4,145	2.28%	4,055	2.04%	4,193	2.00%
BZZ	4,944	2.08%	5,345	1.85%	6,222	1.88%
JXB	3,870	1.73%	4,074	1.47%	6,781	2.18%
ZYB	7,883	2.21%	8,476	2.18%	13,199	1.93%
BOXA	2,032	1.18%	2,393	1.32%	2,376	1.25%
BQD	3,126	1.51%	3,262	1.34%	3,247	1.21%
BJJ	3,265	1.55%	3,514	1.41%	5,071	1.82%
LZB	1,088	1.83%	1,059	1.42%	1,267	1.53%
BSZ	2,592	1.38%	2,369	1.11%	2,206	0.88%
JSB	2,509	1.84%	2,859	1.84%	3,354	1.80%
BGZ	2,456	1.15%	2,880	1.15%	4,322	1.47%
XMB	1,381	0.98%	1,596	0.91%	1,723	0.86%
WHCCB	1,774	1.47%	2,109	1.47%	2,396	1.46%
QLB	2,450	1.43%	2,923	1.35%	3,319	1.29%
BLZ	3,407	1.75%	3,742	1.73%	3,873	1.71%
City commercial banks	**176,390**	**1.55%**	**187,529**	**1.44%**	**205,774**	**1.38%**
CQRCB	6,645	1.31%	7,300	1.25%	7,717	1.22%
GRCB	10,310	1.81%	12,050	1.83%	14,597	2.11%
QRCB	3,137	1.44%	4,038	1.74%	5,260	2.19%
CSRCB	1,264	0.96%	1,325	0.81%	1,567	0.81%
ZJRCB	2,031	1.68%	2,030	1.45%	1,928	1.20%
JTRCB	2,125	1.63%	2,942	1.88%	3,405	1.98%
WXRCB	1,098	1.10%	1,100	0.93%	1,037	0.81%
ZJGRCB	995	1.17%	944	0.95%	1,022	0.89%
SZRCB	1,009	1.28%	957	1.00%	1,038	0.95%
JYRCB	1,437	1.79%	1,205	1.32%	1,011	0.98%
RRCB	1,010	1.32%	1,067	1.25%	1,110	1.08%
SRCB	5,245	0.99%	5,827	0.95%	6,336	0.94%
DRCB	2,033	0.82%	2,384	0.84%	2,871	0.90%
Rural commercial banks	**38,339**	**1.33%**	**43,169**	**1.30%**	**48,899**	**1.34%**
All listed banks	**1,830,911**	**1.50%**	**1,859,671**	**1.37%**	**2,010,945**	**1.33%**

Source: Calculated based on the annual reports and prospectuses published by the listed banks.

For large banks, except for PSBC that saw a climb in NPL ratio, each of the other five banks recorded a decline. For national joint-stock banks, except for CMB and PAB that recorded a rise in NPL ratio, each of the other eight banks saw a slide or a flat level. For city commercial banks and rural commercial banks, 11 banks, including HRB, BCQ, BZZ, JXB, BJJ, LZB, BGZ, GRCB, QRCB, JTRCB and DRCB, each reported a rise in NPL ratio, and for the others, the NPL ratio declined or maintained flat from prior year-end.

The decline in NPL ratio of the listed banks was mainly contributed by their stepped-up efforts in resolution of NPLs. According to the data released by the CBIRC, credit risk to the existing portfolio in the banking industry was effectively mitigated, with approximately RMB15 trillion of non-performing assets resolved from 2017 to 2022, exceeding the total amount resolved in previous years. In 2022, the non-performing assets resolved by the banking industry totaled RMB3.1 trillion, exceeding RMB3 trillion for three consecutive years. In the complex and volatile external economic environment, the listed banks continued with the disposal of distressed assets and expedited cleaning up of destressed assets. As the risks were gradually mitigated, the overall asset quality of the banking industry kept improving.

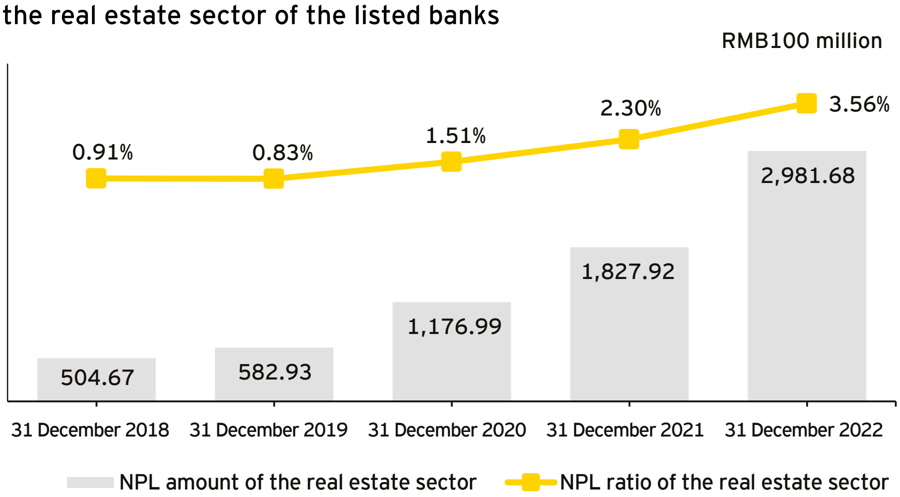
Rising credit risk in the real estate sector

The overall NPL ratio of the listed banks was declining, and both the NPL balance and NPL ratio decreased in industries such as manufacturing, mining, wholesale and retail, and transportation. However, the credit risk of the real estate sector continued to rise amid market volatility compounding increasing liquidity risk of some highly leveraged real estate enterprises. The NPL ratio of loans to the real estate sector increased from 2.3% at the end of 2021 to 3.56% at the end of 2022. Particularly, the weighted average NPL ratio of corporate loans to the real estate sector of large banks was 4.08%, increasing by 1.47 percentage points from the prior year-end. The weighted average NPL ratio of corporate loans to the real estate sector of national joint-stock banks was 2.91%, increasing by 1.12 percentage points from the prior year-end. The weighted average NPL ratio of corporate loans to the real estate sector of city commercial banks was 2.8%, increasing by 0.31 percentage point from the prior year-end. The weighted average NPL ratio of corporate loans to the real estate sector of rural commercial banks was 2.33%, increasing by 0.97 percentage point from the prior year-end. Except nine banks including CITIC, CBHB, BSH, BHZ, BONB, BGY, SJB, JXB and BSZ, all the other listed banks saw an increase in both the NPL balance and NPL ratio of loans to the real estate sector.

NPL ratio of corporate loans to the real estate sector	31 December 2020	31 December 2021	31 December 2022
Large banks	1.80%	2.61%	4.08%
National joint-stock banks	1.06%	1.79%	2.91%
City commercial banks	1.48%	2.49%	2.80%
Rural commercial banks	1.72%	1.36%	2.33%
All listed banks	1.51%	2.30%	3.56%

Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Changes in the NPL balance and NPL ratio of corporate loans to the real estate sector of the listed banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks. Only the listed banks that disclosed the data are included in calculation.

The PBOC and the CBIRC issued the Notice on Providing Financial Support for the Stable and Healthy Development of the Real Estate Market in November 2022 to implement the decisions and plans of the CPC Central Committee and the State Council. The Notice encourages financial institutions to play an active role in ensuring completion of pre-sale housing projects and resolving risks of distressed real estate enterprises, and emphasizes that the regulators will make ad-hoc adjustment of some financial regulatory policies, including extending the grace period if the cap on real estate loans cannot be met, and periodically optimizing the policy on financing for M&A of housing projects, so as to ensure stable and orderly financing of the real estate sector. In 2023, under the guidance of national and local policies, the listed banks will continue to facilitate the virtuous cycle and sound development of the real estate sector.

The fluctuations in the real estate market depressed the growth of personal housing mortgage loans of the listed banks, while personal business loans saw significant growth. As at 31 December 2022, the personal housing mortgage loans increased by 1.44% from the prior year-end, and the personal business loans increased by 23.79%. The NPL ratio for personal housing mortgage loans rose from 0.32% at the end of 2021 to 0.45% at the end of 2022. In March 2023, the CBIRC issued the Circular on Carrying out Special Rectification Actions against Illegal Lending Intermediaries, which requires "banking institutions to fully disclose to customers the interest rates of business loans and housing mortgage loans and maturity mismatch risk, and clarify legal consequences and impacts of diverting business loan funds to home purchase". The listed banks should strengthen control over the end use of credit funds to prevent diversion of funds.

Growth rate and NPL ratio of personal housing mortgage loans and personal business loans

	31 December 2020		31 December 2021		31 December 2022	
	Growth rate	NPL ratio	Growth rate	NPL ratio	Growth rate	NPL ratio
Personal housing mortgage loans	13.14%	0.31%	10.79%	0.32%	1.44%	0.45%
Personal business loans	28.85%	1.73%	24.75%	1.28%	23.79%	1.17%

Source: Calculated based on the annual reports and prospectuses published by the listed banks.
Note: 57 banks disclosed personal housing mortgage loans, and 35 banks disclosed the NPL ratio; 52 banks disclosed personal business loans, and 31 banks disclosed the NPL ratio; 49 banks disclosed personal consumer loans, and 28 banks disclosed the NPL ratio; 47 banks disclosed credit card loans, and 25 banks disclosed the NPL ratio.

Widening "scissors difference" between overdue loans and NPLs

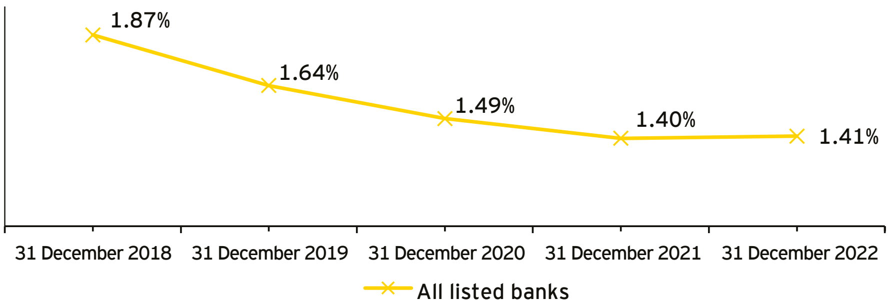
As at 31 December 2022, the overdue loan ratio of the listed banks was 1.41%, edging up from 1.4% at 2021 year-end, but the results were mixed among the bank groups. For large banks, the overdue loan ratio rose from 1.09% at 2021 year-end to 1.1% at 2022 year-end. Particularly, the ratio of CCB, PSBC and BOC increased by 0.09 percentage point, 0.06 percentage point and 0.03 percentage point, respectively, from the prior year-end. The ratio of BOCOM and ICBC slid by 0.17 percentage point and 0.01 percentage point, respectively, from the prior year-end. The ratio of ABC maintained flat from 2021.

For national joint-stock banks, the overdue loan ratio fell from 1.79% at 2021 year-end to 1.78% at 2022 year-end. CZB, CMB, IB and SPDB saw this ratio edge up 0.3 percentage point, 0.27 percentage point, 0.2 percentage point and 0.12 percentage point, respectively, from the prior year-end, while the other six banks each recorded a decrease from 2021 year-end. For city commercial banks, the overdue loan ratio rose from 2.23% at 2021 year-end to 2.31% at 2022 year-end. For rural commercial banks, the overdue loan ratio fell from 2.09% at 2021 year-end to 2.01% at 2022 year-end.

Overdue loan ratio of the listed banks	31 December 2020	31 December 2021	31 December 2022
Large banks	1.26%	1.09%	1.10%
National joint-stock banks	1.78%	1.79%	1.78%
City commercial banks	2.19%	2.23%	2.31%
Rural commercial banks	1.49%	2.09%	2.01%
All listed banks	1.49%	1.40%	1.41%

Source: Calculated based on the annual reports and prospectuses published by the listed banks.

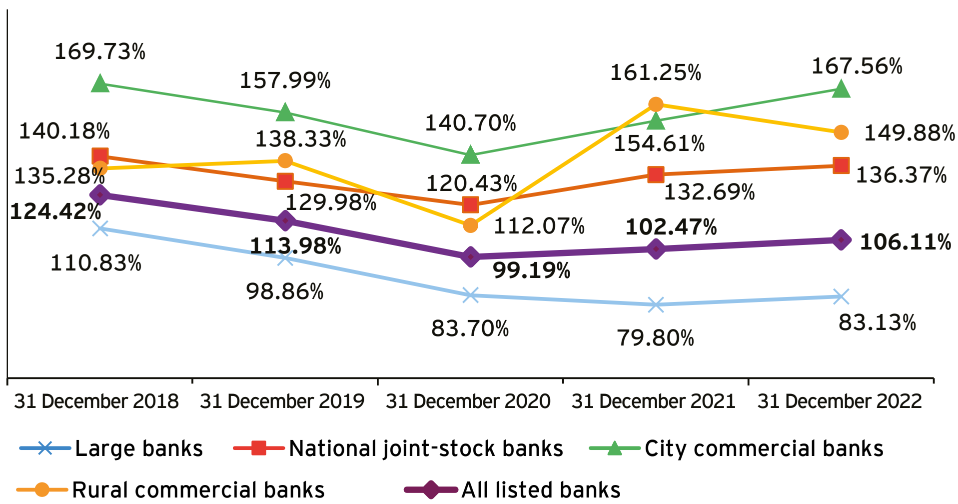
Changes in ratio of overdue loans of the listed banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks.
Only the listed banks that disclosed the data are included in calculation.

The difference between overdue loans and NPLs ("scissors difference") was divergent among different types of listed banks as at 31 December 2022. For large banks, except for PSBC, the other five banks each recorded an overdue loan balance lower than NPL balance at 2022 year-end. CCB reported the lowest ratio of overdue loans to NPLs at 74.72%. Except BHZ, BSZ, QLB, WXRCB, SZRCB and RRCB, the ratio of all other national joint-stock banks, city commercial banks and rural commercial banks stayed above 100%. Particularly, CBHB, CEB, IB and some other banks recorded a ratio of overdue loans to NPLs of over 150%. In addition, except BSH, BJS, BONJ, BOCS, SJB, BGS, BJJ, LZB, GRCB, JTRCB and WXRCB, all other city commercial banks and rural commercial banks saw a climb in this ratio from the prior year-end. In general, middle- and small-sized listed banks came under greater pressure relative to large banks in terms of asset quality.

Changes in ratio of overdue loans to NPLs of the listed banks

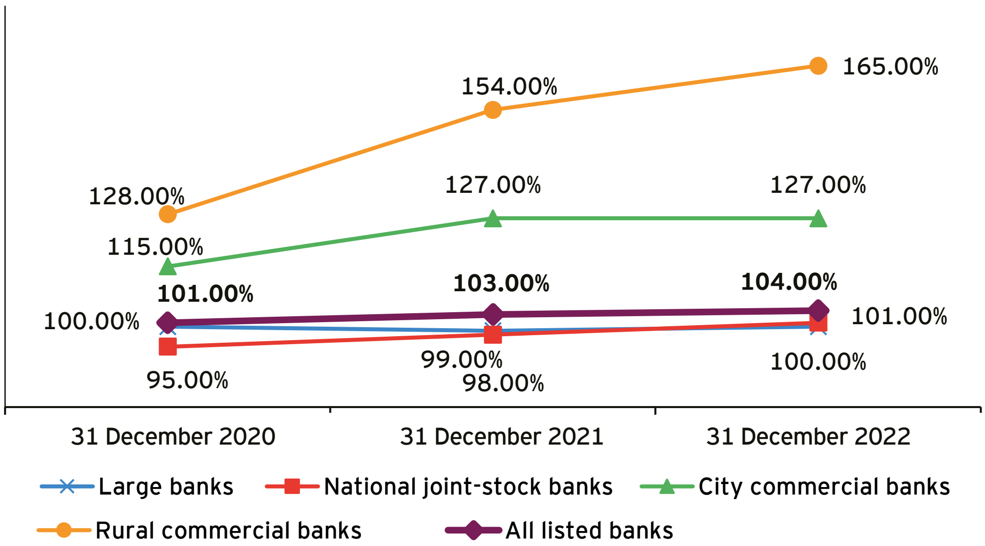


Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Widened deviation between NPLs and impaired loans of small- and medium-sized banks

As at 31 December 2022, the proportion of Stage 3 loans (impaired loans) classified by the listed banks also declined by 0.03 percentage point from 1.41% at the end of 2021 to 1.38% at the end of 2022. However, as at the end of 2022, the deviation between NPL ratio and proportion of Stage 3 loans of the listed banks widened from 0.01 percentage point at the end of 2020 to 0.05 percentage point. Particularly, as at the end of 2022, the deviation between NPL ratio and proportion of Stage 3 loans of city commercial banks and rural commercial banks reached 0.37 percentage point and 0.87 percentage point, respectively. National joint-stock banks, city commercial banks and rural commercial banks all saw widened deviation.

Changes in ratio of Stage 3 loans to NPLs of the listed banks



	NPL ratio			Proportion of Stage 3 loans			Ratio of Stage 3 loans to NPLs		
	31 December 2020	31 December 2021	31 December 2022	31 December 2020	31 December 2021	31 December 2022	31 December 2020	31 December 2021	31 December 2022
Large banks	1.50%	1.37%	1.33%	1.50%	1.36%	1.33%	100%	99%	100%
National joint-stock banks	1.48%	1.35%	1.30%	1.41%	1.32%	1.31%	95%	98%	101%
City commercial banks	1.55%	1.44%	1.38%	1.79%	1.83%	1.75%	115%	127%	127%
Rural commercial banks	1.33%	1.30%	1.34%	1.70%	2.00%	2.21%	128%	154%	165%
All listed banks	1.50%	1.37%	1.33%	1.51%	1.41%	1.38%	101%	103%	104%

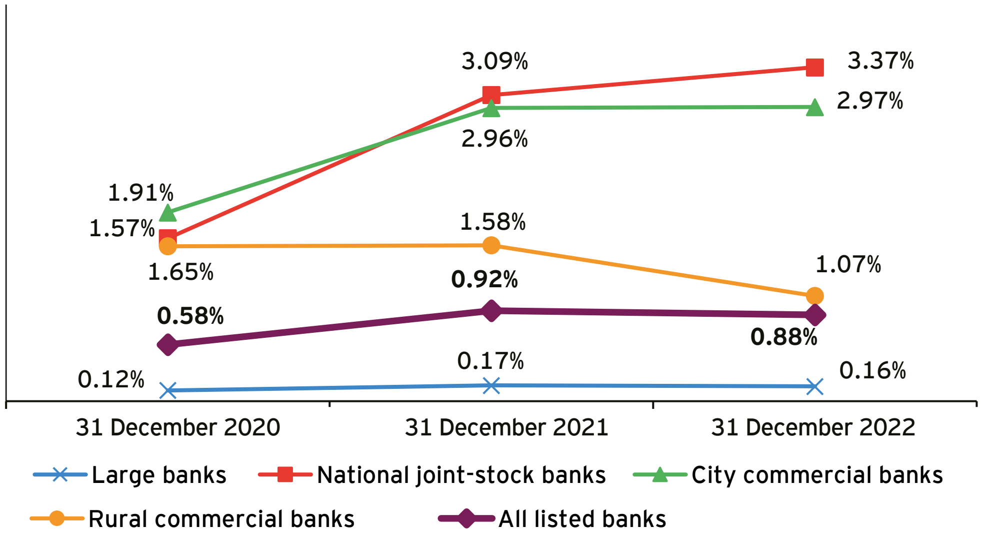
Source: Calculated based on the annual reports and prospectuses published by the listed banks.

In February 2023, the CBIRC and the PBOC issued the Measures for Risk Classification of Financial Assets of Commercial Banks ("Order No. 1"), which tightened the requirements on asset risk classification of commercial banks. For example, impaired financial assets shall be classified as Substandard or below; where more than 10% of the claims of a commercial bank against a non-retail debtor in the bank are classified as non-performing, all of the claims of the commercial bank against this debtor shall be classified as non-performing; where more than 20% of the debts owed by the same non-retail debtor to all banks have been overdue for more than 90 days, the debts should be classified as Substandard or below. New businesses undertaken by commercial banks from 1 July 2023 onwards shall be classified pursuant to Order No. 1. For businesses undertaken before 1 July 2023, commercial banks should develop a reclassification plan, and by 31 December 2025, all existing businesses should be reclassified in accordance with Order No. 1 in a step-by-step manner on a quarterly basis. The implementation of Order No. 1 is expected to further standardize the asset classification of listed banks, from which the listed banks can assess credit risk more accurately to reflect the true quality of financial assets.

Debt investment and off-balance-sheet risks requiring attention

As at 31 December 2022, the proportion of Stage 3 assets (impaired assets) in debt investment of the listed banks was 0.88%, down 0.04 percentage point from the end of 2021. However, the credit risk from debt investment of small- and medium-sized banks continued to rise. Particularly, the proportion of Stage 3 debt investment of national joint-stock banks increased by 0.28 percentage point from 3.09% to 3.37%, and that of city commercial banks increased by 0.01 percentage point from 2.96% to 2.97%. In 2021, the proportion of Stage 3 debt investment of the listed banks rose partly due to the transfer of wealth management assets back to the balance sheet, which can be considered as a case of exception. As the proportion of Stage 3 debt investment of certain banks remained on the rise in 2022, the listed banks should pay more attention to the risk of these assets and step up monitoring and resolution.

The proportion of Stage 3 debt investment of the listed banks



Proportion of Stage 3 debt investment	31 December 2020	31 December 2021	31 December 2022
Large banks	0.12%	0.17%	0.16%
National joint-stock banks	1.65%	3.09%	3.37%
City commercial banks	1.91%	2.96%	2.97%
Rural commercial banks	1.57%	1.58%	1.07%
All listed banks	0.58%	0.92%	0.88%

Source: Calculated based on the annual reports and prospectuses published by the listed banks.
Note: The disclosure of debt investment in the annual reports of various banks is based on different indicators. The disclosure by BOC is based on bond assets, the disclosure of CEB, CMBC and JXB is based on financial assets measured at amortized cost and at fair value through other comprehensive income, the disclosure of BTJ is based on debt instrument measured at amortized cost, the disclosure of BGZ is based on total financial investments, and the disclosure of the other banks is based on financial assets measured at amortized cost.

In addition, the off-balance sheet businesses of commercial banks grew rapidly in recent years, emerging with rich varieties. As compared with on-balance sheet businesses, risk transmission of off-balance sheet businesses is more covered, and risk management is more challenging. To adapt to the new changes and new trends in the development of off-balance sheet businesses of commercial banks, the CBIRC comprehensively revised the Guidance on the Management of Off-Balance Sheet Business Risks by Commercial Banks (Yin Jian Fa [2011] No. 31), and issued the Measures for the Risk Management of Off-Balance Sheet Business of Commercial Banks in November 2022 to standardize the risk management of off-balance sheet businesses of commercial banks, and as such, the listed banks should enhance the risk management by implementing unified management over all kinds of off-balance sheet businesses, including guarantee and commitment, agency investment and financing, and intermediary services, to prevent and resolve financial risks.

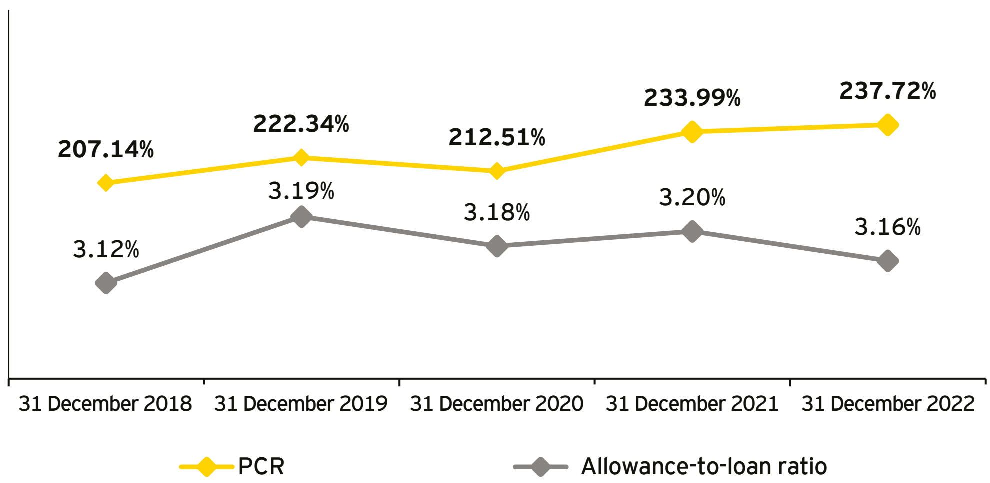
Provisioning coverage ratio (PCR) remaining at high level

↑ 3.73 percentage points

As at 31 December 2022, the weighted average PCR of the listed banks rose by 3.73 percentage points to 237.72% from the prior year-end. For large banks, the PCR increased by 2.54 percentage points from the prior year-end, with five banks recording an increase in PCR, while PSBC recording a decrease by 33.1 percentage points from the prior year-end. For national joint-stock banks, the PCR increased by 4.68 percentage points from the prior year-end, with CMB, IB and CMBC each recording a decrease while the others recording an increase. For city commercial banks and rural commercial banks, the PCR rose by 6.47 percentage points and 0.02 percentage point, respectively, from the prior year-end.

With steady recovery of China's macro economy, the listed banks' loans grew rapidly, and the credit asset quality continued to improve in 2022, reducing the necessity for more provisions. As at 31 December 2022, the weighted average allowance-to-loan ratio dropped by 0.04 percentage point to 3.16% from the prior year-end, showing a downward trend. However, the results were divergent among the listed banks. The ratio slipped by 0.06 percentage point to 3.17% for large banks, fell by 0.03 percentage point to 2.86% for national joint-stock banks, decreased by 0.06 percentage point to 3.59% for city commercial banks, and increased by 0.13 percentage point to 3.91% for rural commercial banks.

Weighted average allowance-to-loan ratio and PCR of the listed banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

PCRs of the listed banks	31 December 2020	31 December 2021	31 December 2022
ICBC	180.68%	205.84%	209.47%
CCB	213.59%	239.96%	241.53%
ABC	266.20%	299.73%	302.60%
BOC	177.84%	187.05%	188.73%
BOCOM	143.87%	166.50%	180.68%
PSBC	408.06%	418.61%	385.51%
Large banks	212.17%	236.46%	239.00%
CMB	437.68%	483.87%	450.79%
IB	218.83%	268.73%	236.44%
SPDB	152.77%	143.96%	159.04%
CMBC	139.38%	145.30%	142.49%
CITIC	171.68%	180.07%	201.19%
CEB	182.71%	187.02%	187.93%
PAB	201.40%	288.42%	290.28%
HX	147.22%	150.99%	159.88%
CZB	191.01%	174.61%	182.19%
CBHB	158.80%	135.63%	150.95%
National joint-stock banks*	200.35%	214.79%	219.47%
BOB	215.95%	210.22%	210.04%
BSH	321.38%	301.13%	291.61%
BJS	256.40%	307.72%	362.07%
BONB	505.59%	525.52%	504.90%
BONJ	391.76%	397.34%	397.20%
HSB	181.90%	239.74%	276.57%
HRB	133.26%	162.45%	181.54%
BHZ	469.54%	567.71%	565.10%
BGY	277.30%	271.03%	260.86%
SJB	114.05%	130.87%	140.30%
BOCD	293.43%	402.88%	501.57%
BOCS	292.68%	297.87%	311.09%
BTJ	183.45%	154.26%	159.27%
BCQ	309.13%	274.01%	211.19%
BGS	131.23%	132.04%	134.73%
BZZ	160.44%	156.58%	165.73%
JXB	171.56%	188.26%	178.05%
ZYB	153.31%	153.49%	157.08%
BOXA	269.39%	224.21%	201.63%
BQD	169.62%	197.42%	219.77%
BJJ	165.97%	214.66%	173.01%
LZB	187.43%	262.49%	256.93%
BSZ	291.74%	422.91%	530.81%
JSB	194.06%	184.77%	177.04%
BGZ	334.36%	426.41%	351.21%
XMB	368.03%	370.64%	387.93%
WHCCB	173.39%	171.56%	154.68%
QLB	214.60%	253.95%	281.06%
BLZ	181.36%	191.88%	194.99%
City commercial banks	233.87%	253.03%	259.50%
CQRCB	314.95%	340.25%	357.74%
GRCB	154.85%	167.04%	156.93%
QRCB	278.73%	231.77%	207.63%
CSRCB	485.33%	531.82%	536.77%
ZJRCB	220.15%	232.00%	246.66%
JTRCB	164.82%	157.33%	157.39%
WXRCB	355.88%	477.19%	552.74%
ZJGRCB	307.83%	475.35%	521.09%
SZRCB	305.31%	412.22%	442.83%
JYRCB	224.27%	330.62%	469.62%
RRCB	234.41%	252.90%	280.50%
SRCB	419.17%	442.50%	445.32%
DRCB	375.13%	375.34%	373.83%
Rural commercial banks*	273.20%	291.79%	291.81%
All listed banks*	212.51%	233.99%	237.72%

Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Allowance-to-loan ratios of the listed banks	31 December 2020	31 December 2021	31 December 2022
ICBC	2.85%	2.92%	2.90%
CCB	3.33%	3.40%	3.34%
ABC	4.17%	4.30%	4.16%
BOC	2.60%	2.49%	2.50%
BOCOM	2.40%	2.46%	2.44%
PSBC	3.60%	3.43%	3.26%
Large banks	3.19%	3.23%	3.17%
CMB	4.67%	4.42%	4.32%
IB	2.74%	2.96%	2.59%
SPDB	2.64%	2.31%	2.42%
CMBC	2.53%	2.60%	2.39%
CITIC	2.82%	2.50%	2.55%
CEB	2.53%	2.34%	2.35%
PAB	2.37%	2.94%	3.04%
HX	2.65%	2.67%	2.80%
CZB	2.72%	2.68%	2.67%
CBHB	2.81%	2.39%	2.65%
National joint-stock banks*	2.96%	2.89%	2.86%
BOB	3.38%	3.03%	3.00%
BSH	3.92%	3.76%	3.64%
BJS	3.38%	3.33%	3.41%
BONB	4.01%	4.03%	3.79%
BONJ	3.58%	3.63%	3.57%
HSB	3.61%	4.27%	4.11%
HRB	3.96%	4.68%	5.25%
BHZ	5.02%	4.86%	4.36%
BGY	4.25%	3.94%	3.79%
SJB	3.72%	4.29%	4.52%
BOCD	4.01%	3.95%	3.89%
BOCS	3.54%	3.56%	3.61%
BTJ	3.96%	3.72%	2.93%
BCQ	3.92%	3.56%	2.91%
BGS	2.99%	2.70%	2.64%
BZZ	3.33%	2.90%	3.12%
JXB	2.97%	2.76%	3.88%
ZYB	3.39%	3.35%	3.03%
BOXA	3.18%	2.95%	2.53%
BQD	2.56%	2.64%	2.65%
BJJ	2.58%	3.02%	3.14%
LZB	3.43%	3.72%	3.93%
BSZ	4.02%	4.70%	4.67%
JSB	3.58%	3.39%	3.19%
BGZ	3.84%	4.90%	5.17%
XMB	3.61%	3.38%	3.34%
WHCCB	2.56%	2.53%	2.26%
QLB	3.06%	3.43%	3.63%
BLZ	3.18%	3.32%	3.33%
City commercial banks	3.64%	3.65%	3.59%
CQRCB	4.12%	4.27%	4.36%
GRCB	2.81%	3.06%	3.31%
QRCB	4.01%	4.02%	4.55%
CSRCB	4.66%	4.33%	4.35%
ZJRCB	3.70%	3.36%	2.97%
JTRCB	2.69%	2.95%	3.12%
WXRCB	3.92%	4.46%	4.46%
ZJGRCB	3.61%	4.49%	4.63%
SZRCB	3.92%	4.14%	4.21%
JYRCB	4.02%	4.36%	4.60%
RRCB	3.09%	3.17%	3.03%
SRCB	4.14%	4.20%	4.21%
DRCB	3.06%	3.15%	3.37%
Rural commercial banks*	3.63%	3.78%	3.91%
All listed banks*	3.18%	3.20%	3.16%

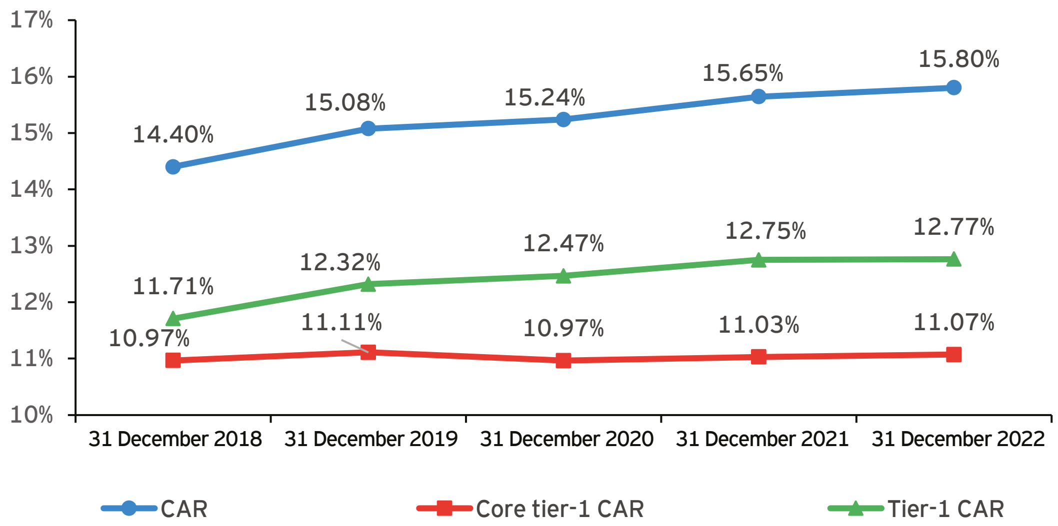
To enable commercial banks to better implement the expected credit loss (ECL) model, effectively identify credit risk and adequately make provisions for credit risk losses, the CBIRC issued the Administrative Measures for the Implementation of Expected Credit Loss Method by Commercial Banks (Yin Bao Jian Gui [2022] No. 10, (hereinafter referred to as "Document No. 10") in May 2022. Document No. 10 defines the governance mechanism for the implementation of ECL model, consolidates the basis of implementation, and regulates the implementation process. The listed banks should improve the internal control mechanism and management process for ECL implementation in accordance with the requirements of the Document No. 10, strengthen the foundation of credit risk provision management and improve risk prevention and mitigation capabilities.

Improving risk resilience through capital enhancement

0.04 percentage points

In 2022, the listed banks actively replenished capital through both internal and external channels, with CARs improving steadily. As at 2022 year-end, the core tier-1 CAR of the listed banks increased by 0.04 percentage point to 11.07% from 2021 year-end; tier-1 CAR increased by 0.02 percentage point to 12.77%; and CAR increased by 0.15 percentage point to 15.8%.

CARs of the listed banks



Source: Calculated based on the annual reports and prospectuses published by the listed banks.

The CARs of the listed banks diverged significantly, with large banks and rural commercial banks seeing a rise in averaged CAR, and national joint-stock banks and city commercial banks experiencing a decline.

Specifically, the CAR, core tier-1 CAR and tier-1 CAR of large banks stood at 17.54%, 12.25% and 13.99%, respectively, at 2022 year-end, up 0.46 percentage point, 0.11 percentage point and 0.17 percentage point from 2021 year-end. For national joint-stock banks, the CAR and tier-1 CAR stood at 13.52% and 11.18%, respectively, down 0.26 percentage point and 0.16 percentage point from 2021 year-end, while the core tier-1 CAR increased by 0.03 percentage point to 9.41%.

For city commercial banks, the CAR, core tier-1 CAR and tier-1 CAR stood at 13.24%, 9.29% and 10.84%, respectively, down 0.24 percentage point, 0.2 percentage point and 0.25 percentage point from 2021 year-end. And for rural commercial banks, the ratios stood at 14.32%, 11.5% and 12.11%, respectively, up 0.03 percentage point, 0.05 percentage point and 0.06 percentage point from 2021 year-end.

	CAR			Core tier-1 CAR			Tier-1 CAR		
	31 December 2020	31 December 2021	31 December 2022	31 December 2020	31 December 2021	31 December 2022	31 December 2020	31 December 2021	31 December 2022
ICBC	16.88%	18.02%	19.26%	13.18%	13.31%	14.04%	14.28%	14.94%	15.64%
CCB	17.06%	17.85%	18.42%	13.62%	13.59%	13.69%	14.22%	14.14%	14.40%
ABC	16.59%	17.13%	17.20%	11.04%	11.44%	11.15%	12.92%	13.46%	13.37%
BOC	16.22%	16.53%	17.52%	11.28%	11.30%	11.84%	13.19%	13.32%	14.11%
BOCOM	15.25%	15.45%	14.97%	10.87%	10.62%	10.06%	12.88%	13.01%	12.18%
PSBC	13.88%	14.78%	13.82%	9.60%	9.92%	9.36%	11.86%	12.39%	11.29%
Large banks	16.39%	17.08%	17.54%	12.03%	12.14%	12.25%	13.50%	13.82%	13.99%
CMB	13.79%	14.71%	14.68%	10.68%	11.17%	11.52%	12.16%	13.19%	13.25%
IB	13.47%	14.39%	14.44%	9.33%	9.81%	9.81%	10.85%	11.22%	11.08%
CITIC	13.01%	13.53%	13.18%	8.74%	8.85%	8.74%	10.18%	10.88%	10.63%
SPDB	14.64%	14.01%	13.65%	9.51%	9.40%	9.19%	11.54%	11.29%	10.98%
PAB	13.29%	13.34%	13.01%	8.69%	8.60%	8.64%	10.91%	10.56%	10.40%
CEB	13.90%	13.37%	12.95%	9.02%	8.91%	8.72%	11.75%	11.41%	11.01%
CMBC	13.04%	13.64%	13.14%	8.51%	9.04%	9.17%	9.81%	10.73%	10.91%
HX	13.08%	12.82%	13.27%	8.79%	8.78%	9.24%	11.17%	10.98%	11.36%
CZB	12.93%	12.89%	11.60%	8.75%	8.13%	8.05%	9.88%	10.80%	9.54%
CBHB	12.08%	12.35%	11.50%	8.88%	8.69%	8.06%	11.01%	10.76%	9.94%
National joint-stock banks	13.85%	13.78%	13.52%	9.39%	9.38%	9.41%	11.19%	11.34%	11.18%
BJS	14.47%	13.38%	13.07%	9.25%	8.78%	8.79%	11.91%	11.07%	10.87%
BOB	11.49%	14.63%	14.04%	9.42%	9.86%	9.54%	10.28%	13.45%	12.86%
BONB	14.84%	15.43%	15.18%	9.52%	10.16%	9.75%	10.88%	11.28%	10.71%
BSH	12.86%	12.16%	13.16%	9.34%	8.95%	9.14%	10.46%	9.95%	10.09%
BONJ	14.75%	13.54%	14.31%	9.97%	10.16%	9.73%	10.99%	11.07%	12.04%
HSB	12.12%	12.23%	12.02%	8.04%	8.45%	8.60%	9.89%	9.54%	9.53%
BHZ	14.41%	13.62%	12.89%	8.53%	8.43%	8.08%	10.83%	10.40%	9.77%
BOCD	14.23%	13.00%	13.15%	9.26%	8.70%	8.47%	10.65%	9.84%	9.39%
BOCS	13.60%	13.66%	13.41%	8.61%	9.69%	9.70%	9.97%	10.90%	10.80%
BGY	12.88%	13.96%	14.16%	9.30%	10.62%	10.95%	10.53%	11.75%	12.02%
BCQ	12.54%	12.99%	12.72%	8.39%	9.36%	9.52%	9.57%	10.45%	10.50%
BSZ	14.21%	13.06%	12.92%	11.26%	10.37%	9.63%	11.30%	10.41%	10.47%
BGZ	13.67%	13.78%	13.82%	11.63%	11.79%	11.20%	11.63%	11.79%	11.91%
ZYB	13.20%	13.30%	11.83%	8.59%	8.70%	7.98%	10.35%	10.39%	9.47%
QLB	14.97%	15.31%	14.47%	9.49%	9.65%	9.56%	11.64%	11.63%	11.35%
BTJ	14.48%	13.49%	12.80%	11.12%	10.73%	10.38%	11.12%	10.74%	10.39%
BQD	14.11%	15.83%	13.56%	8.35%	8.38%	8.75%	11.31%	11.04%	10.69%
BZZ	12.86%	15.00%	12.72%	8.92%	9.49%	9.29%	10.87%	13.76%	11.63%
XMB	14.49%	16.40%	13.76%	11.34%	10.47%	9.50%	11.97%	11.77%	10.60%
BOXA	14.50%	14.12%	12.84%	12.37%	12.09%	10.48%	12.37%	12.09%	10.48%
WHCCB	15.18%	14.59%	13.83%	9.88%	9.35%	8.81%	11.53%	11.33%	10.61%
JSB	11.72%	12.02%	12.40%	10.72%	10.10%	10.50%	10.72%	10.10%	10.50%
BLZ	13.26%	11.56%	11.27%	9.05%	8.58%	8.47%	11.08%	10.38%	10.07%
BJJ	10.71%	13.21%	12.62%	9.02%	8.28%	7.93%	9.02%	11.08%	10.61%
JXB	12.89%	14.41%	14.00%	10.29%	9.66%	9.65%	10.30%	11.80%	12.82%
SJB	12.23%	12.12%	11.52%	11.07%	10.54%	9.86%	11.07%	10.54%	9.86%
LZB	13.87%	13.36%	13.01%	8.11%	8.05%	8.10%	10.01%	9.75%	9.72%
HRB	12.59%	12.54%	11.91%	10.18%	9.28%	8.64%	10.20%	11.33%	10.69%
BGS	13.39%	12.44%	12.29%	12.85%	11.95%	11.76%	12.85%	11.95%	11.76%
City commercial banks	13.23%	13.48%	13.24%	9.50%	9.49%	9.29%	10.72%	11.09%	10.84%
SRCB	14.40%	15.28%	15.46%	11.67%	13.06%	12.96%	11.70%	13.10%	12.99%
CQRCB	14.28%	14.77%	15.62%	11.96%	12.47%	13.10%	11.97%	12.98%	13.84%
DRCB	14.00%	16.29%	15.98%	11.54%	13.90%	13.70%	11.57%	13.94%	13.74%
GRCB	12.56%	13.09%	12.59%	9.20%	9.68%	9.21%	10.74%	11.06%	10.56%
CSRCB	13.53%	11.95%	13.87%	11.08%	10.21%	10.21%	11.13%	10.26%	10.27%
QRCB	12.32%	13.07%	13.18%	9.73%	9.62%	9.77%	10.46%	11.27%	11.41%
WXRCB	15.21%	14.35%	14.75%	9.03%	8.74%	10.97%	10.20%	10.13%	12.30%
ZJGRCB	13.75%	14.30%	13.13%	10.35%	9.82%	9.36%	10.35%	11.53%	10.86%
JTRCB	11.37%	11.63%	11.50%	9.05%	8.83%	8.91%	9.15%	8.96%	11.91%
JYRCB	14.48%	14.11%	13.90%	13.34%	12.96%	12.77%	13.36%	12.97%	12.78%
ZJRCB	16.81%	15.20%	14.35%	11.19%	10.65%	10.42%	11.19%	10.65%	10.42%
RRCB	18.25%	18.85%	15.58%	14.66%	15.41%	14.42%	14.67%	15.42%	14.43%
SZRCB	13.53%	12.99%	12.09%	11.38%	10.72%	10.17%	11.38%	10.72%	10.17%
Rural commercial banks	13.83%	14.29%	14.32%	10.94%	11.45%	11.50%	11.33%	12.05%	12.11%
All listed banks	15.24%	15.65%	15.80%	10.97%	11.03%	11.07%	12.47%	12.75%	12.77%

Source: Public annual reports and prospectuses of the listed banks.
*The data of ICBC, CCB, ABC, BOC and BOCOM are calculated using the advanced approach. CMB disclosed the results under both the advanced approach and the weighted approach, and the data used in this report are calculated using the weighted approach. The data of other listed banks are calculated using the weighted approach.

To improve the regulatory capital rules for commercial banks, urge banks to improve risk management and enhance the quality and efficiency of serving the real economy, the CBIRC, together with the PBOC, revised the existing Capital Rules for Commercial Banks (Provisional), considering domestic situations and the results of global regulatory reform, which was issued for public consultation in February 2023. The revised Capital Rules are scheduled to come into effect on 1 January 2024. This is the first overhaul to China's capital regulation on commercial banks in the past decade, which provides detailed regulations on CAR, eligible capital, book division, measurement of the three major risk-weighted assets, internal rating system, calculation of adjusted on- and off-balance sheet assets, internal capital adequacy assessment procedures, supervision and inspection of advanced approach, information disclosure, and validation of capital measurement methods. Considering the diversity of commercial banking in China, banks are divided to three tiers, with different measurement method applied to each tier.

Revised Capital Rules (Exposure Draft) imposed higher requirements for refined risk measurement and capital management of the listed banks

For example:

01

Clarifying the capital measurement criteria for banks' investment in asset management products. For asset management products, if details of the underlying assets are available, the look-through approach can be used against exposure to apply appropriate risk weight; if the conditions for applying look-through approach are not met, the mandate-based approach is applied, under which banks may use the information contained in a fund's mandate to categorize underlying assets to apply a weight; if neither of the above approaches is applicable, a risk weight of 1,250% shall be applied.

02

Refining rules for measurement of risk-weighted assets. The revised Capital Rules optimized the risk exposure classification criteria, added risk-driven factors, and set multi-layered weightings to detail and measure risk weights respectively applicable to risk exposures of commercial banks, other financial institutions, companies, real estate, individuals with currency mismatches, residential real estate loans issued to individuals, and default exposures.

03

Improving the risk management system and control mechanism. On the one hand, the revised Capital Rules set the permanent floor of 72.5% risk weighted assets to replace the original capital floor in the parallel period; limited the proportion of dividends according to the level of compliance of the bank's reserve capital; and improved the risk assessment requirements for credit risk, market risk and operational risks, and included country risk, IT risk and climate risk in the assessment of other risks. On the other hand, the revised Capital Rules improved the assessment criteria for interest rate risk in the banking book, liquidity risk and reputation risk; emphasized comprehensive risk management, included large exposures in the scope of concentration risk assessment, and required the use of stress test tools for risk management and provision for additional capital.

04

Building an information disclosure system with different requirements for various types of risk information. The revised Capital Rules required first-tier banks to disclose a full set of statements, provided 70 disclosure statement templates specifying the format, contents, frequency, method, and quality control requirements for disclosure, and increased the data granularity requirements for information disclosure to enhance the transparency of risk information and market discipline.

The amendment to Capital Rules is set to enable commercial banks to better serve the real economy. The sophisticated measurement methods require higher data quality and refined product management and present greater challenges to banks in improving data collection, cleaning, derivative, measurement and disclosure. To meet the capital measurement requirements on risk exposure, commercial banks may need to modify existing systems to include more information fields. The listed banks should implement the look-through management requirements in accordance with the Capital Rules, refine the measurement of risk-weighted assets, improve the risk management system and control mechanism, and establish an information disclosure system addressing each type of risk information. They should also advance the implementation of the Capital Rules steadily within the transition period defined by the regulators to improve risk resilience and asset structure and build a solid capital base for better serving the real economy.

06

Deepening digital transformation to empower value creation

In 2022, the listed banks began to shift their focus from speed to quality as they deepened digital transformation. Instead, quality and effects are more prioritized in all technology investment initiatives. Positive changes are clear - rising proportion of technology talent; more articulate top-level strategies; more agile organization; constantly reinforced technological foundation of big data and cloud computing; deeper integration of business, data and technology to empower operations both internally and externally; and the trend of scenario-based finance gradually leading banks' future transformation and development.

At the beginning of 2022, the PBOC issued the Financial Technology Development Plan (2022-2025). It aims at promoting China's financial technology from "pillar and beam" (tone for 2019-2021 Plan) to "accumulation of strength", and striving to make a great leap forward in the overall capacity and core competitiveness by 2025. In the same month, the CBIRC issued the Guidance on Digital Transformation of the Banking and Insurance Industry, which pointed out the direction and details of digital transformation for the banking industry. With policy guidance in place, the banking industry has gradually entered a phase of deepening digital transformation.

Investment in technology driven by quality and effects

In 2022, the listed banks' FinTech investment slowed down, transitioning from explosive growth to steady growth. Twenty-four listed banks disclosed their investment in FinTech/IT in annual reports, totaling RMB185.07 billion. Particularly, six large banks registered investment of RMB116.55 billion, accounting for 3.16% of their operating income, which was higher than the 2.92% proportion in 2021, but the investment growth declined to 8.42% from 12.34% in 2021.

Nine national joint-stock banks spend RMB61.06 billion on FinTech in 2022, with the proportion in operating income increasing from 3.57% in 2021 to 3.91%, while the growth rate decreasing from 14.06% in 2021 to 9.35% in 2022.

Investment in FinTech/IT of the listed banks (Unit: RMB100 million), year-on-year growth, and proportion in operating income									
Listed Banks	2020			2021			2022		
	Amount	Growth	Proportion in operating income	Amount	Growth	Proportion in operating income	Amount	Growth	Proportion in operating income
ICBC	238.19	45.47%	2.70%	259.87	9.10%	2.76%	262.24	0.91%	2.86%
CCB	221.09	25.38%	2.93%	235.76	6.64%	2.86%	232.90	-1.21%	2.83%
ABC	183.00	43.08%	2.78%	205.32	12.20%	2.85%	232.11	13.05%	3.20%
BOC	167.07	43.36%	2.95%	186.18	11.44%	3.07%	215.41	15.70%	3.49%
BOCOM	57.24	13.45%	2.85%	87.50	23.60%	4.03%	116.31	32.93%	5.26%
PSBC	90.27	10.35%	3.15%	100.30	11.11%	3.15%	106.52	6.20%	3.18%
CMB	119.12	27.25%	4.45%	132.91	11.58%	4.37%	141.68	6.60%	4.51%
IB	48.62	36.38%	2.39%	63.64	30.89%	2.88%	82.51	29.65%	3.71%
CITIC	69.26	24.43%	3.56%	75.37	8.82%	3.68%	87.49	16.08%	4.14%
SPDB	57.15	38.71%	2.91%	67.06	17.34%	3.51%	70.07	4.49%	3.71%
PAB	72.10	33.90%	4.70%	73.83	2.40%	4.36%	69.29	-6.15%	3.85%
CEB	51.50	51.29%	3.61%	57.86	12.35%	3.79%	61.27	5.89%	4.04%
CMBC	37.02	Undisclosed	2.10%	45.07	21.75%	2.83%	47.07	22.48%	3.57%
HX	29.20	9.94%	3.06%	33.19	13.66%	3.46%	38.63	16.39%	4.12%
CBHB	5.60	Undisclosed	1.72%	9.45	68.75%	3.24%	12.60	33.33%	4.76%
BOB*	22.00	22.22%	3.42%	23.20	45%	3.50%	24.52	5.69%	3.70%
BSH	15.49	8.09%	3.14%	18.53	19.63%	3.36%	21.32	15.06%	4.18%
BGY	Undisclosed	Undisclosed	Undisclosed	3.06	Undisclosed	2.04%	3.58	16.99%	2.29%
BCQ	2.63	Undisclosed	2.02%	3.36	27.76%	2.31%	3.84	14.29%	2.85%
WHCCB	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	2.92%	3.16	40.89%	3.81%
BGS	2.10	-30.30%	0.03%	2.11	0.48%	0.03%	2.60	23.19%	3.98%
SRCB	7.22	6.18%	3.28%	8.83	22.30%	3.65%	9.95	12.68%	3.88%
DRCB	Undisclosed	Undisclosed	Undisclosed	5.14	Undisclosed	3.96%	5.51	7.20%	4.16%
WXRCB	0.14	Undisclosed	0.35%	0.09	-35.71%	0.20%	0.11	27.86%	0.25%
Total	**1,496.01**			**1,697.63**			**1,850.69**		

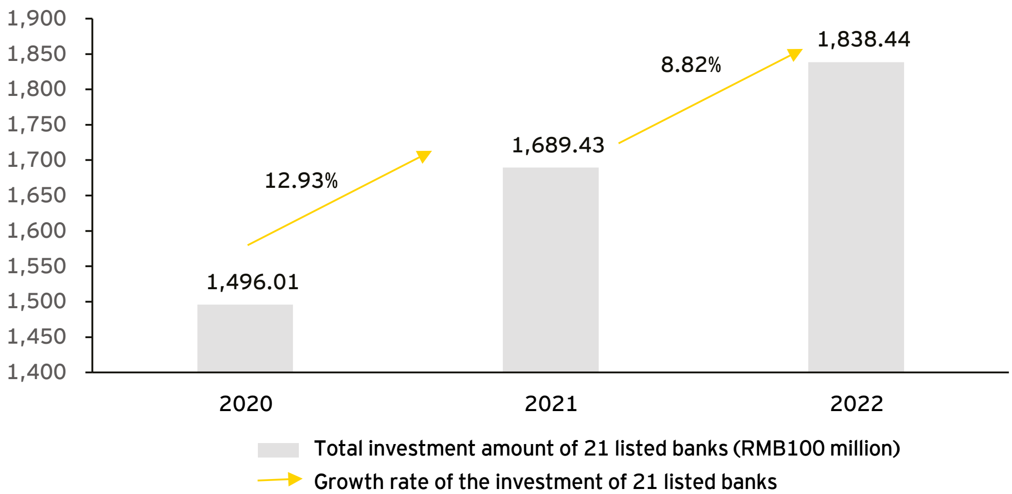
Source: The annual reports published by the listed banks.

BOCOM restated its FinTech investment in 2021 to include the rental fees for communication equipment and lines, and the 2020 data are from the 2020 annual report. PAB's 2020 investment amount is calculated based on the 2021 amount and year-over-year growth rate; BOB's 2021 and 2022 amounts are calculated based on the operating income amounts and the proportions of technology investment in 2021 and 2022. For banks that disclosed the amount of FinTech/IT investment but not the proportion in operating income, the proportion is calculated based on the operating income data disclosed for the year.

Nine city commercial banks and rural commercial banks recorded FinTech/IT investment of RMB7.46 billion in total, averaging over RMB0.83 billion for each bank, above the 2021 average of RMB0.73 billion.

This growing trend was even more clear when looking at the three-year performance from 2020 to 2022. Twenty-one listed banks disclosed their investment in FinTech/IT from 2020 to 2022, with the growth rate decreasing from 12.93% in 2021 to 8.82% in 2022.

FinTech/IT investment and growth rate of 21 listed banks in the past three years (2020-2022)



Source: Disclosures in the annual reports published for the years from 2020 to 2022 by some listed banks (the 21 listed banks that disclosed the amount of FinTech/IT investment in their annual reports for the three consecutive years). The 21 listed banks include six large banks, nine national joint-stock banks, four city commercial banks and two rural commercial banks.

The listed banks began to shift their focus from speed to quality around FinTech development, and some large banks and national joint-stock banks driving FinTech at a faster pace were optimizing costs of inputs and improving output efficiency. For example, PAB spent RMB6.93 billion on IT-related systems in 2022, decreasing by 6.15% from RMB7.38 billion in 2021, as it refined its IT management. Meanwhile, the bank reduced the cost-to-income ratio by 0.85 percentage points in 2022, as it used edge-cutting technologies such as AI, BI (business intelligence) and big data to deeply understand customer needs and provide one-stop financial services of "users + scenarios", and promoted precise decision-making, optimal resources allocation and efficient operations across front, middle and back offices, with the goal of "three pre-preparations (prevention, precaution and prediction), three early processes (early information capturing, early decision making and early actions), three improvements (improvement in effectiveness, efficiency and productivity), and three reductions (reduction in cost, risk and human resource)". CCB invested RMB23.29 billion in FinTech in 2022, decreasing by 1.21% year-on-year, but expenses on R&D and technology personnel continued to grow. While maintaining investments in FinTech development to consolidate legacy technologies, CMB further refined cost management, improving productivity through technological innovation, and strengthening monitoring and control of input and output.

Increasing talent in technology

Both the number and proportion of technology personnel in the listed banks continued to increase in 2022. Twenty-seven listed banks disclosed the number of FinTech/IT personnel in their annual reports, which totaled over 134,000. Particularly, six large banks had a total of 87,385 IT personnel, increasing by 6.64% from 2021, and accounting for 4.7% of the group's total headcount, up 0.27 percentage point from 2021. ICBC had more than 36,000 FinTech/IT personnel by the end of 2022, outnumbering all peers; and CCB, BOC, and CMB each had more than 10,000 FinTech/IT personnel by the end of 2022. Some banks' FinTech personnel increased by more than 20%, with IB reporting the fastest growth of 102.82%. IB recorded the highest proportion of FinTech personnel at 11.87%, followed by SPDB at 10.47%, LZB at 10.23%, BSH at 10.14%, and both CMB and CZB at 9.6%.

Number of FinTech/IT personnel, growth and proportion in bank/group's total headcount of the listed banks

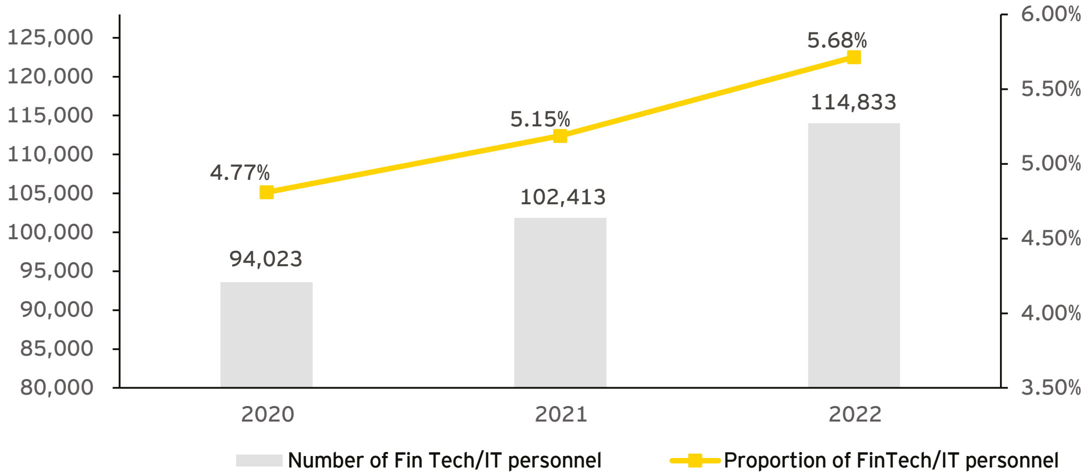
	2020			2021			2022		
	Number	Growth	Proportion	Number	Growth	Proportion	Number	Growth	Proportion
ICBC	35,400	1.72%	8.10%	35,000	-1.13%	8.10%	36,000	2.86%	8.30%
CCB	13,104	28.75%	3.51%	15,121	15.39%	4.03%	15,811	4.56%	4.20%
ABC	8,056	9.59%	1.80%	9,059	12.45%	2.00%	10,021	10.62%	2.20%
BOC	Undisclosed	Undisclosed	Undisclosed	12,873	Undisclosed	4.20%	13,318	3.46%	4.35%
BOCOM	3,976	14.91%	4.38%	4,539	14.16%	5.03%	5,862	29.15%	6.38%
PSBC	4,492	Undisclosed	2.31%	5,350	19.10%	2.76%	6,373	19.12%	3.27%
CMB	8,882	173.04%	9.77%	10,043	13.07%	9.69%	10,846	8.00%	9.60%
IB	2,331	22.04%	4.82%	3,303	41.70%	6.45%	6,699	102.82%	11.87%
CITIC	4,190	31.68%	7.60%	4,286	2.29%	7.73%	4,762	11.11%	8.40%
SPDB*	5,859	50.31%	9.92%	6,428	9.71%	10.64%	6,447	0.30%	10.47%
CEB	1,965	27.43%	4.24%	2,361	20.15%	5.11%	3,212	36.04%	6.75%
CMBC	2,625	Undisclosed	4.63%	3,062	16.65%	5.31%	4,053	32.36%	6.78%
CZB	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	1,615	10.90%	9.60%
CBHB	405	Undisclosed	Undisclosed	709	75.00%	7.32%	1,271	79.27%	9.57%
BOB*	Undisclosed	Undisclosed	Undisclosed	1,297	Undisclosed	7.52%	783	Undisclosed	4.74%
BONB	1,120	53.21%	4.79%	1,414	26.25%	6.17%	1,727	22.14%	7.11%
BSH	842	19.26%	6.51%	1,055	25.30%	9.05%	1,232	16.78%	10.14%
HSB	Undisclosed	Undisclosed	Undisclosed	404	Undisclosed	3.79%	517	27.97%	4.62%
BGY	Undisclosed	Undisclosed	Undisclosed	232	Undisclosed	3.99%	253	9.05%	4.30%
BCQ	133	Undisclosed	3.02%	141	6.02%	2.99%	151	7.09%	3.02%
ZYB	623	35.73%	Undisclosed	715	14.77%	Undisclosed	837	17.06%	Undisclosed
LZB	129	35.79%	10.38%	140	8.53%	10.20%	144	2.86%	10.23%
BGS	112	14.29%	2.69%	116	3.57%	2.68%	138	18.97%	3.13%
SRCB	374	43.85%	5.21%	484	29.41%	6.28%	715	47.73%	7.86%
CQRCB	367	Undisclosed	2.40%	440	19.89%	3.00%	522	18.64%	3.54%
DRCB	Undisclosed	Undisclosed	Undisclosed	664	Undisclosed	Undisclosed	714	7.53%	Undisclosed
WXRCB	66	Undisclosed	4.30%	71	7.58%	4.36%	118	66.20%	7.00%
Total	95,051			119,307			134,141		

Source: The annual reports published by the listed banks.

*BOB's 2022 figure is the number of the bank's official IT personnel, while the 2021 figure is the total number of BOB's technology personnel and BOB-FINTECH's IT personnel; SPDB's figure is the number of technology development personnel of its parent company. For banks that disclosed the number of FinTech/IT personnel but not the proportion in the group/bank's total headcount, the proportion is calculated based on the total number of the group/bank's employees disclosed for the year.

Nineteen listed banks disclosed the number and proportion of FinTech/IT personnel for three consecutive years from 2020 to 2022. For three years, the listed banks had steadily expanded their technology talent teams, with the personnel growth increasing from 8.92% in 2021 to 12.13% in 2022, and the proportion of FinTech personnel rising from 4.77% in 2020, to 5.15% in 2021 and to 5.68% in 2022.

Number and proportion of FinTech/IT personnel of 19 listed banks in 2020, 2021 and 2022



Source: Disclosures in the annual reports published for the years from 2020 to 2022 by some listed banks (the 19 listed banks that disclosed the number of FinTech/IT personnel in their annual reports for the three consecutive years).
The 19 listed banks include five large banks, six national joint-stock banks, five city commercial banks and three rural commercial banks. The proportion of the technology personnel is the number of technology personnel as a percentage of the group/bank's total number of employees.

As talent is the primary resource driving digital transformation, the listed banks were continuously uplifting digital expertise among staff to build professional talent pools adaptive to evolving financial developments. This included engaging business leaders with foresight, and high-caliber talent and innovators, training young talent, backbone talent and multi-skilled talent, enabling people to collectively grow and benefit from each other in value creation. All these efforts have laid a solid foundation for banks' innovative development.

For example, CCB launched the FinTech talent project as the most prioritized talent initiative, which focused on developing three types of professionals - "management personnel with technological expertise", "technology personnel with business expertise" and "IT personnel with industry knowledge". Valuing talent as the primary transformation driver, IB established the FinTech Research Institute and implemented the 10,000 FinTech Talent Plan to accelerate recruiting and training of high-end FinTech talent.

More targeted top-level strategies

As traditional operations confronted bottlenecks in 2022, digital transformation was set to be a new engine driving innovation and development of the listed banks. Rational strategies were viewed as the key to successful transformation by listed banks. Therefore, at the strategy level, they continued to strengthen strategic guidance and refined the top-level design based on their own advantages. As FinTech strategy became more articulate, the implementation path was more definite.

Some large banks and national joint-stock banks continued to grow bigger and stronger, and others accelerated digital transformation to catch up with peers. For example, ICBC made efforts in building of a "tech-empowered bank" and "D-ICBC". BOCOM facilitated the construction of the "New Digital BOCOM". CMB promoted the establishment of "Digital CMB" in terms of customer service, risk management, business management and in-house operations. Taking digital transformation as a battle of life and death, IB continued to increase investment, cultivate talent, create scenarios, build platforms and expand customer base, making every effort to ensure the realization of a digital IB.

City and rural commercial banks were more pragmatic in strategy choices. Based on their limited resources and regional characteristics, they pursued differentiated development and created a "finance+" comprehensive service platform serving the regional economy and rural revitalization. For example, BOB established the strategy of "digital BOB" and accelerated the construction of "five bank images", namely, technology bank, digital bank, digital currency bank, ecological bank and cultural bank. Rooting in serving the real economy, SRCB proposed to identify small businesses and individuals as its major customers, prioritize their needs, and provide them with more customized credit services, tapping into the "blue ocean" market beyond large banks' reach. CQRCB pressed ahead with the goal of building a "digital rural commercial bank". QLB defined its transformation path for the next three years and comprehensively promoted the construction of digital intelligence bank in accordance with the principle of "pursuing small wins, prioritizing urgent needs, instantly applying any new digital capacity, and fast iteration". SZRCB advocated pragmatic actions and set "cost saving, efficiency improvement and service optimization" as the central goal of digital transformation.

More agile organization

At the organizational level, many listed banks rolled out the transformation of agile organizational in 2022, to strengthen cooperation between head office and branches, integrate technologies in operations, and accelerate technological response to business needs by creating a united task-based organizational structure across functions, departments and service lines, so as to promote the synergy of a bank-wide digital transformation.

To ensure coordinated actions between head office and branches, large banks emphasized the guiding role of the head office in digital transformation across numerous branches at varying pace of implementation. For example, centering on regional coordinated development under the national strategy, ICBC established eight digital transformation pilot banks to promote comprehensive financial digital transformation, and to better meet the development needs of key regions. CCB optimized the working mechanism of IT business partner (ITBP), strengthened enterprise-level request coordination, improved R&D capacities of the head office and branches, and promoted better IT management capacity at subsidiaries and overseas institutions, so as to promote business collaboration at the group level. BOC further implemented the mechanism of "securing leading positions in markets" and improved a collaborative innovation mode between the head office and branches.

For integration of technologies in operations, many listed banks built a task-based organizational structure aligned with business segments, promoted the collaboration between technology functions and business lines, and accelerated technological response to business needs. For example, CCB set up IT supporting functions serving business segments, such as corporate finance, personal finance, and treasury and asset management business, to enhance overall planning across segments. PSBC initiated a pilot for its transaction banking business and selected technical personnel from six branches including Beijing Branch serving as pre-sales engineers in the transaction banking departments of tier-1 branches, where both technical and business personnel participated in marketing and project implementation, effectively supporting the business innovation, transformation and development of the branches. PAB established agile operation mechanisms at different levels, such as enterprise level, product level and project level, to promote organizational agility from business end to technology end and improve delivery efficiency. IB established a cooperative working mechanism of "BA (Business Analyst) + SA (System Analyst) + DA (Data Analyst) + UE (User Experience)" to effectively promote the integration and innovation of business, technology, data and customer service.

Consolidating technological capacity

Buzzwords such as cloud computing, distribution, data, middle office and AI were frequently seen in the 2022 annual reports of listed banks. The listed banks continued to accelerate the construction of technological capability, consolidate the digital base, and deepen the application of data, thus reshaping the in-house strengths in customer strategy, channel, business, product and management while exporting service capabilities to stakeholders outside the banks.

Cloud deployment accelerated as a major trend in 2022. The listed banks migrated business systems to cloud platforms to enable more efficient data processing and more agile business development. The cloud platforms boasting higher stability and scalability can provide strong technical support for the in-depth development of digital transformation of the listed banks. While meeting their own needs, some listed banks also capitalized on their cloud capabilities to provide services externally to seize more business opportunities. For example, CCB made heavy investments on "cloud computing" and kept upgrading for five straight years; the standard computing supply capabilities of CCB Cloud was 68 times the level five years ago and effectively supported the growth of distributed core banking system, "CCB Lifestyle", housing rental and smart government affairs services; and the "cloud computing" capacity was exported in an effort to build the group into the most tech-savvy financial group. CMB completed the three-year cloud migration project, and initially constructed a new FinTech infrastructure consisting of "one cloud and two middle offices (data office and technology office)", promoted digital reshaping of customer strategy, channel, business, product and management. PAB fully rolled out the Cloud Native transformation, upgraded and modified the IT systems and engineering systems, constructed a safe and stable digital infrastructure to ensure system stability and business continuity, and further strengthened its technology, data, agility, talent and innovation capabilities. CMBC released the open bank brand of "Minsheng Cloud" to deliver integrated and comprehensive services and facilitate digital transformation of MSMEs.

For a long time, the listed banks had been grappling with incompatible protocols and non-standard data in digital transformation. In 2022, the listed banks put more efforts in data capability enhancement. By building a middle office and improving data governance, they tapped the value of data and enabled a better role of data in driving business transformation. For example, the OASIS project of BOC was iteratively pushed forward, with middle office system functioning well, and with customer marketing, product innovation and business management receiving more diversified digital support in terms of process, data and mechanisms. In 2022, PAB established a new data asset management and R&D center to coordinate bank-wide data capacity building. For data governance, PAB unified the statistics, specifications and standards of data assets and improved the quality of basic data. CITIC set up a big data center, a tier-one department that would be built into a bank-wide digital capability center, and engineered a new organizational structure of "one department and three centers" in information technology. BOB built a unified database featuring standard data, unified data supply, unified service and sharing, to enable highly efficient intra-bank data flows, and upgrade the bank's digital management capability to a new horizon.

The recent emergence of ChatGPT became a hot topic in the financial industry. The listed banks then faced a fresh new question of how to use emerging technologies, such as AI, to innovate financial products, upgrade and optimize management capabilities, and drive high-quality development in intelligent transformation. In 2022, the large banks made some progress and breakthroughs in the development and application of AI, and key words such as "artificial intelligence" or "AI", "intelligence", "intelligent customer service", "intelligent risk control" and "intelligent platform" were frequently mentioned in their annual reports. ICBC took full advantage of AI and big data capacity, upgraded the "Intelligent Brain" of marketing throughout the front, middle and back offices, and established the differentiated smart marketing system and the special version of mobile smart marketing. CCB researched and developed an AI platform independently, achieving agile self-training and updates via online data reflows; it continued to promote the upgrade and expansion of the intelligent risk control system and optimized construction of the enterprise-level risk management platform. ABC started the construction of a new generation of AI platform, implemented an enterprise-level privacy computing platform, and performed in-depth analysis of the trend of AI big model, to promote the construction of smart mobile banking, and improve the accuracy and personalized features of intelligent voice assistant, intelligent customer service, intelligent search and other services. BOCOM deepened the application of AI technologies, optimized interception rules for telecommunication fraud accounts to improve the accuracy of risk alerts, and automated business operations to reduce manual intervention and improve the quality and efficiency of business processing.

Other listed banks also followed suit to accelerate integration of AI in various business scenarios. For example, CMB strengthened the AI-powered intelligent customer service capability and closed-loop service level of "Xiao Zhao" of CMB APP and the intelligent customer service of CMB Life App, accelerated the iterative upgrading of smart services such as "AI Xiao Zhao", and improved the service model of "people + digitalization". PAB deeply implemented the new model of retail transformation, under which the "open bank, AI bank, remote bank, offline bank and comprehensive bank" are interconnected and organically integrated to build the "Smart Bank 3.0". However, the application of AI had some limitations in practice due to huge R&D costs, data security and privacy issues. In April 2023, the Cyberspace Administration of China issued the Administrative Measures for Generative Artificial Intelligence Services (Exposure Draft) to strengthen network security, data security, personal information protection and management in generative AI services, which may facilitate the maturity and standardization of the AI industry. The listed banks should also strengthen technological innovation and standardize systems to strive for stable growth.

Bright prospect for scenario-based ecosystem

Aligning with the trend of accelerating integration of finance and technology, the listed banks have extended cooperation to a wider wider ecosystem in a more open and inclusive manner. This includes building platforms internally, externalizing scenarios, and developing scenario-based ecosystems to expand the breadth and depth of financial services for the real economy and the people's livelihood.

Many listed banks disclosed their scenario-based ecosystem construction in their annual reports. For example, with a focus on 22 key scenarios including rural revitalization, basic living consumption and medical insurance services, ICBC enhanced its ability to target customers and deliver services through a GBC integration (government, business and consumers). Focusing on San Nong, ABC rolled out some agricultural scenario-based products, such as smart loans to animal husbandry, Huinong E-loan and Fumin Loan, thus steadily enhancing the breadth and depth of financial services. BOC focused on cross-border facilitation, education, sports, silver-haired economy and other scenarios related to people's livelihood. BOCOM made noticeable achievement in subdivided scenarios such as medical care, schools, parks and central corporate treasury. CEB introduced product series including Sunshine Receivables Express (Guang Xin Tong), Sunshine Logistics Express (Wu Liu Tong), Sunshine Housing Express (An Ju Tong) and Sunshine E-financing Chain, empowering new forms of business with FinTech. CMBC innovated the business model of eco-bank by focusing on the four major scenarios of "supply chain ecosystems of enterprises, personal life journey, institutional platform ecosystems, and fund transactions of financial institutions". CQRCB built an integrated ecosystem of finance and life based on the scenarios of "food, lodging and transportation; sightseeing, shopping and entertainment; medicine, education and nursing", bound with merchants with the "merchant code + system" merchant-serving products, and conducted in-depth cooperation with farmers through agricultural industry chain services, to drive the construction of ecosystem and scenario-based marketing.

We can see that in the past year, the listed banks remained an open mindset in all aspects, such as customer management, product innovation and internal operation. Based on their own resource advantages and business strategies, the listed banks deepened cooperation with external institutions in building or integrating various scenarios, to empower each other and jointly make innovations, thus providing customers with more comprehensive, more personalized products and services, and improving the efficiency of serving the real economy. Scenario-based finance had showed a bright prospect for the transformation and development of the listed banks in today's digital economy. However, the banks' journey to scenario-based finance can be bumpy, as they may see challenges and risks in network security, data privacy, compliance, outsourcing concentration and supply chain.

The listed banks should position themselves based on their own characteristics and technical capabilities, adopt appropriate strategies to differentiate, specialize and localize, and focus on a deep dive into featured scenarios. They should also follow the national strategies to actively promote the financial ecology supported by policies, so as to outperform rivals by upgrading their self-built ecologies, integrating into the customer ecology and industry ecology. Meanwhile, the listed banks should comprehensively strengthen their security management over business partners around network, data, operation and information, by developing network security criteria for engaging partners and strengthening monitoring of partners' operations to avoid public opinion risks; keep track of traffic, capital and behavior of operations to identify potential security risks in time; and extend service sphere and improve customer services while actively managing risks.

07

Outlook

In 2023, the listed banks are set to navigate through a complex and volatile global landscape compounding challenges and opportunities in a more resilient domestic environment. Despite ongoing pressures on operations and performance, the listed banks should continually take root in serving the real economy, maintain strategic commitment to driving transformation and development and serving the vision for building a better society, with an aim to realize sustainable, high-quality development.

In the first quarter of 2023, China effectively responded to economic shocks and achieved stable growth, reporting a higher-than-expected GDP growth of 4.5% year-on-year, 2.2% percentage points higher than the fourth quarter of the previous year. Nevertheless, it faces a challenging road ahead for the whole year. The meeting of the Political Bureau of the CPC Central Committee held in April pointed out that China's economic improvement simply showed that the economy had barely recovered from severe shocks, but by no means a robust and sustained growth owing to weak demand, and the emerging headwinds added to economic transformation required the country to overcome various challenges ahead on the path of high-quality development.

In 2023, the listed banks are faced with a more complex environment in which opportunities and challenges emerge concurrently. Uncertainties about the global political and economic environment remain increasing, and there is less optimism about outlooks for geopolitical trends, economic growth, and financial market performance. As the pandemic disruptions fade away, the Chinese government has rolled out parallel measures to prop up economic recovery, structural adjustment and value optimization, to address uncertainties about economic growth. In the long run, the listed banks need to adhere to the principle of long-term sustainability, continually identify themselves with the real economy, maintain strategic commitment to driving transformation and development, serve the vision for building a better society, and focus on value creation, in a bid to achieve sustainable, high-quality development.

Embracing the new era and promoting sustained diversified operations

Although uncertainties about economic growth have not dissipated amid post-pandemic economic recovery and improvements, opportunities for growth are clear in sustainable finance, consumer finance and wealth management, among other defined areas. The listed banks should actively align themselves with the development trend, adapt to policy changes, keep up with customer demands, diversify and build resilient and sustainable business capabilities.

01

Sustainable finance is entering a new era. Under the guidance of policies, sustainable and innovative industries are developing through more diverse financing channels delivering green bonds, sustainability bonds and social bonds, among other emerging sustainable finance products. To align themselves with this trend, the listed banks need to conduct in-depth studies on sustainable industries, improve professional capability in product development and services, and build a one-stop sustainable financial services platform.

02

Consumer finance is ushering in a new chapter for financial services. Catalyzed by increasingly popular online consumptions, growing domestic new brands and the booming silver economy, many listed banks have started to set up consumer finance licenses or to vigorously develop existing consumer finance operations. As regulation mandates lower interest rates and customers migrate towards solid service providers, the listed banks are more capable of expanding market share and build a superior high-value financial ecosystem, relying on the pulling power of their prime customer base and lower cost of capital. Beyond innovation in business, products, channels and technology capabilities, the high-value financial ecosystem also indicates a fundamental change in commercial logic of consumer finance. The listed banks can leverage new technologies, such as AI, to upgrade business models and build the core competitiveness across the digital ecosystem.

03

Domestic demand for wealth management is rising. The successful pilot scheme of private pension plan in 2022 has added new wealth management customers for some listed banks, for which enhanced investment advisory services will be the key to seize the opportunity. Going forward, the listed banks as major service providers will continuously explore the inherent value of the wealth management industry. In practice, many of them have set up wealth management subsidiaries, and more banks will recognize the importance of diversification in the future. The listed banks should take active actions, focusing on enhancing the service capability for young customers and identifying the path to attracting and onboarding potential wealth customers through multiple efforts.

Combined factors weighing on operations and manageme

Leaving opportunities aside, the listed banks also face pressures from increasingly stringent regulation and complex and volatile business environment, as well as subdued revenue growth and difficulties in transformation.

01 Tightening regulatory compliance requirements

Financial regulation has entered a new stage of coordinated financial risk governance featuring comprehensive and penetrating supervision and focusing on multi-areas. According to the State Council institutional reform plan adopted at this year's two sessions, the National Administration of Financial Regulation (NAFR – officially unveiled on May 18, 2023) was to be established on the basis of existing organizations of CBIRC, and even to take over the supervisory responsibilities of the central bank for financial groups (such as financial holding companies) and consumer protection responsibilities, as well as CSRC's investor protection responsibilities, in a bid to strengthen financial regulatory functions. In addition, the regulations such as the new "Measures for Risk Classification of Financial Assets of Commercial Banks" and updated "Capital Rules for Commercial Banks (Exposure Draft)" are designed to enhance the banking industry's ability to forecast and control risks, regulate business operations, protect consumer rights and interests, and strengthen anti-money laundering (AML) and counter-terrorism financing (CTF). In view of thriving financial technology innovation, the regulatory requirements also focus on strengthening digital risk control capability, data management capability and information security prevention across the banking industry.

02 Persistent pressure on NIM

As the domestic economic recovery remains fragile, policies are still encouraging banks to increase credit supply, and the loan prime rates (LPR) have experienced several cuts. Meanwhile, corporate and consumer demands for bank deposits have increased substantially, but banks' overall cost of deposit liabilities has tended to rise for lack of appropriate ability to refine deposit pricing. Under the implications of the dual factors, the net interest margin (NIM) of the banking industry comes under constant pressure and exhibits a narrowing trend.

03 Challenges in cost reduction and income growth

Against the backdrop of the regulatory call for the banking industry to return to the fundamental purpose, banks are facing difficulties in growing interest income due to tapering corporate demand for investment and expanding production, weakening residential intentions for consumption by borrowing, and difficulty in finding high-quality assets. In terms of non-interest income, wealth management fee income and investment return from own funds have also contracted due to the implications of volatile stock and bond markets. In terms of operating costs, banks are faced with combined pressures of rising labor costs and significantly increasing customer acquisition costs.

04 Significant challenges lying ahead for regional banks

Urban and rural commercial banks are facing capital replenishment pressures due to lower capital adequacy ratios than those of large banks and joint-stock banks. In terms of asset quality, higher industry concentration and customer concentration of some small- and medium-sized banks are likely to expose them to operational risks in an uncertain environment. When it comes to operational efficiency, some small- and medium-sized banks would encounter difficulties in slashing costs and improving efficiency through technological empowerment as they have not boarded the express train of digital transformation.

05 Collapse of banks sounding the alarm

Failures and collapse of some banks in the U.S. and Europe have been a wake-up call for the Chinese banks, prompting regulators, markets, and consumers to pay more attention to the quality of banks' liabilities and their liquidity management capabilities. Banks with inadequate liability management capabilities, weaker risk response and control, and lack of risk warning mechanisms need to learn from these cautionary lessons, enhance risk and liquidity management capabilities, improve the enterprise risk management (ERM) mechanism, apply digital risk management warning systems, and strengthen risk management functions.

Building up essential strengths to yield fruits

Having worked through severe "stress tests", the banking industry is set to engage itself with a new chapter of economic recovery under the guidance of accelerating the construction of a new development pattern and focusing on high-quality development. Despite pressures and challenges emerging from regulation, international relations, economic models and changes in consumer habits, the industry can also rise to development opportunities, cultivate the soil, and wait for the flowers to bloom.

Embracing the real economy

As the core enablers injecting impetus to the real economy, the listed banks should thoroughly understand the policy of "expanding domestic demand" as a strategic move and support the implementation of "deeply restructuring the national economic circulation". Actions can be taken from three aspects. Firstly, the listed banks should firmly adhere to the “customer-centered" principle, strengthen customer profiling capabilities, optimize the product mix, and build up comprehensive financial service strengths. Secondly, they need to deepen digital service capabilities and optimize operational procedures to improve customer experience and loyalty. Thirdly, they should consolidate industry-focused financial services, and enhance capabilities on asset allocation, product innovation, post-lending risk control, and investment and financing service capabilities under the integrated industry-financing-investment model.

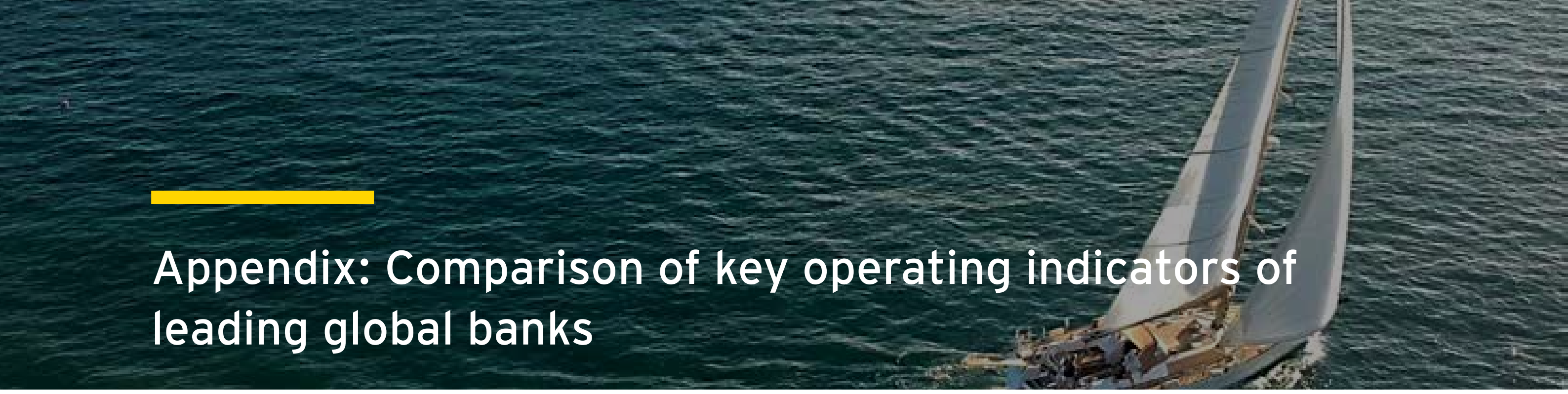
Maintaining strategic determination

The listed banks need to ensure stable fundamentals amid changes and build up essential strengths in steady steps; achieve outcomes of "having a clear view of the overall situation, ensuring effective execution and solid leadership and organizational control"; stably execute strategies; continuously make improvements in areas such as customer experience, revenue growth, cost reduction, risk control, data security, and sustainable development; and install a refined strategic risk monitoring system to ensure optimal implementation of strategic initiatives.

Building a better society

The listed banks will need to thoroughly understand people's needs and expectations for a better life, build a high-quality win-win cooperation ecosystem, and promote the expansion of both growth and coverage of financial and non-financial services in integrated inclusive finance scenarios; focus on the needs and expectations of the bank's key customers, and at the same time consider the needs of young customers and the silver-haired group, and unleash the respective value together with partners and customers; actively participate in social welfare projects to enhance brand image, and work with related government functions to design and deliver targeted services and promote the bank-community linkage.

Looking ahead to 2023, China's economic development will rebound and improve, providing the listed banks with more opportunities, albeit with uncertainties and challenges. They should adhere to the long-term horizon, and continuously take root in serving the real economy, maintain strategic determination and drive transformation and development to serve the vision for building a better society and realize long-term sustainability. While creating the long-term value for shareholders, customers and society, the listed banks should be committed to facilitating the high-quality development of China’s economy and injecting certainties and opportunities into the volatile global landscape.



Appendix: Comparison of key operating indicators of leading global banks

Downside risks has dominated the economic outlook for major economies amid elevated geographic tensions, prompting rapid liquidity tightening in those markets. Against this backdrop, China's listed banks adopted proactive and forward-looking approaches to risk management and continued to improve asset quality, seeing reduction in provision for impairment losses. In contrast, the leading global banks hit by economic shocks had to increase such provisions instead of cuts in the prior year and experienced either a negative growth in net profit or a decline in growth rate of profit.

In recent years, the Chinese banking industry has seen stable proportion of loans in total assets, rising net interest income, and increases in aggregate deposit balance and deposits as a percentage of total liabilities. For leading global banks, the proportion of loans in total assets, net interest income and its proportion in total operating income have risen in varying degrees, while the deposit balance and deposits as a percentage of total liabilities has declined.

The global banking sectors are faced with a series of common challenges posed by tightening global economic cycle, and regional economic performance, severe geopolitical tensions, and elevated trade frictions, among other impacts. To address these challenges, banks will need to properly define their top-level strategies and priorities and improve capabilities in risk management and crisis response.

We selected 10 leading European and American banks and analyzed the key financial indicators comparatively based on the three-year annual report disclosures of these banks.

Profitability

	ROA			ROE			Net profit growth		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Bank of America	0.67%	1.05%	0.88%	6.76%	12.23%	10.75%	-34.76%	78.71%	-13.92%
Citibank	0.50%	0.94%	0.62%	5.70%	11.50%	7.70%	-43.05%	98.66%	-32.20%
JP Morgan	0.91%	1.30%	0.98%	12.00%	19.00%	14.00%	-20.04%	65.92%	-22.05%
Wells Fargo	0.17%	1.11%	0.70%	1.10%	12.00%	7.50%	-81.88%	534.57%	-44.56%
HSBC	0.20%	0.50%	0.60%	2.30%	7.10%	8.70%	-29.96%	140.91%	13.46%
Barclays	0.20%	0.52%	0.41%	3.20%	13.10%	10.40%	-26.62%	186.71%	-15.35%
Standard Chartered	0.10%	0.30%	0.40%	0.80%	4.20%	6.00%	-67.91%	207.99%	25.46%
Deutsche Bank	0.04%	0.18%	0.39%	0.20%	3.40%	8.40%	111.85%	302.24%	125.46%
Santander	-0.50%	0.62%	0.63%	-9.80%	9.66%	10.67%	-194.97%	225.23%	5.70%
BNP	0.32%	0.39%	0.38%	7.60%	10.00%	10.20%	-13.61%	33.24%	7.46%

	Net interest income growth			Net interest income/Total operating income			Cost-to-income ratio		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Bank of America	-11.31%	-0.98%	22.19%	50.70%	48.18%	55.25%	64.56%	67.03%	64.71%
Citibank	-7.02%	-5.04%	14.53%	59.27%	59.11%	64.60%	58.77%	67.04%	68.08%
JP Morgan	-4.69%	-4.13%	27.53%	45.49%	43.00%	51.84%	55.57%	58.65%	59.16%
Wells Fargo	-15.53%	-10.45%	25.63%	53.80%	45.58%	60.92%	77.60%	68.58%	77.63%
HSBC	-9.47%	-3.95%	23.11%	54.69%	53.46%	63.04%	68.28%	69.87%	64.43%
Barclays	-13.66%	-0.60%	30.96%	37.32%	36.80%	42.36%	63.80%	66.81%	67.04%
Standard Chartered	-10.63%	-0.79%	11.69%	46.44%	46.24%	46.53%	70.35%	74.31%	66.88%
Deutsche Bank	-16.17%	-3.22%	22.37%	47.97%	43.90%	50.16%	88.30%	84.63%	74.93%
Santander	-9.32%	4.30%	15.73%	72.26%	71.91%	74.10%	47.72%	46.15%	45.80%
BNP	-8.71%	-0.25%	9.24%	46.16%	43.96%	45.95%	68.20%	67.30%	66.80%

	Profit before Tax			Credit impairment loss			Total profit before provision		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Bank of America*	18,995	33,976	30,969	11,320	-4,594	2,543	30,315	29,382	33,512
Citibank*	13,632	27,469	18,807	17,495	-3,778	5,239	31,127	23,691	24,046
JP Morgan*	35,815	59,562	46,166	17,480	-9,256	6,389	53,295	50,306	52,555
Wells Fargo*	2,505	28,816	14,969	14,129	-4,155	1,534	16,634	24,661	16,503
HSBC*	8,777	18,906	17,528	8,817	-928	3,592	17,594	17,978	21,120
Barclays**	3,065	8,194	7,012	4,838	-653	1,220	7,903	7,761	8,232
Standard Chartered*	1,613	3,347	4,286	2,325	254	836	3,938	3,601	5,122
Deutsche Bank***	1,021	3,390	5,594	1,792	515	1,226	2,813	3,905	6,820
Santander***	-2,076	14,547	15,250	12,382	7,407	10,863	10,306	21,954	26,113
BNP***	9,716	13,637	14,450	5,395	2,971	3,004	15,111	16,435	17,454

*Presented in USD million.
**Presented in GBP million.
***Presented in EUR million.

Assets and liabilities

	Asset growth			Loan growth			Loans as % of assets		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Bank of America	15.84%	12.41%	-3.74%	-5.65%	5.52%	6.80%	32.91%	30.89%	34.27%
Citibank	15.83%	1.39%	5.47%	-3.37%	-1.20%	-1.70%	29.91%	29.14%	26.49%
JP Morgan	25.95%	10.60%	-2.08%	1.53%	6.40%	5.14%	29.92%	28.79%	30.44%
Wells Fargo	1.32%	-0.25%	-3.44%	-7.76%	0.87%	6.79%	45.45%	45.96%	50.13%
HSBC	9.91%	-0.88%	0.29%	1.74%	0.55%	-8.69%	38.01%	38.55%	35.10%
Barclays	18.35%	2.58%	9.35%	1.60%	4.62%	10.12%	26.01%	26.53%	26.71%
Standard Chartered	9.53%	4.91%	-0.95%	1.47%	4.77%	2.04%	42.16%	42.10%	43.38%
Deutsche Bank	2.13%	-0.10%	0.97%	-1.52%	9.72%	2.27%	33.72%	37.04%	37.52%
Santander	-0.95%	5.81%	8.70%	-2.56%	5.94%	6.51%	62.31%	62.39%	59.72%
BNP	14.96%	5.87%	1.20%	0.15%	0.67%	6.45%	34.16%	31.72%	33.36%

	Liability growth			Deposit growth			Deposits as % of liabilities		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Bank of America	17.40%	13.85%	-4.18%	25.14%	14.98%	-6.50%	70.50%	71.20%	69.48%
Citibank	17.22%	1.40%	6.04%	19.62%	2.85%	3.70%	62.17%	63.06%	61.67%
JP Morgan	28.00%	11.08%	-2.20%	37.24%	14.83%	-4.96%	69.05%	71.38%	69.37%
Wells Fargo	1.59%	-0.52%	-3.35%	6.18%	5.56%	-6.64%	79.47%	84.33%	81.45%
HSBC	10.18%	-1.01%	0.70%	15.13%	5.04%	-9.64%	62.06%	65.85%	59.09%
Barclays	19.36%	2.46%	9.91%	15.69%	7.98%	5.07%	37.50%	39.52%	37.79%
Standard Chartered	10.24%	4.99%	-0.68%	8.38%	8.02%	-2.80%	59.51%	61.22%	63.70%
Deutsche Bank	2.23%	-0.56%	0.68%	-0.73%	6.29%	2.93%	44.97%	48.07%	49.15%
Santander	0.35%	5.78%	9.23%	3.03%	8.13%	11.66%	59.94%	61.27%	62.64%
BNP	15.50%	5.94%	1.11%	12.74%	1.77%	5.30%	39.69%	38.13%	39.69%

Capital adequacy level

	Core tier-1 CAR			Tier-1 CAR			CAR		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Bank of America	11.90%	10.60%	11.20%	13.50%	12.10%	13.00%	16.10%	14.10%	14.90%
Citibank	11.51%	12.25%	13.03%	13.06%	13.91%	14.80%	15.33%	16.04%	15.46%
JP Morgan	13.10%	13.10%	13.20%	15.00%	15.00%	14.90%	17.30%	16.80%	16.80%
Wells Fargo	11.59%	11.35%	10.60%	13.25%	12.89%	12.11%	16.47%	15.84%	14.82%
HSBC	15.90%	15.80%	14.20%	18.50%	18.50%	16.60%	20.20%	20.00%	18.70%
Barclays	15.10%	15.10%	13.90%	19.00%	19.10%	17.90%	22.10%	22.20%	20.80%
Standard Chartered	14.40%	14.10%	14.00%	16.50%	16.60%	16.60%	21.20%	21.30%	21.70%
Deutsche Bank	13.60%	13.20%	13.40%	15.70%	15.70%	15.70%	17.80%	17.80%	18.40%
Santander	12.34%	12.51%	12.18%	13.95%	14.24%	13.63%	16.18%	16.81%	15.99%
BNP	12.80%	12.90%	12.30%	14.20%	14.05%	13.89%	16.40%	16.40%	16.20%

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