Listed banks in China: 2020 review and outlook

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Introduction

This is the 14th EY annual report on China's listed banks. The purpose of this annual 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 54 listed banks as at 30 April 2021, including 15 A+H-share listed banks, 23 A-share listed banks and 16 H-share listed banks, with total assets and net profit accounting for 82% and 91% of all commercial banks in China, respectively.

The report covers **54** listed banks including:

6 large commercial 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 commercial 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)

28 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 Jinzhou (BJZ, 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)

10 rural commercial banks

- Chongqing Rural Commercial Bank (CQRCB, A+H)
- Guangzhou Rural Commercial Bank (GZRCB, 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 (QDRCB, A)

Contents

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 Standardsdata of other banks are collected from their financial statements prepared under the Chinese Accounting Standards for BusinessEnterprises.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 2018 and 2019 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.

Executive summary

Last year when we looked into the 2019 financial performance of the Chinese listed banks and forecasted trends for the next decade, we summarized the course in three words: volatility, uncertainty and resilience. In 2020, facing the operational stress, volatility and uncertainties, the Chinese listed banks demonstrated resilience and withstood the adverse impact of COVID-19 pandemic. In the long run, whether the Chinese listed banks can maintain the resilience and achieve long-term sustainable development will rest with their motivation for transformation and strategic commitment.

1 Stress.

In 2020, the pandemic brought significant shocks to China' economic activities. The GDP growth in the first quarter of 2020 plunged to -6.80%, and then gradually improved to reach 3.20%, 4.90% and 6.50% in the second, third and fourth quarters, respectively. Thanks to this gradual recovery, the annual GDP growth ended up with a rate of 2.30%. In addition, international commodity markets and financial markets experienced unprecedented volatility amidst prolonged China-US trade frictions, rising geopolitical tensions and accelerated spread of the pandemic in the rest parts of the world. Operating in such an unprecedentedly complex environment, the Chinese listed banks have undergone a severe stress test.

The unfavorable macroeconomic environment placed the listed banks under greater pressure of maintaining expected profitability and holding asset quality healthily stable. Against this backdrop, China's listed banks collectively realized a net profit of RMB1,761.60 billion in 2020, slightly increasing by 0.10% from 2019, a decrease of 7.29 percentage points as compared with the 7.39% growth rate for 2019. The weighted average return on equity ("ROE") and the average return on assets ("ROA") stood at 11.19% and 0.86%, respectively, down 1.28 percentage points and 0.07 percentage point from 2019. The non-performing loans ("NPLs") totaled RMB1,827.10 billion, an increase of RMB241.10 billion from prior year-end. The weighted average NPL ratio rose to 1.50% from 1.47% at the end of 2019.

Seeing it from a positive perspective, the Chinese listed banks successfully passed this stress test and withstood the shocks, realizing a positive growth in net profit. Notwithstanding the impact of the pandemic compounded with the move to support pandemic prevention and containment and to surrender parts of their profits to the real economy, the listed banks collectively recorded RMB5,565.20 billion in operating income, growing by 4.93% from 2019, and the average capital adequacy ratio ("CAR") remained stable, increasing by 0.17 percentage point from the end of 2019 to 15.25%.

2 Motivation.

In the wake of the pandemic, the listed banks have become more aware of the necessity of advancing transformation through their development journey and actively adjusted operating models, achieving some satisfactory results.

Accelerating digital transformation. The Chinese listed banks' success in navigating the operational disruption caused by the pandemic in 2020 is partly because they have continuously driven digital transformation and made a steady progress over recent years. To meet increased demands for "contactless banking" services during the pandemic, the listed banks ramped up investment in FinTech and talents and set up FinTech subsidiaries to accelerate the deployment. Based on the data of 22 listed banks that disclosed their investment in FinTech and IT in the 2020 annual reports, the total investment was RMB144.60 billion. Particularly, large commercial banks and national joint-stock commercial banks collectively registered a growth of 37.88%, with the investment individually made averaging nearly RMB10 billion. Specifically, large commercial banks began to offer FinTech solutions and risk control tools to facilitate the development of small- and medium-sized banks while further enabling their own businesses with FinTech across the board; whereas small- and medium-sized banks moved to sharpen their own differentiators and cultivate the comparative edge in FinTech, and deployed innovative approaches to optimizing businesses, products, services, processes, management and risk control, in an effort to improve customer experience and achieve win-win results in strengthening both customer and bank values.

Advancing retail transformation. In recent years, the retail banking of the listed banks, as a new driver fueling the profit growth, has made increasing contribution to profits. Less affected by the pandemic, retail banking delivered more impressive results in 2020. The operating income from retail banking accounted for 42.33% of total operating income of the listed banks, up 2.86 percentage points from 2019, outperforming corporate banking for the first time. Profit before tax of retail banking

represented 45.61% of total profit before tax, up 6.56 percentage points from 2019, higher than the contribution of both corporate banking (35.32%) and financial market business (16.86%). The advantage of retail banking over corporate banking increased from 2.46 percentage points in 2019 to 10.29 percentage points.

Exhibiting rapid growth in green and inclusive finance. In 2020, China's listed banks actively responded to national strategies and continuously promoted the development of green finance and inclusive financial services. Particularly, large commercial banks increased their green credit loans and inclusive finance loans by 25.38% and 48.38%, respectively. For the listed banks, increasingly embracing green and inclusive finance is a necessary choice to carry out transformation and sustainable development. On the one hand, to enjoy policy dividends and seize tremendous market opportunities, the listed banks must align their own initiatives with the national strategies such as meeting the goal of "peaking carbon dioxide emissions", "achieving carbon neutrality" and "rural vitalization". On the other hand, only if the listed banks actively perform social responsibilities and demonstrate customer-centered commitment, can they enhance customer loyalty, increase the coverage and availability of financial services, and improve the service quality and efficiency.

3 Commitment.

The year 2021 ushers in the significant course of implementing the 14th Five-Year Plan, marking the start of China's new journey towards "building a modern socialist country in all respects". The listed banks will build on the favorable conditions available in the new stage of development, maintain strategic commitment, work out long-term plans, and accelerate the establishment of new development patterns to navigate the complex domestic and international environment and achieve long-term sustainable development.

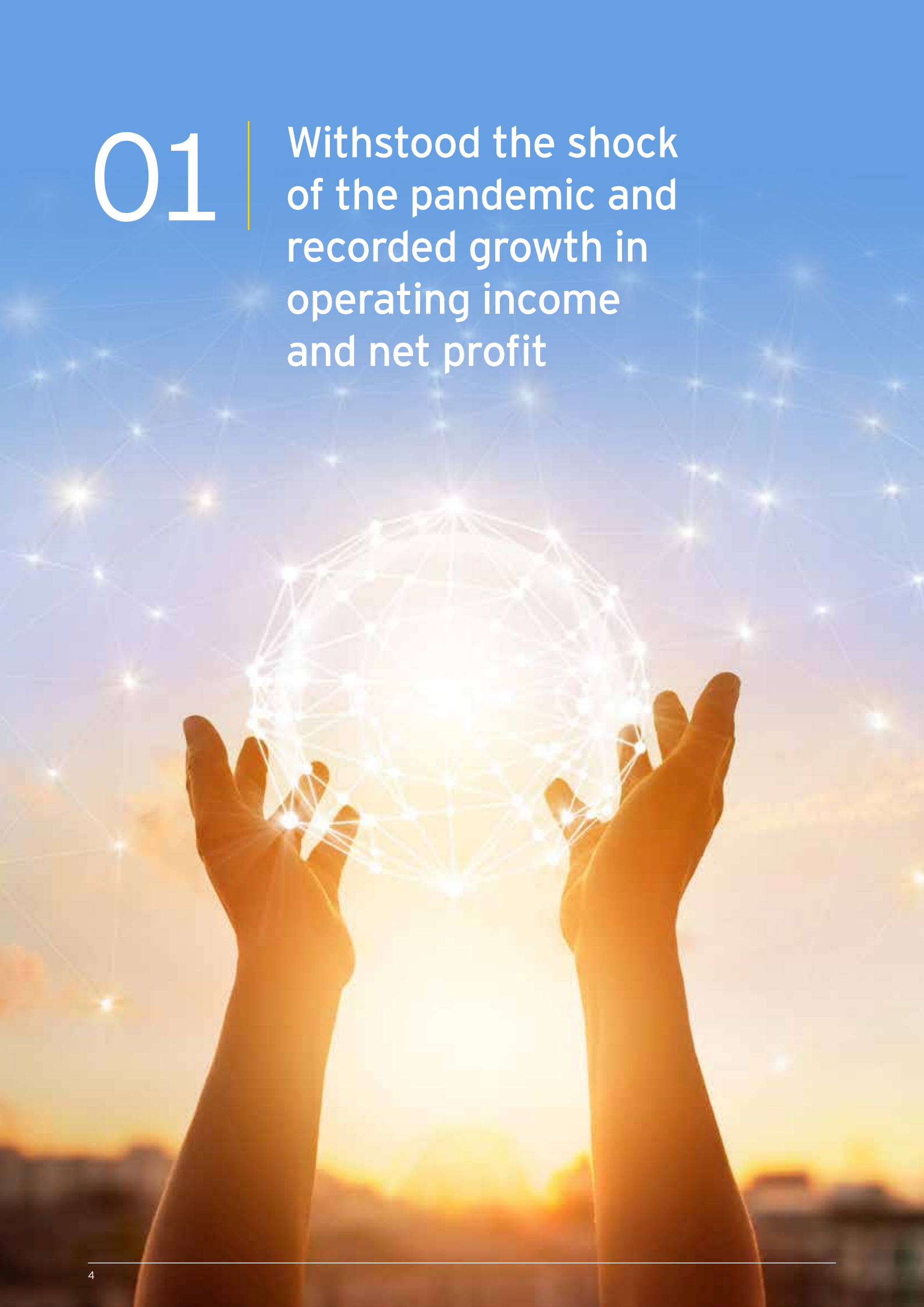
Serving national strategies and the real economy. During the 14th Five-Year Plan period, the listed banks will provide more adaptable, competitive and inclusive financial services, optimize the credit structure, improve the product and service system, and strengthen the effectiveness of supporting the real economy. More importantly, the listed banks should actively explore suitable models and development paths through the course of serving the real economy. The listed banks will also need to actively implement key national economic tasks, unleash the power as financial "fountain of strength" to support for the goal of "peaking carbon dioxide emissions and achieving carbon neutrality" set by the government, as well as play an important role in promoting rural vitalization on all fronts.

Sparing no efforts to ensure effective risk protection. The 14th Five-Year Plan sets out financial security strategies, mandating the requirements for strengthening financial risk protection, early warning, and prevention of systemic risks. It also requires heightened supervision over systemically important financial institutions, enhanced identification and disposal of non-performing assets, and orderly management of financial institutions with high-risk exposures. In terms of the regulatory environment, regulatory policies will be focused more on balanced relationship between risk protection, stable growth and financial innovation. Under the above guidance, the listed banks need to continuously improve their enterprise-wide risk management ("ERM") system, maintain the bottom-line thinking, and coordinate the efforts on business development and security matters. Specifically, they need to strengthen credit risk management, enhance the management of risks from key industries, key areas and key customers, increase provisions for NPL losses, ramp up disposal through write-offs, properly address the risk of increasing bad loans due to the impact of the pandemic, and strengthen risk resilience and the ability to serve the real economy. The listed banks also need to improve risk warning and response mechanisms and enhance compliance management capabilities to facilitate high-quality development underpinned by robust risk control.

Embracing the application of new technologies and exploring technology enablement. The 14th Five-Year Plan proposes to "steadily develop FinTech and accelerate the digital transformation of financial institutions". In response, the listed banks should keep abreast of the technological developments, continuously explore technology enablement, and orderly deploy innovative applications in offerings, compliance and risk control, management and operations, in a bid to enhance their core competitiveness while reducing costs and improving the efficiency.

As China enters the 14th Five-Year Plan period in 2021, the listed banks are on the track to embrace a new phase of development presenting both opportunities and challenges. Looking ahead, the listed banks will need to turn pressure into motivation, fully apply the new development philosophy, maintain strategic commitment and carry on with business transformation, with an aim to achieve long-term high-quality development.

01 Withstood the shock of the pandemic and recorded growth in operating income and net profit



Total net profit

0.10%

In 2020, China's listed banks realized a total net profit of RMB1,761.58 billion, a year-on-year increase of 0.10%, down 7.29 percentage points from the growth rate of 7.39% in 2019. The net profit of the listed banks posted lower growth as the overall net interest margin ("NIM") narrowed and the impairment provision was increased.

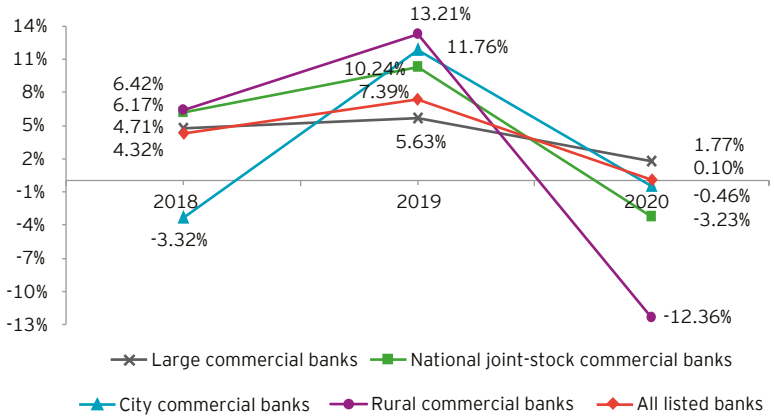
In 2020, in the face of COVID-19 pandemic compounded by the headwinds such as complex economic situations at home and abroad, the Chinese listed banks withstood the test of severe challenges and maintained positive net profit growth, with 40 of them registering a year-on-year increase in net profit, and 14 reporting a year-on-year decrease. Large commercial banks realized a total net profit of RMB1,156.65 billion, growing by 1.77%, down 3.86 percentage points from the growth rate of 5.63% in 2019. PSBC registered the sharpest fall of 11.14 percentage points in net profit growth from 16.52% in 2019 to 5.38% in 2020, mainly due to the impact of exchange gains and losses and the decline in investment returns. The net profit growth of the other 5 large commercial banks ranged from 1.38% to 1.93%, with each recording a drop from 2019.

National joint-stock commercial banks realized a total net profit of RMB418.67 billion, decreasing by 3.23%, down 13.47 percentage points from the growth rate of 10.24% in 2019. CMBC's net profit for 2020 dropped by 36.09% as compared with 2019, mainly due to accelerated pace of disposal of stressed assets, increased loan impairment provision, and its response to the national call for lowering fee charges to support the real economy. SPDB, HX and CZB also saw their net profit for 2020 decline from 2019. The remaining 6 national joint-stock commercial banks registered a net profit growth at a pace between 1.10% and 4.86%, falling significantly from their respective growth rate in 2019.

City commercial banks realized a total net profit of RMB160.52 billion, growing by -0.46%, down 12.22 percentage points from the 11.76% growth in 2019. HRB's net profit decreased by 78.10%, mainly due to an increase in the provision for asset impairment and stepped-up efforts in the disposal and write-off of non-performing assets. SJB's net profit fell by 77.34%, mainly due to the adoption of lower interest rates, lower fee charges and deferred debt and interest payments to benefit the real economy, as well as the increase in loan impairment provision. The net profit declined for 6 city commercial banks, including HSB, BTJ, BZZ, JXB, BJJ, and LZB; whereas the net profit of the other 20 city commercial banks increased from 2019, with BOGS, BOJZ and JXB reporting faster year-on-year net profit growth, while the others reporting slower growth.

Rural commercial banks realized a total net profit of RMB25.74 billion, growing by -12.36%, down 25.57 percentage points from the 13.21% growth in 2019. GZRCB saw the largest decline of 33.30%, mainly due to a year-on-year decrease in operating income and an increase in impairment losses. CQRCB registered a drop of 14.25% in net profit from 2019, as it increased the provision for asset impairment under the forward-looking and prudential principle in order to enhance risk resistance. The net profit of the other 8 rural commercial banks increased as compared with 2019, but all at a slower rate.

Trend of the net profit growth of the listed banks



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

Net profit amount and growth rate* (Unit: RMB million)						
	2018		2019		2020	
	Amount	Growth rate	Amount	Growth rate	Amount	Growth rate
ICBC	298,723	3.92%	313,361	4.90%	317,685	1.38%
CCB	255,626	4.93%	269,222	5.32%	273,579	1.62%
ABC	202,631	4.92%	212,924	5.08%	216,400	1.63%
BOC	192,435	4.03%	201,891	4.91%	205,096	1.59%
BOCOM	74,165	4.91%	78,062	5.25%	79,570	1.93%
PSBC	52,384	9.80%	61,036	16.52%	64,318	5.38%
Large commercial banks	**1,075,964**	**4.71%**	**1,136,496**	**5.63%**	**1,156,648**	**1.77%**
CMB	80,819	14.41%	93,423	15.60%	97,959	4.86%
IB	61,245	6.08%	66,702	8.91%	67,681	1.47%
SPDB	56,515	2.75%	59,506	5.29%	58,993	-0.86%
CITIC	45,376	5.83%	48,994	7.97%	49,532	1.10%
CEB	33,721	6.67%	37,441	11.03%	37,905	1.24%
CMBC	50,330	-1.16%	54,924	9.13%	35,102	-36.09%
PAB	24,818	7.02%	28,195	13.61%	28,928	2.60%
HX	20,986	5.28%	22,115	5.38%	21,568	-2.74%
CZB	11,560	5.35%	13,142	13.69%	12,559	-4.44%
CBHB	7,080	4.83%	8,193	15.72%	8,445	3.08%
National joint-stock commercial banks	**392,450**	**6.17%**	**432,635**	**10.24%**	**418,672**	**-3.23%**
BOB	20,137	6.65%	21,591	7.22%	21,646	0.25%
BSH	18,068	17.81%	20,333	12.54%	20,915	2.86%
BJS	13,263	10.37%	14,960	12.80%	15,620	4.41%
BONB	11,221	19.93%	13,792	22.91%	15,136	9.74%
BONJ	11,188	14.62%	12,567	12.33%	13,210	5.12%
HSB	8,860	13.42%	10,062	13.57%	9,921	-1.40%
BHZ	5,412	18.95%	6,602	21.99%	7,136	8.09%
BGY	5,229	13.97%	5,998	14.71%	6,143	2.42%
BOCD	4,654	18.94%	5,556	19.38%	6,028	8.50%
BOCS	4,578	14.88%	5,259	14.88%	5,561	5.74%
BCQ	3,822	1.54%	4,321	13.06%	4,566	5.67%
BTJ	4,230	7.28%	4,609	8.96%	4,343	-5.77%
BGZ	2,877	27.58%	3,564	23.88%	3,671	3.00%
ZYB	2,365	-39.45%	3,206	35.56%	3,355	4.65%
BOZZ	3,101	-28.45%	3,373	8.77%	3,321	-1.54%
BOXA	2,365	12.57%	2,679	13.28%	2,759	2.99%
BSZ	2,314	7.63%	2,611	12.83%	2,725	4.37%
BQD	2,043	7.30%	2,336	14.34%	2,453	5.01%
JXB	2,771	-4.94%	2,109	-23.89%	1,905	-9.67%
XMB	1,415	15.70%	1,736	22.69%	1,856	6.91%
BJJ	1,787	1.42%	1,881	5.26%	1,709	-9.14%
WHCCB	1,017	-36.56%	1,524	49.85%	1,648	8.14%
JSB	1,314	6.74%	1,482	12.79%	1,571	6.01%
SJB	5,126	-32.32%	5,438	6.09%	1,232	-77.34%
HRB	5,574	4.99%	3,635	-34.79%	796	-78.10%
LZB	658	6.30%	634	-3.65%	576	-9.15%
BOGS	3,440	2.26%	511	-85.15%	562	9.98%
BJZ	-4,538	-149.92%	-1,110	75.54%	154	113.87%
City commercial banks	**144,291**	**-3.32%**	**161,259**	**11.76%**	**160,518**	**-0.46%**
CQRCB	9,164	1.73%	9,988	8.99%	8,565	-14.25%
GZRCB	6,832	15.97%	7,911	15.79%	5,277	-33.30%
QDRCB	2,444	14.21%	2,847	16.49%	2,977	4.57%
CSRCB	1,585	19.89%	1,900	19.87%	1,936	1.89%
ZJRCB	1,254	10.19%	1,417	13.00%	1,441	1.69%
WXRCB	1,076	8.36%	1,252	16.36%	1,322	5.59%
JTRCB	1,184	-27.72%	1,196	1.01%	1,200	0.33%
JYRCB	780	2.90%	1,012	29.74%	1,070	5.73%
ZJGRCB	818	8.49%	937	14.55%	996	6.30%
SZRCB	810	9.61%	915	12.96%	959	4.81%
Rural commercial	**25,947**	**6.42%**	**29,375**	**13.21%**	**25,743**	**-12.36%**
All listed banks	**1,638,652**	**4.32%**	**1,759,765**	**7.39%**	**1,761,581**	**0.10%**

Source: 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.

ROA down

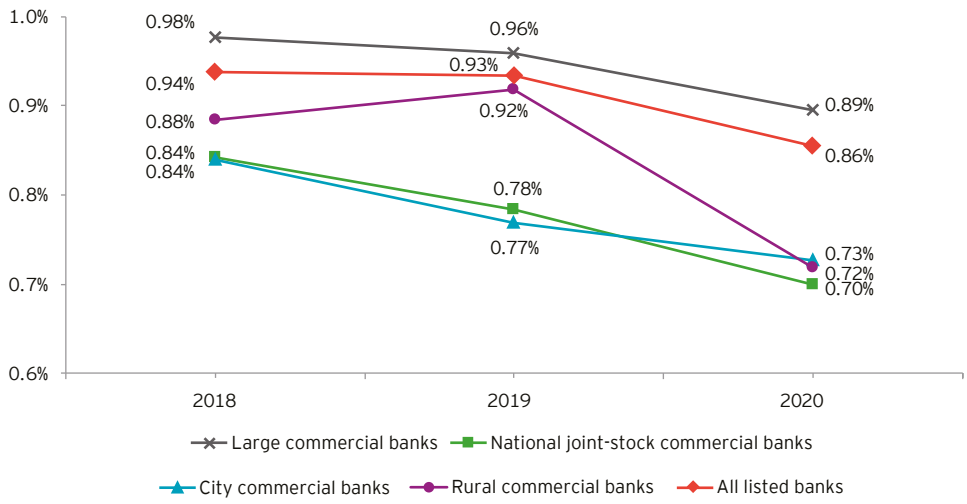
0.07 percentage points

ROE down

1.28 percentage points

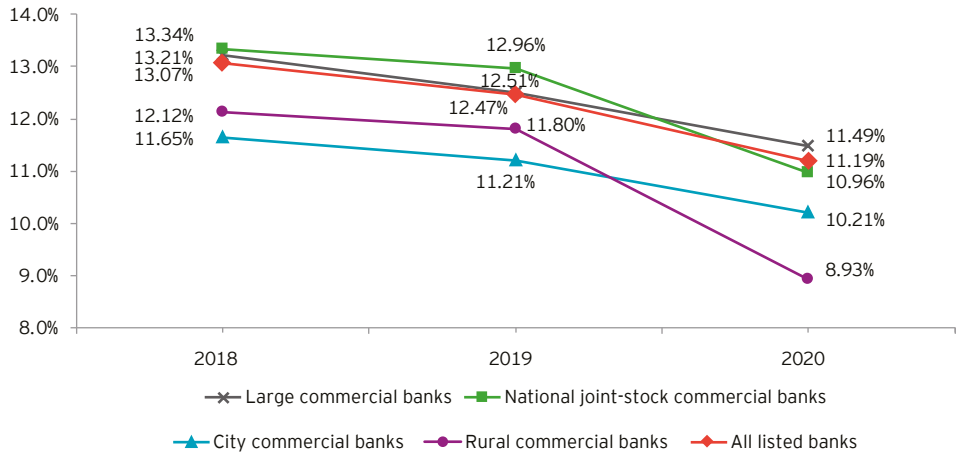
As the listed banks saw slower growth in net profit in 2020, the weighted average ROE was 11.19%, down 1.28 percentage points from 12.47% in 2019; the average ROA was 0.86%, down 0.07 percentage point from 0.93% in 2019, signaling that the ROA weighed on the listed banks' profitability. The average ROE of large commercial banks, national joint-stock commercial banks, city commercial banks and rural commercial banks dropped by 1.02 percentage points, 2.0 percentage points, 1.0 percentage point and 2.87 percentage points, respectively; and the average ROA of large commercial banks, national joint-stock commercial banks, city commercial banks and rural commercial banks dropped by 0.07 percentage point, 0.08 percentage point, 0.04 percentage point and 0.20 percentage point, respectively.

Changes in ROA of the listed banks



Source: Annual reports and prospectuses published by the listed banks.

Changes in ROE of the listed banks



Source: Annual reports and prospectuses published by the listed banks.

Slower growth in operating income exchanged for benefiting the real economy

5.57 percentage points

In 2020, in response to central government's call for supporting the efforts in pandemic prevention and containment and resumption of work and production, the listed banks adopted a range of measures including lowering interest rate and reducing and exempting fees, thus recording a year-on-year decline in operating income growth, irregardless of bank types. In 2020, the operating income of the listed banks totaled RMB5,565.19 billion, growing by 4.93%, down 5.57 percentage points from the growth rate of 10.50% in 2019.

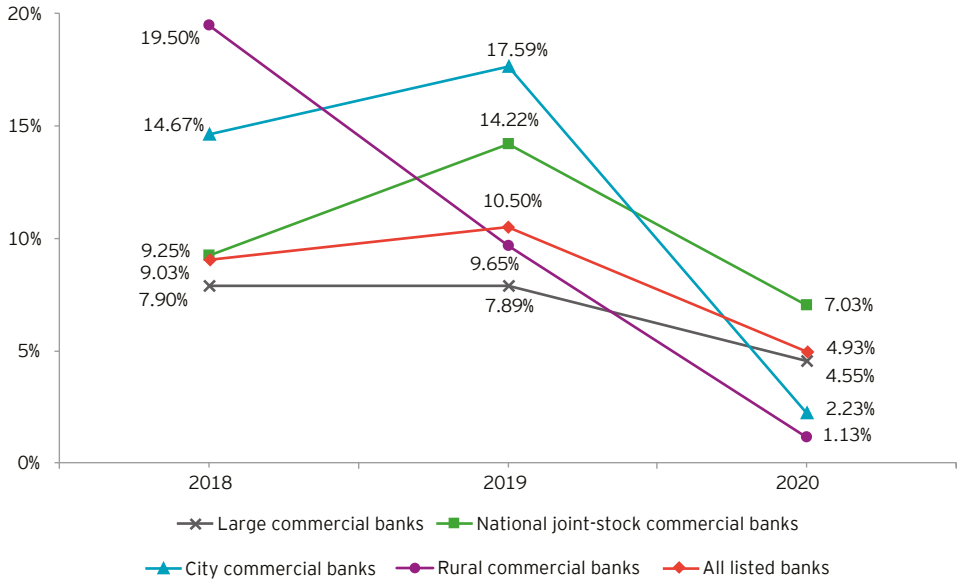
The operating income of large commercial banks grew by 4.55% year-on-year, slowing by 3.34 percentage points over 2019. Net interest income grew by 5.86% year-on-year, accelerating by 0.86 percentage point from 2019. The growth in net fee and commission income and other business income decreased year-on-year. ICBC's operating income growth in 2020 slowed by 7.33 percentage points from 2019. Particularly, its net interest income growth stood at 2.30%, a drop of 4.19 percentage points from a year earlier, as the bank promoted the transition to LPR as the loan pricing benchmark and continued to provide support for the real economy by further reducing funding costs of enterprises.

The operating income of national joint-stock commercial banks grew by 7.03% year-on-year, down 7.19 percentage points from 2019. It is worth noticing that the growth in net interest income posted a significant variance, down 17.48 percentage points from 2019. Particularly, SPDB, CITIC, CBHB, HX, CZB and CEB each recorded a decrease of more than 20% in net interest income growth, with SPDB registering the laregest fall of 33.33 percentage points year-on-year from 2019, as the financing costs borne by the real economy tended to decrease thanks to the effort of People's Bank of China (PBOC) in deepening the market-oriented interest rate reform in 2020.

The operating income of city commercial banks grew by 2.23% year-on-year, down 15.36 percentage points from 2019. Six city commercial banks, including SJB, JXB and BJZ, saw year-on-year decrease in operating income of while the other 22 city commercial banks maintained growth. The year-on-year decrease in the growth rate of BJZ's operating income reached 59.82% as asset disposal resulted in the decline in average balance of and average returns on interest-earning assets.

The operating income of rural commercial banks grew by 1.13% year-on-year, down 8.52 percentage points from the growth rate in 2019. Three rural commercial banks recorded a year-on-year decrease in operating income while the other 7 rural commercial banks registered an increase. WXRCB reported the highest growth rate of 10.06%, mainly due to the increase in loan interest income. GZRCB reported the sharpest decline of 10.31%, as it actively responded to the national policy and reduced the financing costs borne by enterprises and individuals affected by the pandemic, thus resulting in a year-on-year decrease in operating income.

Trend of the operating income of the listed banks



Source: Annual reports and prospectuses published by the listed banks.

Operating income amount and growth rate* (Unit: RMB million)						
	2018		2019		2020	
	Amount	Growth rate	Amount	Growth rate	Amount	Growth rate
ICBC **	774,041	6.54%	855,428	10.51%	882,665	3.18%
CCB	658,891	5.99%	705,629	7.09%	755,858	7.12%
ABC	598,588	11.46%	627,268	4.79%	657,961	4.89%
BOC	504,107	4.31%	549,182	8.94%	565,531	2.98%
BOCOM	212,654	8.49%	232,472	9.32%	246,200	5.91%
PSBC	260,995	16.22%	276,809	6.06%	286,202	3.39%
Large commercial banks	**3,009,276**	**7.90%**	**3,246,788**	**7.89%**	**3,394,417**	**4.55%**
CMB	248,555	12.52%	269,703	8.51%	290,482	7.70%
IB	158,287	13.08%	181,308	14.54%	203,137	12.04%
SPDB	170,865	1.33%	190,688	11.60%	196,384	2.99%
CITIC	164,854	5.20%	187,584	13.79%	194,731	3.81%
CEB	110,244	20.03%	132,812	20.47%	142,479	7.28%
CMBC	156,769	8.66%	180,441	15.10%	184,951	2.50%
PAB	116,716	10.33%	137,958	18.20%	153,542	11.30%
HX	72,227	8.80%	84,734	17.32%	95,309	12.48%
CZB	38,943	13.80%	46,364	19.06%	47,703	2.89%
CBHB	23,210	-8.08%	28,378	22.27%	32,492	14.50%
National joint-stock commercial banks	**1,260,670**	**9.25%**	**1,439,970**	**14.22%**	**1,541,210**	**7.03%**
BOB	55,488	10.20%	63,129	13.77%	64,299	1.85%
BSH	43,888	32.49%	49,800	13.47%	50,746	1.90%
BJS	35,224	4.09%	44,974	27.68%	52,026	15.68%
BONB	28,930	14.28%	35,082	21.27%	41,111	17.19%
BONJ	27,406	10.33%	32,442	18.38%	34,465	6.24%
HSB	26,951	19.74%	31,159	15.61%	32,290	3.63%
BHZ	17,054	20.76%	21,409	25.54%	24,806	15.87%
BGY	12,645	1.35%	14,668	16.00%	16,081	9.63%
BOCD	11,590	20.05%	12,725	9.79%	14,600	14.73%
BOCS	13,941	14.95%	17,017	22.06%	18,022	5.91%
BCQ***	10,840	6.85%	11,948	10.22%	13,048	9.21%
BTJ	12,138	19.67%	17,054	40.50%	17,197	0.84%
BGZ	8,770	1.68%	10,706	22.08%	11,248	5.06%
ZYB	16,784	30.96%	19,022	13.33%	19,428	2.13%
BOZZ	11,157	9.45%	13,487	20.88%	14,607	8.30%
BOXA	5,976	21.32%	6,845	14.54%	7,138	4.28%
BSZ	7,737	12.15%	9,424	21.80%	10,364	9.97%
BQD	7,372	32.04%	9,616	30.44%	10,541	9.62%
JXB	11,351	20.09%	12,953	14.11%	10,285	-20.60%
XMB	4,186	13.56%	4,509	7.72%	5,556	23.22%
BJJ****	7,866	35.53%	9,676	23.01%	10,192	5.33%
WHCCB	3,834	-1.89%	4,947	29.03%	6,034	21.97%
JSB	4,753	8.37%	5,089	7.07%	4,868	-4.34%
SJB	15,885	19.89%	21,007	32.24%	16,267	-22.56%
HRB	14,325	1.35%	15,124	5.58%	14,606	-3.43%
LZB	1,934	15.12%	2,807	45.14%	3,155	12.40%
BOGS	8,872	10.17%	7,233	-18.47%	6,493	-10.23%
BJZ	21,283	13.17%	23,170	8.87%	9,309	-59.82%
City commercial banks	**448,180**	**14.67%**	**527,022**	**17.59%**	**538,782**	**2.23%**
CQRCB	26,116	8.87%	26,630	1.97%	28,186	5.84%
GZRCB	20,667	53.33%	23,657	14.47%	21,218	-10.31%
QDRCB	7,462	22.75%	8,729	16.98%	9,572	9.66%
CSRCB	5,824	16.55%	6,445	10.66%	6,582	2.13%
ZJRCB	4,230	16.79%	4,675	10.52%	4,477	-4.24%
WXRCB	3,192	11.96%	3,540	10.90%	3,896	10.06%
JTRCB	5,038	-13.73%	5,311	5.42%	5,547	4.44%
JYRCB	3,186	27.08%	3,404	6.84%	3,351	-1.56%
ZJGRCB	2,999	24.23%	3,853	28.48%	4,195	8.88%
SZRCB	3,150	15.55%	3,521	11.78%	3,753	6.59%
Rural commercial banks	**81,864**	**19.50%**	**89,765**	**9.65%**	**90,777**	**1.13%**
All listed banks	**4,799,990**	**9.03%**	**5,303,545**	**10.50%**	**5,565,186**	**4.93%**

Source: 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.
**Since 2020, ICBC has reclassified the fee and commission income and related expenses of credit card installments from fee and commission income and expenses to interest income and other business costs, adjusted the comparable data for 2019 and 2018 accordingly, and restated relevant financial indicators.
***BCQ was listed on the A-share market in 2021, and the operating income disclosures over years are calculated based on the A-share disclosure requirements.
****BJJ reclassified the impairment losses on repossessed assets in 2020 from other income, gains or losses to impairment losses on assets, and adjusted comparable data accordingly.

Narrowing NIM across the board

8 percentage points

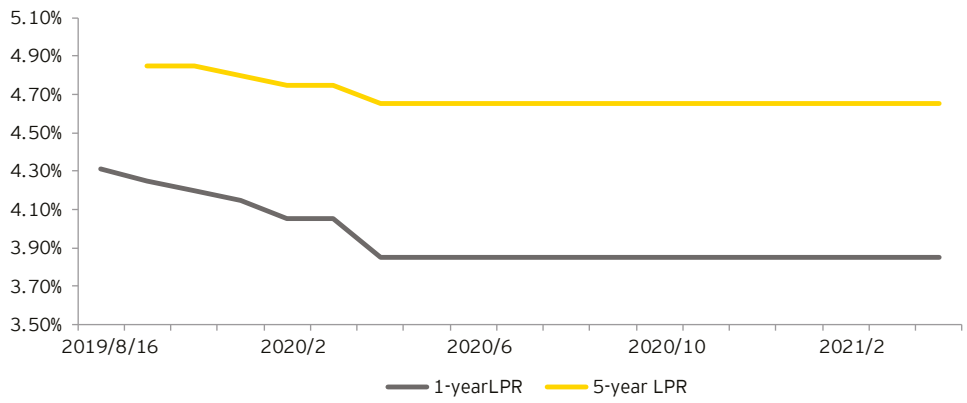
Due to the LPR cuts and the support stepped up for the real economy, the NIM narrowed for all types of the listed banks, with the average NIM across the board standing at 2.15% in 2020, down 8 basis points ("bps") from 2019.

Since 2020, the PBOC and the China Banking and Insurance Regulatory Commission (CBIRC) have cooperated with other relevant authorities to instruct and urge financial institutions to ramp up efforts in support for the development of the real economy. With more flexible and moderate prudent monetary policies in place and ongoing implementation of the LPR reform, enterprises' borrowing costs have decreased significantly, and the benefits have been received across the market. The authorities have also introduced targeted structural monetary policy tools enabling banks to reduce fee charges and make interest concessions. In 2020, in response to these regulatory policies, the listed banks effectively reduced financing costs for the real economy through measures such as lowering interest rates, cutting fee charges, and providing deferred repayment of principal and interest of loans.

In 2020, the NIM of large commercial banks averaged 2.09%, a decrease of 9 bps from 2019. Six large commercial banks each recorded a decrease in NIM. Particularly, ICBC saw its NIM slide by 15 bps, as it was on the track of transitioning to adoption of LPR as the loan pricing benchmark and continued to provide support for the real economy by further reducing financing costs for enterprises. CCB recorded a decrease of 13 bps in its NIM, mainly because: i) returns on loans declined due to the LPR trending down and the increased efforts in surrendering profits to the real economy, among other factors; and ii) returns on bonds as well as due from and placements with banks and other financial institutions were lower than the level of 2019 due to lower market rates and slightly rising deposit costs due to the fierce competition for deposit-taking. PSBC reported a drop of 11 bps in NIM mainly due to a combination of factors such as decreasing market rates, declining returns on loans and underlying deposit costs.

The average NIM of national joint-stock commercial banks in 2020 stood at 2.30%, down 9 bps from 2019. IB, HX and CBHB each recorded a slight increase in NIM, and CMBC saw its NIM level off. The NIM of the other 6 national joint-stock commercial banks decreased from 2019. Particularly, the NIM of SPDB and CZB dropped by 32 bps and 20 bps, respectively, from 2019, mainly attributable to a decrease in average returns on interest-earning assets including loans and advances to customers and investments. CITIC saw its NIM slide by 19 bps because: i) it cut the lending rates in response to the national policy requiring banks to make interest concessions to the real economy; iishrinking consumption caused by the pandemic slowed down the issuance of its credit card loans yielding relatively high returns and consequently reduced the proportion of

Movement of LPR



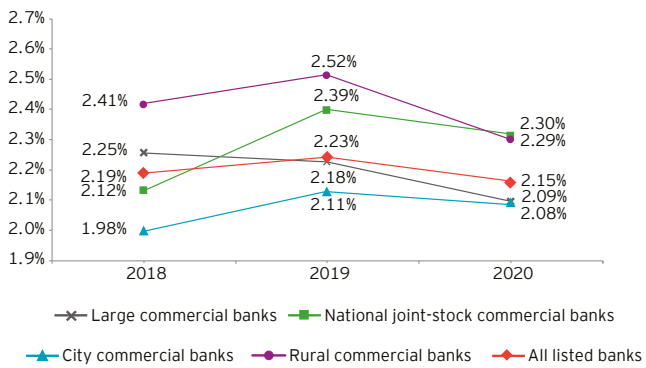
Source: According to the announcement of the People's Bank of China.

assets earning higher returns; and iii) it adjusted major asset classes by increasing the proportion of interbank and investment business. IB recorded an increase of 11 bps in NIM, which was mainly attributable to well-timed adjustment to its debt maturity structures. CBHB registered an increase of 13 bps in NIM as the rate of interest on liabilities fell more than the rate of return on assets.

The average NIM of city commercial banks was 2.08% in 2020, down 3 bps from 2019. Specifically, 13 city commercial banks recorded expansion, with WHCCB achieving an impressive expansion of 25 bps largely attributable an increase of 47 bps in average returns on placements with banks and other financial institutions. In contrast, 13 city commercial banks experienced a decline in NIM. Particularly, BJZ saw its NIM slump by 106 bps mainly due to a decrease of 200 bps in average returns on placements with banks and other financial institutions but an increase of 22 bps in average returns on deposits.

In 2020, the average NIM of rural commercial banks stood at 2.29%, down 23 bps from 2019. Particularly, WXRCB saw an expansion in NIM while all the other rural commercial banks registered a contraction or largely unchanged movement. WXRCB's NIM increased as it gradually completed resolution of existing asset exposures and steadily improved the asset quality in an improving operational environment for the banking sector. GZRCB's NIM fell by 64 bps from 2019, mainly due to a decrease of 71 bps in average returns on loans and advances to customers.

Changes in NIM of the listed banks



Source: Annual reports and prospectuses published by the listed banks.

NIM of the listed banks*	2018	2019	2020
ICBC**	2.36%	2.30%	2.15%
CCB**	2.36%	2.32%	2.19%
ABC**	2.38%	2.23%	2.20%
BOC**	1.95%	1.89%	1.85%
BOCOM	1.51%	1.58%	1.57%
PSBC**	2.69%	2.53%	2.42%
Large commercial banks	**2.25%**	**2.18%**	**2.09%**
CMB	2.57%	2.59%	2.49%
IB***	1.83%	2.25%	2.36%
SPDB**	2.13%	2.34%	2.02%
CITIC**	2.31%	2.45%	2.26%
CEB	1.97%	2.31%	2.29%
CMBC**	1.77%	2.14%	2.14%
PAB	2.35%	2.62%	2.53%
HX**	2.19%	2.51%	2.59%
CZB***	1.93%	2.39%	2.19%
CBHB	1.54%	2.22%	2.35%
National joint-stock commercial banks	**2.12%**	**2.39%**	**2.30%**
BOB**	1.88%	1.96%	1.92%
BSH**	1.81%	1.78%	1.82%
BJS	1.59%	1.94%	2.14%
BONB**	2.23%	2.27%	2.30%
BONJ**	1.89%	1.86%	1.86%
HSB***	2.37%	2.55%	2.42%
BHZ**	1.73%	1.85%	1.98%
BGY	2.33%	2.40%	2.52%
BOCD	2.21%	2.16%	2.19%
BOCS ***	2.45%	2.60%	2.58%
BCQ***	1.79%	2.18%	2.27%
BTJ	1.59%	2.21%	2.26%
BGZ	2.82%	2.82%	2.55%
ZYB***	2.83%	2.67%	2.48%
BOZZ	1.70%	2.16%	2.40%
BOXA***	2.23%	2.27%	2.16%
BSZ **	2.21%	2.21%	2.22%
BQD	1.63%	2.13%	2.13%
JXB***	2.31%	2.62%	2.10%
XMB	1.96%	1.67%	1.65%
BJJ***	2.65%	2.25%	2.18%
WHCCB	1.16%	1.74%	1.99%
JSB***	1.70%	1.62%	1.54%
SJB	1.43%	1.76%	1.62%
HRB***	1.87%	2.10%	2.20%
LZB	2.53%	3.08%	2.78%
BOGS	2.37%	1.96%	1.97%
BJZ***	2.46%	2.48%	1.42%
City commercial banks	**1.98%**	**2.11%**	**2.08%**
CQRCB***	2.45%	2.33%	2.25%
GZRCB**	2.17%	2.65%	2.01%
QDRCB	2.49%	2.61%	2.52%
CSRCB**	3.43%	3.45%	3.18%
ZJRCB	2.08%	2.12%	1.91%
WXRCB	2.16%	2.02%	2.07%
JTRCB	2.22%	2.75%	2.75%
JYRCB	2.67%	2.46%	2.19%
ZJGRCB	2.56%	2.74%	2.74%
SZRCB	2.84%	2.71%	2.50%
Rural commercial banks	**2.41%**	**2.52%**	**2.29%**
All listed banks	**2.19%**	**2.23%**	**2.15%**

Source: Annual reports and prospectuses published by the listed banks.
*Only including the banks that separately disclosed this ratio.
**Since 2020, 17 listed banks, including ICBC, CCB, ABC and BOC, have reclassified credit card installment income and restated their NIM for previous periods.
***Since 2020, 13 listed banks, including IB and CZB, have reclassified credit card installment income and restated their NIM for previous periods. The amount of NIM for 2019 is presented based on the restated figure for the year; and amount of NIM for 2018 remains unchanged as the restated figure for the year is not available.

Faster growth in net fee and commission income

10.59 percentage points

In 2020, the net fee and commission income of the listed banks amounted to RMB808.61 billion, growing by 6.69% year-on-year, up 10.59 percentage points from 2019. Impressively, 40 banks reported an increase in net fee and commission income as compared with 2019, while 13 banks registered a decrease. According to the *Circular on Strictly Implementing the Accounting Standards for Business Enterprises and Effectively Strengthening the Work on the 2020 Annual Reports of Enterprises* (Cai Kuai [2021] No. 2) issued jointly by the Ministry of Finance (MOF), the State-owned Assets Supervision and Administration Commission of the State Council (SASAC), the CBIRC and the China Securities Regulatory Commission (CSRC), the interest income calculated by the effective interest rate method should not be recorded in "fee and commission income" account nor presented under "fee and commission income" in the income statement for the financial assets generating from banks' credit card installment repayment business. Accordingly, the listed banks reclassified the credit card installment income from fee and commission income to interest income and adjusted the comparable data of 2019.

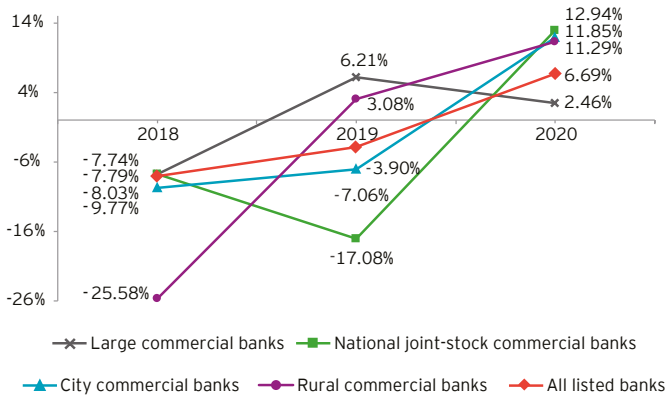
The net fee and commission income of large commercial banks increased by 2.46% year-on-year, down 3.75 percentage points from the previous year. PSBC is the only large commercial bank recording a net fee and commission income growth of more than 10%, which stood at 12.80%, and the increase was mainly from agency business that grew by 56.01%. The net fee and commission income growth of CCB was attributable mainly to the growth of both e-banking (13.02%) and custodian business and other fiduciary business (9.86%). The net fee and commission income growth of BOC was driven mainly by the growth of agent business (24.84%). The net fee and commission income growth of ABC was mainly propped up by the growth of consultancy and advisory business (10.54%) and agency business (6.27%). The net fee and commission income growth of ICBC was attributable mainly to the growth of corporate wealth management business (10.91%) and personal wealth management and personal banking business (8.39%). In 2020, except for BOC that saw an year-on-year growth in net fee and commission income from -0.23% in 2019 to 2.32% in 2020, all other large commercial banks registered a deceleration in net fee and commission income growth from 2019.

In 2020, the net fee and commission income of national joint-stock commercial banks grew by 12.94% from 2019, reversing the year-on-year decline of 17.08% from 2018. CMBC and CBHB each experienced a slight decline in net fee and commission income from 2019, while other national joint-stock commercial banks showed an increase in net fee and commission income, with SPDB, IB, PAB, CZB and CMB each registering a growth of over 10%. SPDB recorded the largest increase in net fee and commission income of 37.02%, mainly attributable to the growth of custodian and other fiduciary business (33.39%), CZB attributed its net fee and commission income growth mainly to the high growth of underwriting and advisory business (47.79%), and the other banks recorded the growth in net fee and commission income primarily from agency business.

The net fee and commission income of city commercial banks grew by 11.85% year-on-year, and the growth was led by BGZ, BHZ and BJJ, with increases of 282.11%, 101.81% and 82.46%, respectively. BGZ and BJJ's increase was partly enablely by their small base of net fee and commission income, while the BHZ's increase was mainly due to the growth in income from custody and other fiduciary business (137.69%). Six banks recorded a decline in net fee and commission income, among which SJB reported the largest decrease of 40.35%, mainly due to increased fee and commission expenses year-on-year as a result of investments in upgrading the service scenarios model and actively expanding customer acquisition channels.

The net fee and commission income of rural commercial banks increased by 11.29% year-on-year. Five rural commercial banks reported an increase in net fee and commission income, with WXRCB seeing a growth of over 91.30%, which was attributable mainly to the growth in agency fee income. Conversely, 5 rural commercial banks saw a decline in net fee and commission income, with ZJGRCB experiencing the sharpest fall, which stood at 242.86%. For ZJGRCB, the decrease in net fee and commission income was mainly due to increased fee and commission expenses resulting from growing bank card business and online lending fees.

Growth of net fee and commission income of the listed banks



Source: Annual reports and prospectuses published by the listed banks.

Net fee and commission income amount and growth rate* (Unit: RMB million)						
	2018		2019		2020	
	Amount	Growth rate	Amount	Growth rate	Amount	Growth rate
ICBC**	124,394	-10.91%	130,573	4.97%	131,215	0.49%
CCB**	100,471	-0.64%	110,898	10.38%	114,582	3.32%
ABC**	67,742	-7.08%	72,927	7.65%	74,545	2.22%
BOC**	73,984	-16.58%	73,812	-0.23%	75,522	2.32%
BOCOM	41,237	1.69%	43,625	5.79%	45,086	3.35%
PSBC**	12,519	-1.71%	14,623	16.81%	16,495	12.80%
Large commercial banks	**420,347**	**-7.74%**	**446,458**	**6.21%**	**457,445**	**2.46%**
CMB	66,480	3.85%	71,493	7.54%	79,486	11.18%
IB***	42,978	10.94%	30,378	-29.32%	37,710	24.14%
SPDB ***	39,009	-14.42%	24,774	-36.49%	33,946	37.02%
CITIC***	37,008	-21.02%	26,730	-27.77%	28,836	7.88%
CEB	19,773	-35.75%	23,169	17.17%	24,323	4.98%
CMBC***	48,131	0.81%	28,204	-41.40%	27,664	-1.91%
PAB	31,297	2.03%	36,743	17.40%	43,481	18.34%
HX***	17,758	-3.53%	10,182	-42.66%	10,558	3.69%
CZB***	4,252	-46.94%	3,791	-10.84%	4,250	12.11%
CBHB	6,357	-26.81%	4,115	-35.27%	2,902	-29.48%
National joint-stock commercial banks	**313,043**	**-7.79%**	**259,579**	**-17.08%**	**293,156**	**12.94%**
BOB***	8,879	-16.07%	7,088	-20.17%	6,390	-9.85%
BSH**	4,809	-23.13%	5,124	6.55%	5,609	9.46%
BJS***	5,222	-9.64%	4,543	-13.00%	5,357	17.91%
BONB***	5,794	-1.73%	5,110	-11.81%	6,342	24.11%
BONJ***	3,588	2.84%	3,971	10.67%	4,965	25.03%
HSB***	3,706	30.31%	3,549	-4.24%	3,617	1.92%
BHZ***	1,183	-26.84%	1,494	26.29%	3,015	101.81%
BGY***	1,219	-13.79%	736	-39.62%	869	18.07%
BOCD***	308	-21.63%	298	-3.25%	366	22.82%
BOCS***	1,580	44.82%	850	-46.20%	797	-6.24%
BCQ***	1,342	-20.12%	949	-29.28%	1,037	9.27%
BTJ	1,538	-24.35%	2,266	47.33%	2,311	1.99%
BGZ	21	-310.00%	95	352.38%	363	282.11%
ZYB***	1,280	66.23%	1,768	38.13%	1,786	1.02%
BOZZ***	1,874	0.48%	1,575	-15.96%	1,730	9.84%
BOXA***	783	3.03%	549	-29.89%	596	8.56%
BSZ***	915	3.62%	713	-22.08%	945	32.54%
BQD	866	4.46%	1,217	40.53%	1,692	39.03%
JXB***	653	-56.20%	541	-17.15%	579	7.02%
XMB	291	-2.35%	328	12.71%	327	-0.30%
BJJ***	279	-20.29%	342	22.58%	624	82.46%
WHCCB	73	-69.20%	272	272.60%	464	70.59%
JSB***	424	27.71%	611	44.10%	713	16.69%
SJB	627	-61.13%	1,155	84.21%	689	-40.35%
HRB***	2,391	-2.21%	1,367	-42.83%	880	-35.63%
LZB	2	-200.00%	5	150.00%	5	0.00%
BOGS	166	-55.97%	253	52.41%	329	30.04%
BJZ***	758	2.85%	232	-69.39%	175	-24.57%
City commercial banks	**50,571**	**-9.77%**	**47,001**	**-7.06%**	**52,572**	**11.85%**
CQRCB***	2,066	-10.02%	2,239	8.37%	2,903	29.66%
GZRCB**	1,266	-44.74%	1,363	-7.66%	1,327	-2.64%
QDRCB	149	-8.59%	199	33.56%	302	51.76%
CSRCB***	367	-13.44%	214	-41.69%	148	-30.84%
ZJRCB***	256	44.63%	224	-12.50%	126	-43.75%
WXRCB***	86	-47.24%	92	6.98%	176	91.30%
JTRCB	376	-38.86%	317	-15.96%	231	-27.13%
JYRCB	65	25.00%	99	52.31%	100	1.01%
ZJGRCB	33	-71.05%	7	-78.79%	-10	-242.86%
SZRCB	72	4.35%	128	77.78%	130	1.56%
Rural commercial banks	**4,736**	**-25.58%**	**4,882**	**3.08%**	**5,433**	**11.29%**
All listed banks	**788,697**	**-8.03%**	**757,920**	**-3.90%**	**808,606**	**6.69%**

Source: 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.
**Since 2020, 7 listed banks, including ICBC, CCB, ABC and BOC, have reclassified their credit card installment income and restated their net fee and commission income for previous periods.
***Since 2020, 29 listed banks, including IB, SPDB, CITIC and CZB, have reclassified their credit card installment income and restated their net fee and commission income for previous periods. The amount of net fee and commission income for 2019 is presented based on the restated figure for the year; and the amount of fee and commission income for 2018 remains unchanged as the restated figure for the year is unavailable.

Continued decline in cost-to-income ratio

0.68 percentage points

In 2020, the weighted-average cost-to-income ratio of the listed banks continued its downward trend, standing at 25.46%, down 0.68 percentage point from 2019. The year-on-year decline was mainly due to slower growth in operating income, decreased office and travelling expenses caused by the pandemic, and some local governments' pandemic relief policy on reducing and exempting part of the social insurance contributions borne by enterprises.

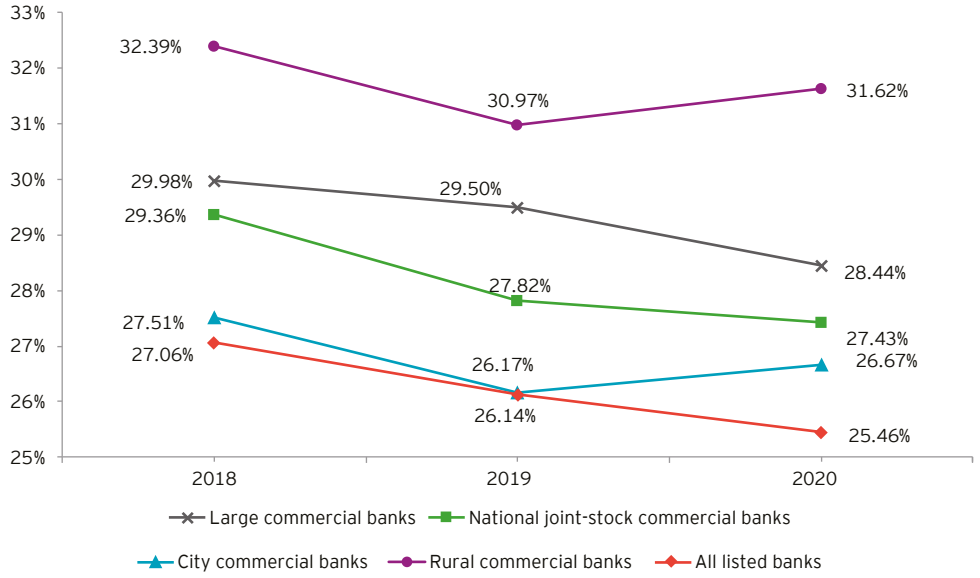
In 2020, the cost-to-income ratio of large commercial banks was 28.44%, a decline of 1.06 percentage points from the average cost-to-ratio in 2019. PSBC saw a rise in cost-to-income ratio, while each of the other 5 banks reported a decline. PSBC's 57.88% cost-to-income ratio was considerably higher than that of the peers as the bank not only bore its own operating cost, but also paid commissions to other entities under China Post Group (CPG) that acted as its deposit-taking agents. PSBC's cost-to-income ratio rose by 1.31 percentage points from 2019 mainly due to: i) slower growth in operating income affected by the pandemic, lower interest rates, and other factors; ii) increased commissions paid to other CPG entities to keep up with growing average daily balance of deposits at their outlets; and iii) increased investment in talent recruitment, product innovation and technology.

In 2020, the average cost-to-income ratio of national joint-stock commercial banks was 27.43%, down 0.39 percentage point from 2019. CMB and SPDB each saw a rise while other banks all reported a slight decline in this ratio. The cost-to-income ratio of CMB was the highest 33.30% among peers, which was attributed to i) its continued efforts in strengthening technological foundation and increased investment in digital infrastructure and R&D programs to accelerate FinTech-enabled transformation; ii) increased investment in resources for customer management and value enhancement to facilitate the transformation towards the business model 3.0 and digital customer acquisition and digital management capabilities across business lines; and iii) increased investment in modification to the software and hardware facilities at the digital outlets in order to improve the brand image and service capacity of outlets.

In 2020, the average cost-to-income ratio of city commercial banks was 26.67%, up 0.50 percentage point from 2019. In thisbank group, 10 city commercial banks recorded a rise in cost-to-income ratio from 2019, with BOJZ registering the largest increase of 17.33 percentage points mainly because its operating income decreased from the decline in the average balance of interest-earning assets and earning ratio after asset resolution. Other city commercial banks all recorded a year-on-year decline in cost-to-income ratio, with BOZZ seeing the largest decline by 4.06 percentage points, mainly due to: i) slower growth in operating income resulting from fee cuts to support the real economy; and ii) cost control to have reduced operating costs from the previous year.

In 2020, the average cost-to-income ratio of rural commercial banks was 31.62%, up 0.65 percentage point from 2019. GZRCB, CSRCB, ZJRCB and ZJGRCB each saw a rise in cost-to-income ratio while all other rural commercial banks reported a decline, with GZRCB seeing the largest increase by 4.70 percentage points, mainly due to: i) decreased operating income year-on-year as the bank implemented the national policy on lowering fee charges to support the real economy during the pandemic; and ii) higher staff costs from increased staff recuiting across the Group.

Changes in the cost-to-income ratio of the listed banks



Source: Annual reports and prospectuses published by the listed banks.

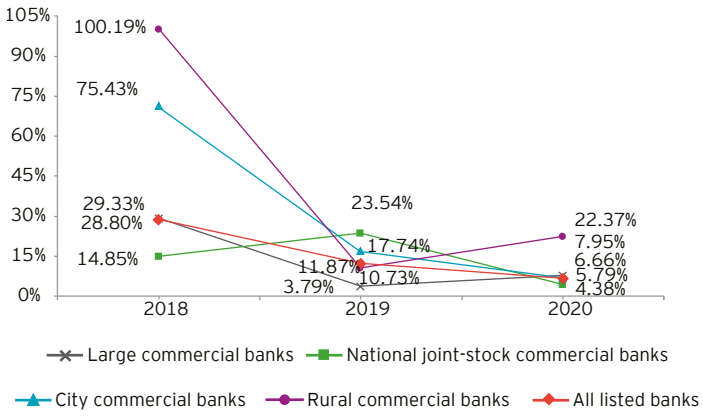
Cost-to-income ratios of the listed banks	2018	2019	2020
ICBC	23.91%	23.27%	22.30%
CCB	26.42%	26.53%	25.12%
ABC	31.27%	30.49%	29.23%
BOC	28.09%	28.00%	26.73%
BOCOM	31.50%	30.11%	28.29%
PSBC	56.41%	56.57%	57.88%
Large commercial banks*	**29.98%**	**29.50%**	**28.44%**
CMB	31.02%	32.09%	33.30%
IB	26.89%	26.03%	24.16%
SPDB	24.90%	22.58%	23.78%
CITIC	30.57%	27.70%	26.65%
CEB	28.79%	27.27%	26.38%
CMBC	30.07%	26.74%	26.19%
PAB	30.32%	29.61%	29.11%
HX	32.58%	30.59%	27.93%
CZB	29.69%	26.24%	25.96%
CBHB	35.40%	29.50%	26.52%
National joint-stock commercial banks*	**29.36%**	**27.82%**	**27.43%**
BOB	25.19%	23.23%	22.07%
BSH	20.52%	19.98%	18.93%
BJS	28.68%	25.64%	23.46%
BONB	34.44%	34.32%	37.96%
BONJ	28.61%	27.39%	28.46%
HSB	23.02%	22.76%	23.71%
BHZ	29.91%	28.71%	26.35%
BGY	26.73%	26.30%	23.84%
BOCD	25.77%	26.52%	23.87%
BOCS	34.12%	30.72%	29.69%
BCQ**	22.22%	21.68%	20.64%
BTJ	27.18%	22.20%	21.80%
BGZ	33.91%	30.84%	30.29%
ZYB	40.59%	38.45%	35.61%
BOZZ	27.96%	26.46%	22.40%
BOXA	27.97%	25.68%	25.33%
BSZ	37.73%	31.68%	29.74%
BQD	32.97%	31.88%	33.61%
JXB	30.48%	26.08%	32.96%
XMB	27.78%	29.13%	28.64%
BJJ***	27.86%	27.75%	27.28%
WHCCB	34.23%	28.68%	25.08%
JSB	35.75%	34.79%	36.01%
SJB	24.13%	21.31%	29.76%
HRB	30.88%	32.71%	32.06%
LZB	34.54%	35.95%	36.09%
BOGS	24.72%	31.53%	34.30%
BJZ	15.91%	15.02%	32.35%
City commercial banks*	**27.51%**	**26.17%**	**26.76%**
CQRCB	30.33%	28.54%	27.09%
GZRCB	28.05%	27.25%	31.95%
QDRCB	32.23%	30.25%	28.79%
CSRCB	36.53%	38.24%	42.77%
ZJRCB	33.42%	29.69%	30.36%
WXRCB	29.18%	29.66%	27.15%
JTRCB	54.72%	51.08%	47.96%
JYRCB	32.03%	31.66%	31.47%
ZJGRCB	35.43%	31.15%	32.27%
SZRCB	34.18%	34.61%	32.72%
Rural commercial banks*	**32.39%**	**30.97%**	**31.62%**
All listed banks*	**27.06%**	**26.14%**	**25.46%**

Increase in impairment loss provision

14.80%

In 2020, the provision for credit impairment losses and other asset impairment losses recognized by the listed banks in the income statements totaled RMB1,626.22 billion, increasing by 14.80% from 2019. The total loan loss provision amounted to RMB1,344.16 billion, representing an increase of 6.66% over 2019. The impairment losses of large commercial banks, national joint-stock commercial banks, city commercial banks and rural commercial banks increased by 7.95%, 4.38%, 5.79% and 22.37% year-on-year, respectively in 2020, as the asset quality across the board was under pressure from the macroeconomic downturn amid the pandemic.

Changes in loan impairment losses of the listed banks



Source: Annual reports and prospectuses published by the listed banks.

Source: Annual reports and prospectuses published by the listed banks.
*Data is weighted average.
**BCQ is listed on the A-share market in 2021 and the disclosures herein are cost-to-income ratios calculated after the A-share listing for all years.
***BJJ reclassified the impairment losses on repossessed assets in 2020 from other income, gains or losses to impairment losses on assets, and adjusted comparable data accordingly, resulting in a corresponding change in the cost-to-income ratio in 2019.

02 Increased credit supply to support the development of the real economy

In 2020, in face of the impact of COVID-19 pandemic and the complex challenging domestic and international situations, the PBOC introduced a mix of credit support measures and employed targeted required reserve ratio ("RRR") cuts and central bank lending to ensure relatively ample market liquidity. Against this backdrop, the total assets of the listed banks grew more rapidly and the proportion of credit assets in total assets increased as they stepped up efforts in support for the real economy.

Sustained growth in total assets

10.20%

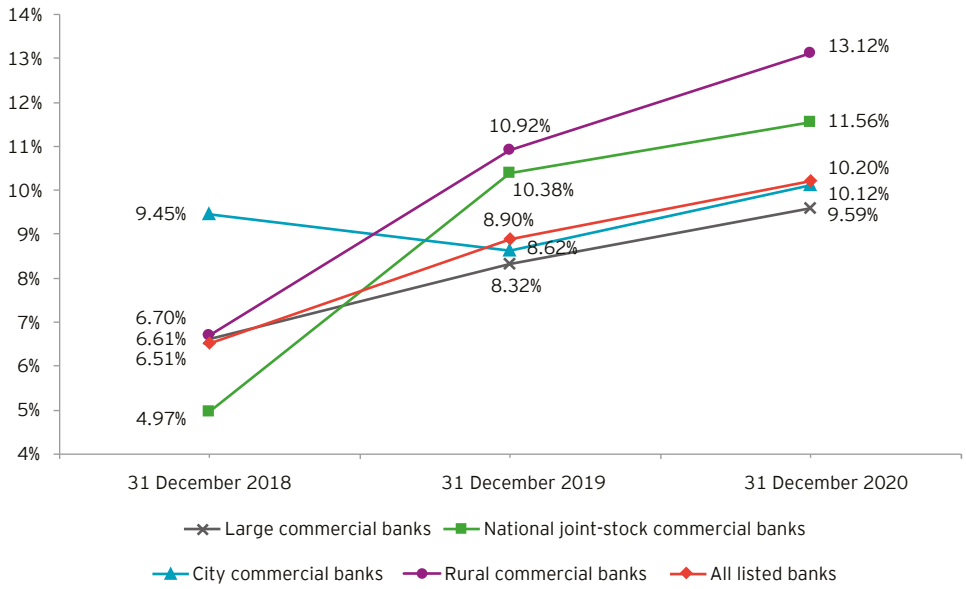
As at 31 December 2020, the total assets of the listed banks amounted to RMB218,256.07 billion, growing by RMB20,197.19 billion, or 10.20%, from 2019 year-end, an increase of 1.30 percentage points. The total assets of large commercial banks grew by 9.59%. PSBC reported the highest growth rate of 11.12%, mainly due to a great increase in loans and financial investment. The total assets of ICBC grew by 10.75% to RMB33,345.06 billion as at 31 December 2020, making it the only bank with total assets exceeding RMB30,000 billion.

The total assets of national joint-stock commercial banks grew by 11.56%, up 1.18 percentage points from 2019. The total assets of CBHB grew by 24.76%, mainly due to growing loans and financial investment. Except for CMBC, all the other national joint-stock commercial banks reported a growth rate of more than 10%.

The total assets of city commercial banks grew by 10.12%, up 1.50 percentage points from 2019. LZB reported a growth rate of 29.67%, mainly due to growing loans and financial investment.

The total assets of rural commercial banks grew by 13.12%, up 2.20 percentage points from 2019. QDRCB reported a growth rate of 19.07%, as it made greater efforts in support for the local real economy and moderately developed credit business based on the prudent credit policy as guided by the national policies.

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 2018		31 December 2019		31 December 2020	
	Amount	Growth rate	Amount	Growth rate	Amount	Growth rate
ICBC	27,699,540	6.18%	30,109,436	8.70%	33,345,058	10.75%
CCB	23,222,693	4.96%	25,436,261	9.53%	28,132,254	10.60%
ABC**	22,608,452	7.39%	24,877,491	10.04%	27,205,047	9.36%
BOC	21,267,275	9.25%	22,769,744	7.06%	24,402,659	7.17%
BOCOM	9,531,171	5.45%	9,905,600	3.93%	10,697,616	8.00%
PSBC	9,516,211	5.59%	10,216,706	7.36%	11,353,263	11.12%
Large commercial banks	**113,845,342**	**6.61%**	**123,315,238**	**8.32%**	**135,135,897**	**9.59%**
CMB	6,745,729	7.12%	7,417,240	9.95%	8,361,448	12.73%
IB	6,711,657	4.59%	7,145,681	6.47%	7,894,000	10.47%
SPDB	6,289,606	2.48%	7,005,929	11.39%	7,950,218	13.48%
CITIC	6,066,714	6.85%	6,750,433	11.27%	7,511,161	11.27%
CEB	4,357,332	6.58%	4,733,431	8.63%	5,368,110	13.41%
CMBC	5,994,822	1.57%	6,681,841	11.46%	6,950,233	4.02%
PAB	3,418,592	5.24%	3,939,070	15.22%	4,468,514	13.44%
HX	2,680,580	6.84%	3,020,789	12.69%	3,399,816	12.55%
CZB	1,646,695	7.15%	1,800,786	9.36%	2,048,225	13.74%
CBHB	1,034,451	3.18%	1,116,930	7.97%	1,393,523	24.76%
National joint-stock commercial banks	**44,946,178**	**4.97%**	**49,612,130**	**10.38%**	**55,345,248**	**11.56%**
BOB	2,572,865	10.43%	2,737,040	6.38%	2,900,014	5.95%
BSH	2,027,772	12.17%	2,237,082	10.32%	2,462,144	10.06%
BJS	1,925,823	8.77%	2,065,058	7.23%	2,337,893	13.21%
BONB	1,116,423	8.18%	1,317,717	18.03%	1,626,749	23.45%
BONJ	1,243,269	8.95%	1,343,435	8.06%	1,517,076	12.93%
HSB	1,050,506	15.68%	1,131,721	7.73%	1,271,701	12.37%
BHZ	921,056	10.57%	1,024,070	11.18%	1,169,257	14.18%
BGY	503,326	8.45%	560,399	11.34%	590,680	5.40%
BOCD	492,285	13.29%	558,386	13.43%	652,434	16.84%
BOCS	526,630	11.92%	601,998	14.31%	704,235	16.98%
BCQ	450,369	6.53%	501,232	11.29%	561,641	12.05%
BTJ	659,340	-6.07%	669,401	1.53%	687,760	2.74%
BGZ	341,203	19.15%	409,389	19.98%	456,401	11.48%
ZYB	620,444	18.86%	709,885	14.42%	757,483	6.71%
BOZZ	466,142	6.96%	500,478	7.37%	547,813	9.46%
BOXA	243,490	4.00%	278,283	14.29%	306,392	10.10%
BSZ	311,086	9.49%	343,472	10.41%	388,068	12.98%
BQD	317,659	3.72%	373,622	17.62%	459,828	23.07%
JXB	419,064	13.26%	456,119	8.84%	458,693	0.56%
XMB	232,414	9.21%	246,868	6.22%	285,150	15.51%
BJJ	311,623	14.88%	363,352	16.60%	415,794	14.43%
WHCCB	203,122	-0.67%	224,636	10.59%	267,602	19.13%
JSB	227,248	9.85%	247,571	8.94%	270,944	9.44%
SJB	985,433	-4.38%	1,021,481	3.66%	1,037,958	1.61%
HRB	615,589	9.10%	583,089	-5.28%	598,604	2.66%
LZB	82,550	16.47%	91,681	11.06%	118,886	29.67%
BOGS	328,622	21.20%	335,044	1.95%	342,364	2.18%
BJZ***	845,923	16.93%	836,694	-1.09%	777,992	-7.02%
City commercial banks	**20,041,276**	**9.45%**	**21,769,203**	**8.62%**	**23,971,556**	**10.12%**
CQRCB	950,178	4.95%	1,029,790	8.38%	1,135,927	10.31%
GZRCB	763,290	3.75%	894,154	17.14%	1,027,872	14.95%
QDRCB	294,141	17.16%	341,667	16.16%	406,811	19.07%
CSRCB	166,704	14.32%	184,839	10.88%	208,685	12.90%
ZJRCB	193,165	13.00%	201,319	4.22%	217,664	8.12%
WXRCB	154,395	12.59%	161,912	4.87%	180,018	11.18%
JTRCB	164,253	-12.17%	173,276	5.49%	200,363	15.63%
JYRCB	114,853	4.98%	126,343	10.00%	142,766	13.00%
ZJGRCB	113,446	10.00%	123,045	8.46%	143,818	16.88%
SZRCB	116,782	22.58%	125,955	7.85%	139,440	10.71%
Rural commercial banks	**3,031,207**	**6.70%**	**3,362,300**	**10.92%**	**3,803,364**	**13.12%**
All listed banks	**181,864,003**	**6.51%**	**198,058,871**	**8.90%**	**218,256,065**	**10.20%**

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.
**ABC restated the amounts of total assets as at 31 December 2019 and 31 December 2018 in 2020.
***BJZ restated the amount of total assets as at 31 December 2019 in 2020.

Rise in the proportion of credit assets in total assets

In 2020, as part of greater efforts to support the real economy, the listed banks comprehensively enhanced financial services for private small- and micro-sized businesses and supported the healthy development of manufacturing, thus seeing the credit supply grow faster. The proportion of loans in total assets as at 2020 year-end rose to 54.05%, up 1.04 percentage points from 53.01% in 2019. Large commercial banks, national stock-joint commercial banks, city commercial banks and rural commercial banks saw their proportion of loans increase by 0.90 percentage point, 0.79 percentage point, 2.16 percentage points and 2.73 percentage points, respectively, from 2019. BJZ reported the fastest growth of 9.58% in the proportion of loans, as it fully promoted the reform and restructuring, completed capital increase and share expansion, disposed of stressed assets, and ramped up lending following the equity holding of the two large state-owned enterprises as new shareholders. ICBC reported the largest increase of RMB1.81 trillion in net loan balance from the prior year, as the bank increased loan issuance, optimized the supply of financial resources to key areas and areas with weakness, responded to the policy guidance to increase credit support for manufacturing, provided inclusive financial services to small- and medium-sized enterprises (SMEs) and private enterprises, and actively promoted the development of green finance system.

Rise in the proportion of credit loans

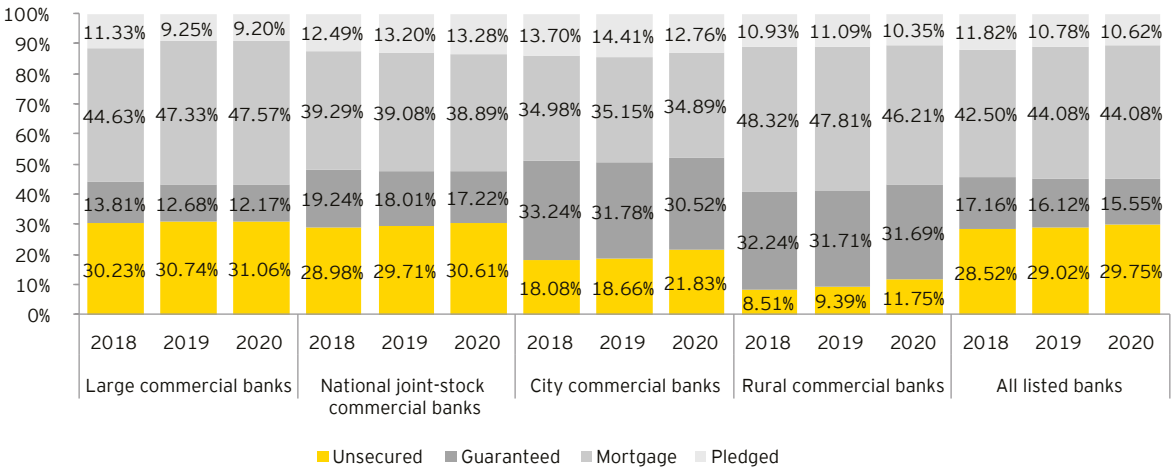
In 2020, to ensure better implementation of the policy on stabilizing business operation and employment, the PBOC, in collaboration with the MOF, used a special lending quota of RMB400 billion to proportionally purchase unsecured inclusive finance loans granted to micro- and small-sized businesses by eligible local corporate banking financial institutions via innovative monetary policy instruments, which increased banks' unsecured loans to micro- and small-sized businesses. The PBOC and the CBIRC also required banking financial institutions to increase the allocation of credit resources to micro- and small-sized enterprises, optimize the risk assessment mechanism, focus on auditing primary repayment sources, reduce reliance on mortgage guarantees, and support more micro- and small-sized enterprises to obtain mortgage- and guarantee-free unsecured loans, thus ensuring the significant increase in the proportion of unsecured inclusive finance loans to micro- and small-sized enterprises in 2020. Responding to these policies, the listed banks increased the proportion of such loans.

Changes in asset structure of the listed banks

	31 December 2018	31 December 2019	31 December 2020
Loan assets	51.47%	53.01%	54.05%
Financial Investment	29.66%	29.34%	28.74%
Interbank assets*	5.62%	5.56%	5.50%
Others	13.25%	12.09%	11.71%

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.

In April 2021, the CBIRC issued the *Circular on Further Promoting High-quality Development of Financial Services to Small- and Micro-sized Enterprises* in 2021, which required commercial banks to optimize the structure of credit supply and continuously step up credit support for SMEs in their initial borrowing, loan renewal and unsecured loans. In addition, the PBOC and the CBIRC issued the *Circular on Establishing the Real Estate Loan Concentration Management System for Banking Financial Institutions* in December 2020, which assigned different levels of upper limits to the proportion of outstanding real estate loans and the proportion of outstanding personal housing loans of banks, set a transition period for any bank holding a proportion exceeding the upper limit, and established a regionally differentiated adjustment mechanism. Looking ahead, the listed banks need to further optimize the credit structure to provide better credit support for the development of the real economy in accordance with the regulatory requirements, and implement risk prevention and control measures aligned with the adjusted business structure.



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

Steady increase in liabilities

10.15%

As at 31 December 2020, the total liabilities of the listed banks amounted to RMB200,455.21 billion, increasing by RMB18,473.79 billion, or 10.15%, from the prior year-end, up 1.80 percentage points from the growth in 2019.

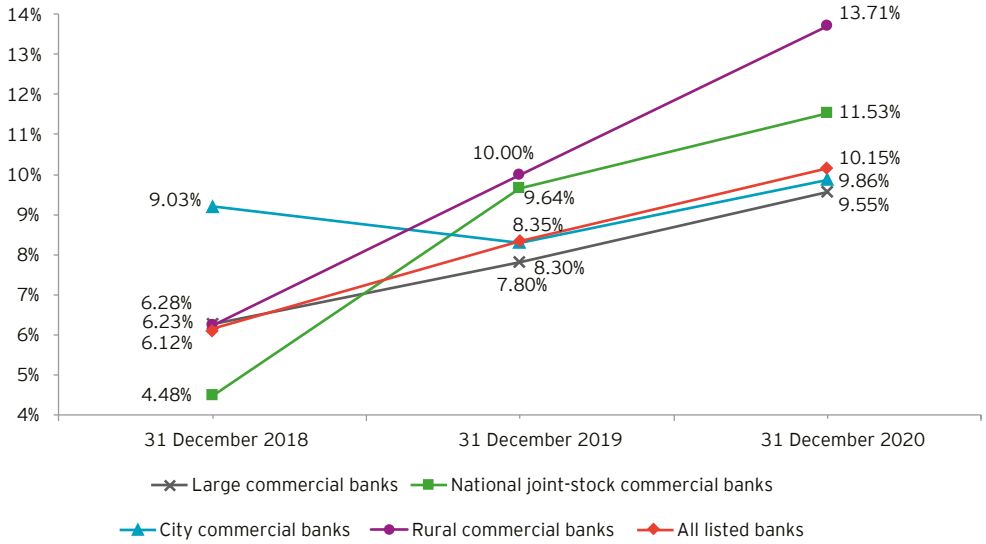
The total liabilities of large commercial banks increased by 9.55% from the prior year-end, up 1.75 percentage points. ICBC reported a growth rate of 11.01%, mainly due to an increase in customer deposits and placements with other banks and financial institutions.

The total liabilities of national joint-stock commercial banks increased by 11.53% from the prior year-end, up 1.89 percentage points. The total liabilities of CBHB increased by 24.75% from the prior year-end, mainly due to increased central bank borrowing and deposits.

The total liabilities of city commercial banks increased by 9.86% from the prior year-end, up 1.56 percentage points. The total liabilities of LZB increased by 29.66%, as its customer deposits increased by 38.72% from the prior year-end.

The total liabilities of rural commercial banks increased by 13.71% from the prior year-end, up 3.71 percentage points. The total liabilities of QDRCB increased by 19.19%, as its customer deposits increased by 14.57% from the prior year-end.

Growth of total liabilities of the listed banks



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 2018		31 December 2019		31 December 2020	
	Amount	Growth rate	Amount	Growth rate	Amount	Growth rate
ICBC	25,354,657	5.88%	27,417,433	8.14%	30,435,543	11.01%
CCB	21,231,099	4.44%	23,201,134	9.28%	25,742,901	10.96%
ABC**	20,933,665	6.67%	22,923,630	9.51%	24,994,301	9.03%
BOC	19,541,878	9.23%	20,793,048	6.40%	22,239,822	6.96%
BOCOM	8,825,863	5.55%	9,104,688	3.16%	9,818,988	7.85%
PSBC	9,040,898	5.36%	9,671,827	6.98%	10,680,333	10.43%
Large commercial banks	**104,928,060**	**6.28%**	**113,111,760**	**7.80%**	**123,911,888**	**9.55%**
CMB	6,202,124	6.67%	6,799,533	9.63%	7,631,094	12.23%
IB	6,239,073	4.09%	6,596,029	5.72%	7,269,197	10.21%
SPDB	5,811,226	1.84%	6,444,878	10.90%	7,304,401	13.34%
CITIC	5,613,628	6.62%	6,217,909	10.76%	6,951,123	11.79%
CEB	4,034,859	6.66%	4,347,377	7.75%	4,913,112	13.01%
CMBC	5,563,821	0.94%	6,151,012	10.55%	6,408,985	4.19%
PAB	3,178,550	5.03%	3,626,087	14.08%	4,104,383	13.19%
HX	2,461,865	5.23%	2,751,452	11.76%	3,117,161	13.29%
CZB	1,544,246	6.72%	1,672,759	8.32%	1,915,682	14.52%
CBHB	978,592	2.57%	1,034,291	5.69%	1,290,277	24.75%
National joint-stock commercial banks	**41,627,984**	**4.48%**	**45,641,327**	**9.64%**	**50,905,415**	**11.53%**
BOB	2,378,731	10.48%	2,528,077	6.28%	2,678,871	5.96%
BSH	1,866,004	12.39%	2,059,855	10.39%	2,271,205	10.26%
BJS	1,801,318	8.66%	1,928,622	7.07%	2,155,814	11.78%
BONB	1,035,193	6.19%	1,216,981	17.56%	1,507,756	23.89%
BONJ	1,164,503	8.53%	1,255,507	7.81%	1,409,043	12.23%
HSB	980,229	15.47%	1,042,228	6.32%	1,166,028	11.88%
BHZ	863,892	10.59%	961,526	11.30%	1,088,395	13.19%
BGY	467,483	6.62%	520,072	11.25%	546,229	5.03%
BOCD	461,009	12.57%	522,756	13.39%	606,319	15.99%
BOCS	494,849	10.82%	560,165	13.20%	658,512	17.56%
BCQ	415,757	6.52%	462,618	11.27%	519,647	12.33%
BTJ	611,619	-6.93%	618,224	1.08%	633,812	2.52%
BGZ	315,744	19.03%	375,500	18.93%	420,373	11.95%
ZYB	564,767	18.67%	652,054	15.46%	698,127	7.07%
BOZZ	428,279	6.43%	460,587	7.54%	501,842	8.96%
BOXA	223,496	3.28%	254,615	13.92%	280,768	10.27%
BSZ	286,499	9.42%	314,518	9.78%	356,837	13.46%
BQD	290,162	3.57%	343,144	18.26%	428,921	25.00%
JXB	386,253	11.40%	421,031	9.00%	422,750	0.41%
XMB	218,458	8.95%	231,295	5.88%	265,477	14.78%
BJJ	288,023	13.57%	337,994	17.35%	389,165	15.14%
WHCCB	189,314	-2.13%	206,712	9.19%	245,928	18.97%
JSB	211,252	9.92%	227,412	7.65%	249,902	9.89%
SJB	928,403	-5.11%	942,359	1.50%	957,912	1.65%
HRB	568,097	8.86%	531,448	-6.45%	547,495	3.02%
LZB	76,183	14.49%	84,791	11.30%	109,937	29.66%
BOGS	303,375	19.19%	310,356	2.30%	310,899	0.17%
BJZ***	785,160	18.38%	777,189	-1.02%	706,750	-9.06%
City commercial banks	**18,604,052**	**9.03%**	**20,147,636**	**8.30%**	**22,134,714**	**9.86%**
CQRCB	878,469	4.51%	940,428	7.05%	1,041,294	10.73%
GZRCB	707,709	2.98%	820,445	15.93%	951,986	16.03%
QDRCB	272,798	17.01%	316,406	15.99%	377,109	19.19%
CSRCB	153,169	13.70%	166,940	8.99%	189,578	13.56%
ZJRCB	180,872	12.35%	187,570	3.70%	202,849	8.15%
WXRCB	143,466	12.28%	150,182	4.68%	165,948	10.50%
JTRCB	149,146	-12.45%	157,615	5.68%	184,112	16.81%
JYRCB	104,214	4.16%	114,470	9.84%	130,506	14.01%
ZJGRCB	103,436	9.18%	112,307	8.58%	132,508	17.99%
SZRCB	107,261	23.58%	114,330	6.59%	127,300	11.34%
Rural commercial banks	**2,800,540**	**6.23%**	**3,080,693**	**10.00%**	**3,503,190**	**13.71%**
All listed banks	**167,960,636**	**6.12%**	**181,981,416**	**8.35%**	**200,455,207**	**10.15%**

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.
**ABC restated the amounts of total liabilities as at 31 December 2019 and 31 December 2018 in 2020.
***BJZ restated the amount of total liabilities as at 31 December 2019 in 2020.

Stable liability structure with deposits representing highest proportion

In 2020, the liability structure of the listed banks was held relatively stable. The main driver of liability growth was deposits that accounted for the highest proportion in total liabilities. The proportion of interbank liabilities and bonds issued decreased while the proportion of other liabilities increased.

As at 31 December 2020, the deposits of the listed banks amounted to RMB149,398.61 billion, growing by RMB13,768.84 billion, or 10.15%, from the prior year-end, up 1.30 percentage points from the growth in 2019. The deposits of large commercial banks, national joint-stock commercial banks, city commercial banks and rural commercial banks grew by 9.38%, 11.51%, 11.94% and 13.73%, respectively. As at 31 December 2020, the deposits accounted for 74.53% of total liabilities, remaining stable as compared with 2019. The proportion diverged among the different types of the listed banks, standing at 80.68%, 63.49%, 65.18% and 76.63%, respectively, for large commercial banks, national joint-stock commercial banks, city commercial banks and rural commercial banks, showing different deposit-taking capacity and varying degrees of reliance on deposits.

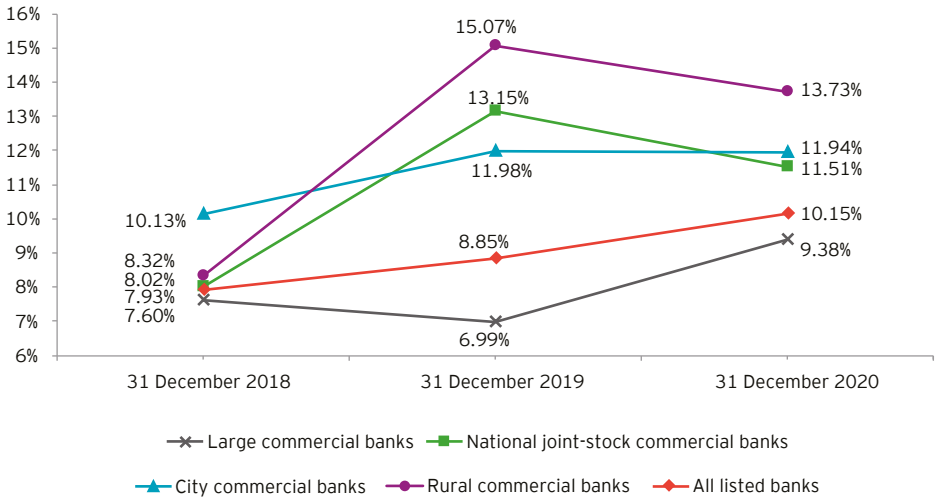
Changes in the liability structure

	31 December 2018	31 December 2019	31 December 2020
Deposits	74.18%	74.53%	74.53%
Interbank liabilities*	12.50%	11.99%	11.72%
Bonds and debt securities issued	7.07%	7.57%	7.21%
Others	6.25%	5.91%	6.54%

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

For the breakdown of deposits, the proportion of time deposits of the listed banks decreased as at 31 December 2020. The proportion of time deposits of large commercial banks, city commercial banks and rural commercial banks rose by 0.21 percentage point, 1.89 percentage points and 1.13 percentage points, respectively, while the proportion of time deposits of national joint-stock commercial banks decreased by 2.33 percentage points. Particularly, the proportion of time deposits of CMB decreased by 6.75 percentage points, mainly due to a decrease of 3% in its corporate time deposits. The proportion of time deposits of CMBC decreased by 1.76 percentage points, mainly due to an increase of 0.44% in corporate time deposits and an increase of 8.0% in demand deposits.

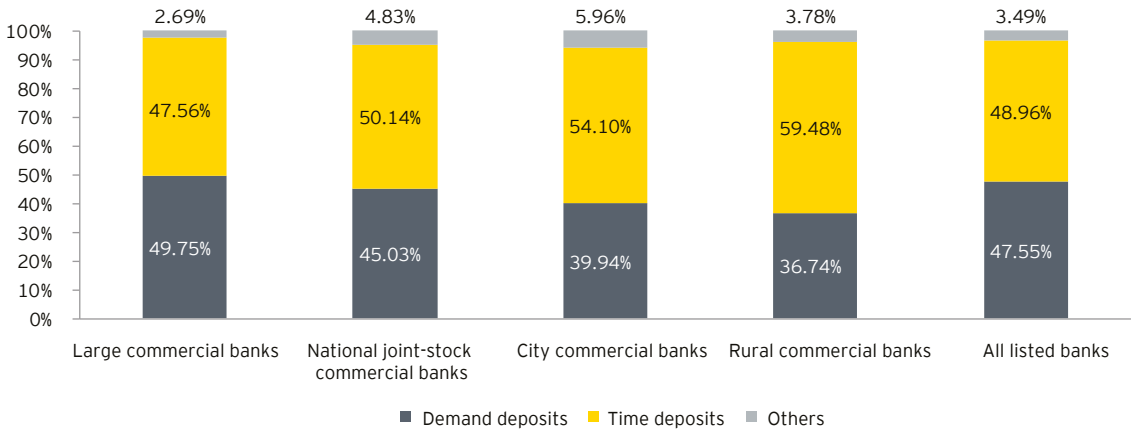
Growth in deposits of the listed banks



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

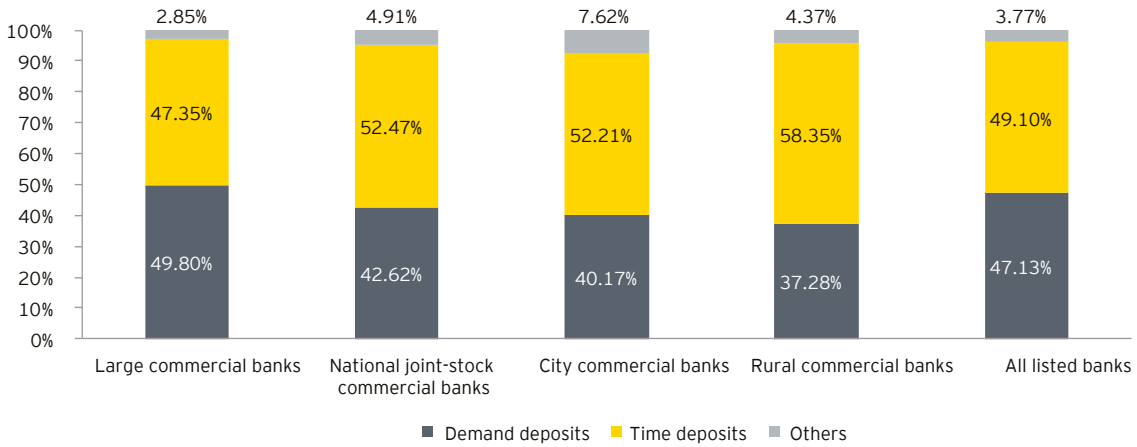
To improve commercial banks' liability management and maintain a safe and sound operation of the banking system, the CBIRC issued the *Measures for the Quality Management of Liabilities of Commercial Banks* (the "Measures") in March 2021. Firstly, the Measures defined the contents and business scope of the liability management of commercial banks. Secondly, the Measures established a liability management system and put forward clear requirements on the management of liabilities of commercial banks from aspects including organizational structure, corporate governance, internal control and business innovation management. Thirdly, the Measures proposed six core elements of liability management, namely stability of liability sources, diversity of liability structure, reasonableness of balance between liabilities and assets, initiative in accessing liabilities, appropriateness of liability costs and authenticity of liability items. Fourthly, the Measures strengthened the supervision, inspection and regulatory measures related to liability quality, and specified the requirements for commercial banks to report to regulators on liability management situation and the scope where the regulatory assessment results of liability structure would be applied. Looking ahead, the listed banks need to further enhance liability management and improve liability structure and quality based on the regulatory requirements.

Breakdown of deposits of the listed banks in 2020 (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 2019 (demand deposits/time deposits)



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

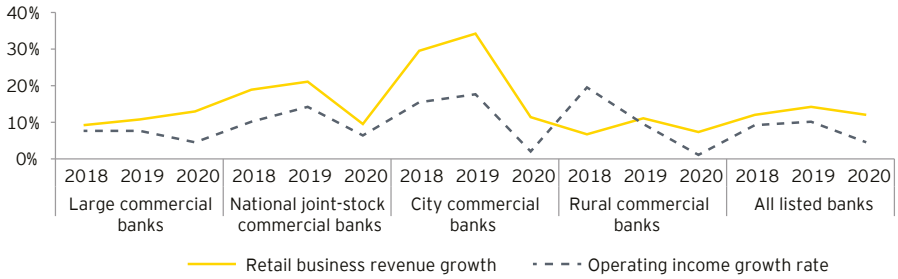
03 Impressive retail transformation highlighted by growing contribution to profits

In 2020, retail banking at the listed banks acted as a new engine driving profit growth and made increasing contribution to profits. The Chinese banks have generally focused on retail banking in pursuit of strategic development. They tried to capture the leading positions in wealth management, private banking and other business areas by driving digital transformation of retail business through differentiated measures.

Year-on-year increase in profit contribution from retail business

As at 31 December 2020, the total operating income of the listed banks' retail business amounted to RMB2,146.26 billion, growing by RMB233.08 billion, or 12.18%, from 2019. The growth rate of the total operating income from the retail business of large commercial banks, national joint-stock commercial banks, city commercial banks and rural commercial banks was 13.16%, 9.61%, 11.56% and 7.58%, respectively, all higher than the growth rate in total operating income.

Growth in operating income of retail business



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

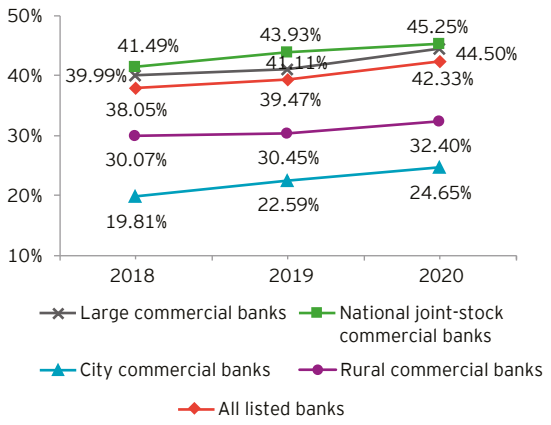
In 2020, the operating income from the retail business of the listed banks accounted for 42.33% of total operating income, up 2.86 percentage points from 2019, while the proportion was 42.26% for corporate business and 10.90% for financial market business. The proportion of operating income from retail business exceeded the share contributed by corporate business for the first time. Profit before tax of the retail business accounted for 45.61% of total profit before tax, up 6.56 percentage points over 2019. In contrast, the proportion was 35.32% for corporate business, and 16.86% for financial market business. In terms of proportion of profit before tax, retail business held a 10.29 percentage point lead (2019: a 2.46 percentage point lead) over corporate business in 2020.

The operating income from retail business of joint-stock commercial banks accounted for 45.25% of total operating income (highest among all types of banks), up 1.32 percentage points from 2019. Some of the joint-stock commercial banks have focused on developing their retail business, such as CMB and PAB whose retail banking contributed over 50% of total operating income in the past few years. However, affected by the provisions for retail credit losses, the proportion of profit before tax from retail business in total profit before tax for national joint-stock commercial banks decreased by 0.19 percentage point from 2019.

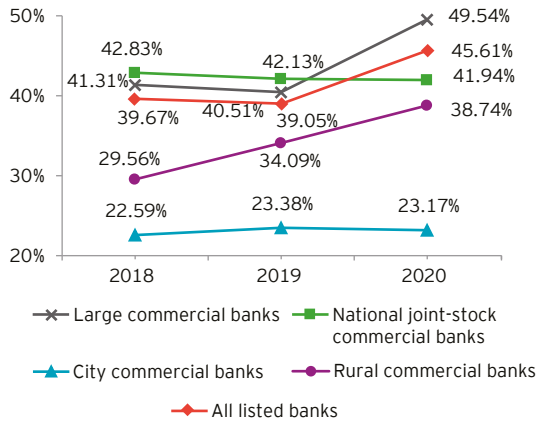
The proportion of operating income from retail business of large commercial banks was 44.50% in 2020, up 3.39 percentage points from 2019, and the proportion of profit before tax from retail business increased by 9.03 percentage points to 49.54% from 2019. In 2020, large commercial banks achieved rapid expansion of their retail business built on their extensive outlet network and prime customer base, which was highlighted by CCB's retail contribution to profit before tax that surged from 45.51% in 2019 to 61.21%. And the pivotal role of retail banking was also emphasized by ICBC that aims to build the "No.1 Personal Bank", ABC that endeavors to build itself into a preferred smart retail bank for customers, and BOC that achieved significant growth in personal banking in 2020.

The proportions of operating income and profit before tax from retail business of rural commercial banks increased significantly in 2020, while city commercial banks continued to rely more on corporate business or financial market business to generate profits.

Contribution of retail business to operating income of the listed banks



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



Source: Annual reports and prospectuses published by the listed banks.

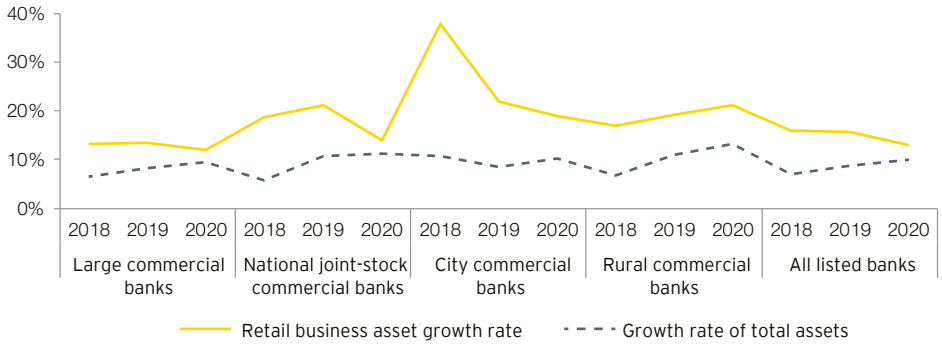
Growing retail assets and liabilities as a percentage of the total

At the end of 2020, the asset size of the listed banks' retail business increased by 12.98% from the end of 2019. The retail assets of large commercial banks, national joint-stock commercial banks, city commercial banks and rural commercial banks grew by 11.87%, 13.98%, 18.81% and 21.13%, respectively. Most banks grew their retail assets by more than 10%, with BONB seeing the largest increase by 44.30%.

The proportion of assets of retail business segments in total assets of the listed banks increased year-on-year, reaching 23.61%, up 0.61 percentage point from 2019. Each of the categories of the listed banks recorted an increase in this proportion, with city commercial banks posting the highest growth of 1.20 percentage points from 2019. At the individual bank level, CSRCB, PAB, PSBC and CMB each recorded a proportion of over 30%.

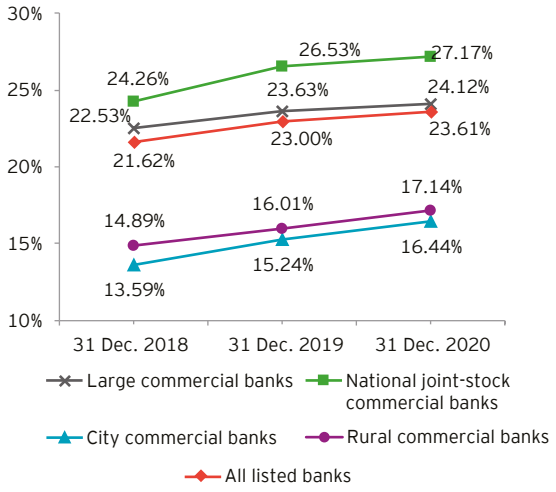
Personal loans, the key component of retail assets of the listed banks, grew by 13.54% from 31 December 2019 to RMB49,552.02 billion as at the end of 2020, accounting for 40.68% of total loans, showing an upward trend for three consecutive years. The proportion of personal loans to total loans for large commercial banks and national joint-stock commercial banks was above 40%, standing at 41.17% and 43.39%, respectively. At the individual bank level, PAB, PSBC, CSRCB and CMB each recorded a proportion of over 50%. In terms of changes, all types of the listed banks registered an increase in this proportion.

Growth rate of retail assets

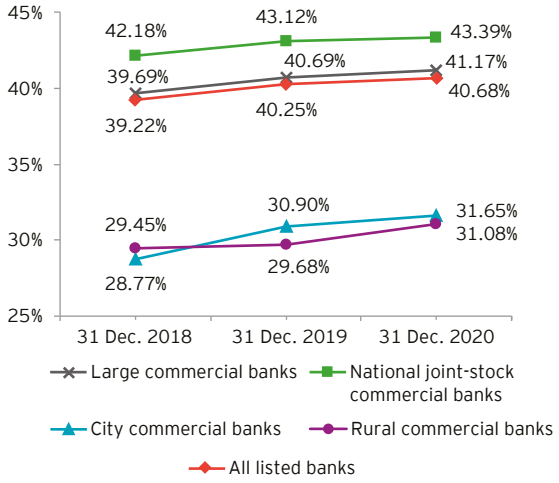


Source: Annual reports and prospectuses published by the listed banks.

Retail business assets as a proportion of the total assets of the listed banks



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

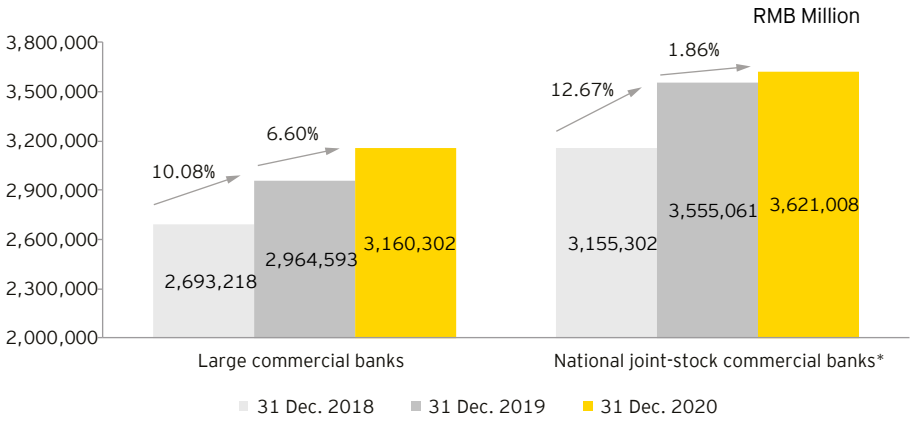


Source: Annual reports and prospectuses published by the listed banks.

Personal housing loans remained a key component of personal loans. Personal housing loans of the listed banks as a percentage of total personal loans decreased by 0.19 percentage point from 2019 to 64.45%. For large commercial banks, the proportion was above 60% except for PSBC, with ICBC and CCB keeping it at above 80%. For national joint-stock commercial banks, the proportion averaged 44.50%, and except for IB and CBHB, other bank peers reported a proportion of less than 50%, with CZB recording it below 25%. The proportion showed significant divergence among city commercial banks and rural commercial banks, which stood at between 8.89% and 90.46%[1].

Credit card loans, as part of personal loans, posted slower growth. As at 31 December 2020, credit card loans of large commercial banks amounted to RMB3,160.30 billion, growing by 6.60% from the 2019 year-end, down 3.48 percentage points from the growth in the prior year. CCB recorded the largest balance of RMB828.94 billion, followed by ICBC with RMB681.61 billion. ABC, BOC and BOCOM each recorded a balance of around RMB500 billion. As at 31 December 2020, the credit card balance of national joint-stock commercial banks amounted to RMB3,621.01 billion, increasing by 1.86% from 31 December 2019, down 10.81 percentage points. CMB reported the largest balance of RMB746.69 billion, PAB held a balance of RMB529.25 billion, and CITIC, CMBC and CEB each recorded a balance of above RMB440 billion.

Credit card loans



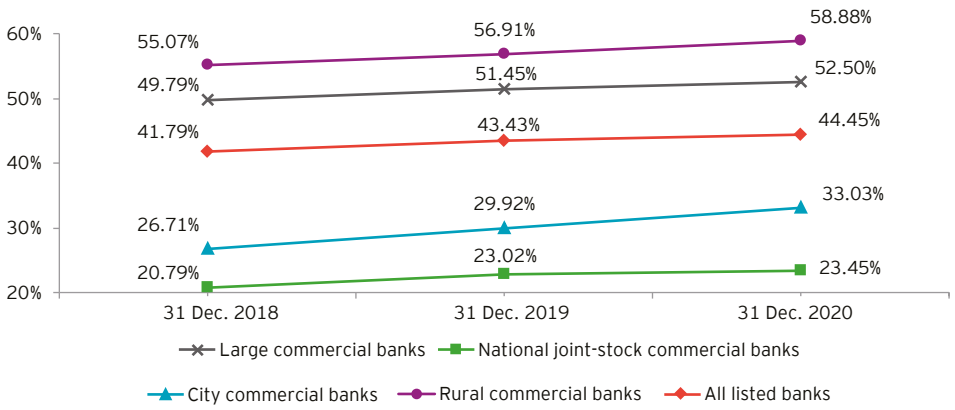
Source: Calculated based on the annual reports and prospectuses published by the listed banks.
*CZB is excluded from calculation.

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

In addition, online loans as part of personal loans have grown rapidly in recent years, and the COVID-19 outbreak has increased consumer demand for contactless transactions. The rapidly growing business might expose banks to imprudent risk management, insufficient financial consumer protection, and inadequate monitoring of the use of funds. Regulation on online loans of commercial banks have also tighntened. The CBIRC issued the *Interim Measures for Administration of Online Loans Issued by Commercial Banks* (the "Measures") in July 2020. The Measures clarified the definition and scope of online loans, set out the requirements for risk management, standardized partnership management, enhanced consumer protection, and emphasized supervision and management. The Measures also required commercial banks to submit reports on online loans business, conduct self-assessment, and report major matters or events. In July 2020, the Statistics and Analysis Department of the PBOC issued the *Emergency Notice Concerning an Investigation into Online Joint Consumer Loans* to map the size of online joint consumer loans. In February 2021, the CBIRC issued the *Circular on Further Regulating the Online Loans of Commercial Banks*, refining prudential regulation requirements in terms of implementing risk control and strictly controlling cross-regional operations. In particular, for joint loans, the regulation put forward three quantitative indicators: the proportion of partner's contribution in a single joint loan should not be less than 30%; the balance of loans issued by the bank jointly with a single partner (including its related parties) shall not exceed 25% of the bank's net tier-1 capital; and the joint loan balance shall not exceed 50% of the bank's total loan balance. The ongoing regulatory guidance will limit the size of online loans by a single partner by defining the funding contribution, help commercial banks and platforms to match earnings with risks, drive small- and medium-sized banks to strengthen their risk self-control capabilities and avoid the concentration risk from over-reliance on a single partner.

Personal deposits were recorded as the core liabilities of the listed banks. As at 31 December 2020, the aggregate personal deposits of the listed banks amounted to RMB66,404.65 billion, growing by 12.75% from a year earlier and accounting for 44.45% of total bank deposits, up 1.02 percentage points from the prior year-end. Rural commercial banks reported the highest proportion of personal deposits in total deposits, which was 58.88% as at the end of 2020, up 1.97 percentage points from the prior year-end. For large commercial banks, city commercial banks and national joint-stock commercial banks, the proportion was 52.50%, 33.03% and 23.45%, respectively.

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

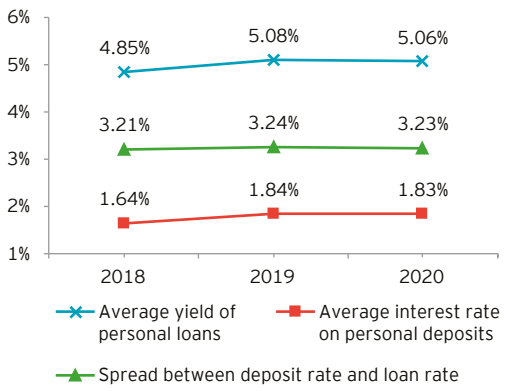


Source: Calculated based on the annual reports and prospectuses published by the listed banks.

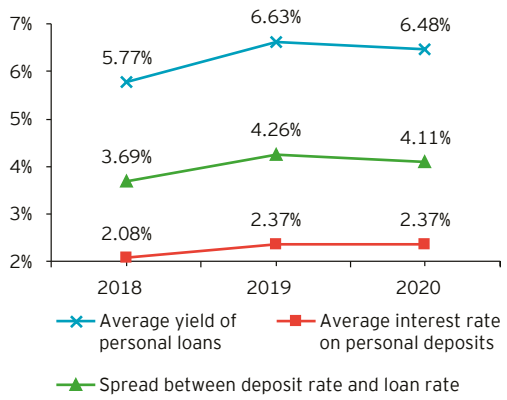
Expansion of wealth management business to address declining interest spread between deposits and loans

The average yield of personal loans, the average interest rate of personal deposits and the interest spread between deposits and loans for large commercial banks and national joint-stock commercial banks decreased in 2020 as compared with 2019. In 2020, the listed banks that recorded a yield of above 6.50% on personal loans included PAB, CZB, SPDB and IB. Particularly, PAB recorded the highest yield of 7.23%, and the yield stood above 7.20% for three consecutive years. CMB registered the lowest interest rate of 1.22% on personal deposits, while CZB reported the highest of 3.44%. The interest spreads were divergent among the listed banks, with PAB, CMB and IB each recording a high interest spread, standing at 4.81%, 4.67% and 4.29%, respectively, in 2020.

Average yields of personal loans and average interest rates of personal deposits of large commercial banks



Average yields of personal loans and average interest rates of personal deposits of National joint-stock commercial banks

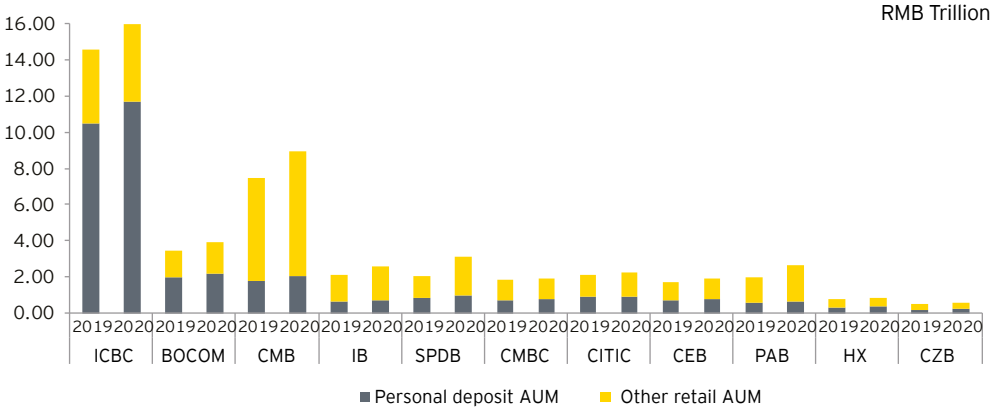


Source: Calculated based on the annual reports and prospectuses published by the listed banks. The average interest rates on personal deposits of large commercial banks were calculated without BOC as it did not disclose the data.

For retail business, assets under management ("AUM") of commercial banks showed a growing trend in 2020, with SPDB and PAB reporting the high growth rate of 54% and 32%, respectively, from 2019. Commercial banks with over RMB10 trillion of retail AUM included ICBC, CCB, ABC, BOC and PSBC. The following 11 listed banks disclosed their retail AUM for 2019 and 2020.

Analyzed from the perspective of the composition of retail AUM, the personal deposits of large commercial banks made greater contribution to retail AUM, ranging from 50% to 80%. For example, in 2020, ICBC's personal deposits were RMB11.66 trillion, accounting for about 73% of retail AUM (RMB16 trillion), and BOCOM's retail AUM was about RMB4 trillion, 56% of which were personal deposits. In contrast, the proportions of personal deposits in total retail AUM were low for the national joint-stock commercial banks, ranging from 20% to 50%. Particularly, the proportion was 23% for CMB, 25% for PAB, 28% for IB, 31% for SPDB, and was between 40% and 50% for CMBC, CITIC, CEB, HX and CZB. Capital-light and high-yield wealth management services such as bank wealth management, family trusts, agency insurance and fund management have become a major source of retail AUM for national joint-stock commercial banks.

The composition and change analysis of retail AUM of 11 national joint-stock commercial banks



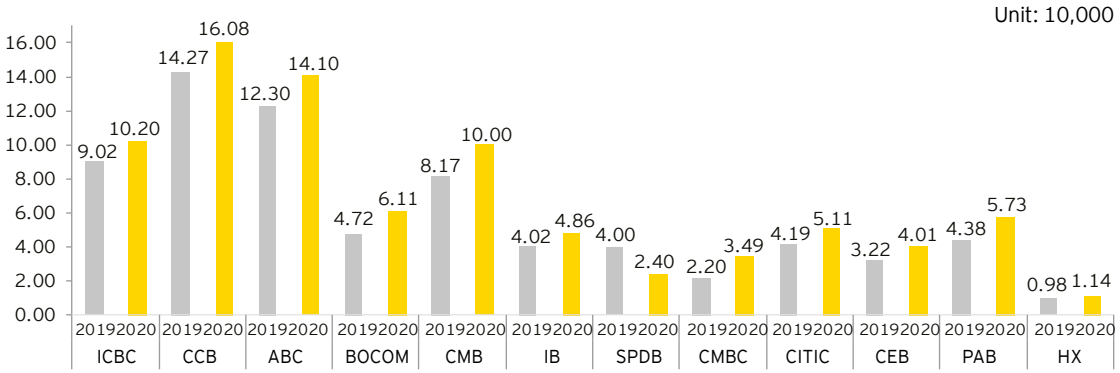
Source: Calculated based on the annual reports and prospectuses published by the listed banks. Only include large commercial banks and national joint-stock banks that disclosed the data.

Rapid growth of private banking and higher contribution from mid-to-high-end customer groups

The current thresholds for private banking customers set by domestic listed banks based on regulatory requirements range from RMB6 million to RMB10 million. The following 12 listed banks disclosed their number and AUM of private banking customers for 2019 and 2020.

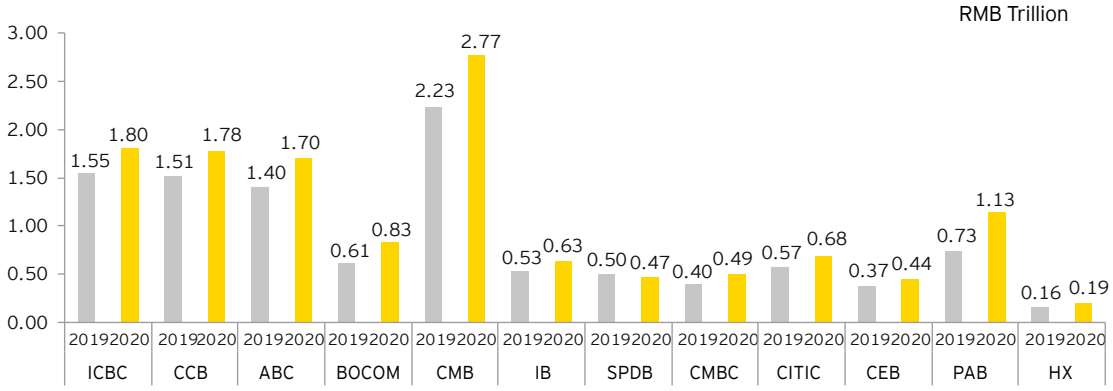
The number of private banking customers and the size of private banking AUM of the above 12 listed banks generally increased in 2020. For example, CCB's number of private banking customers reached 160,800, an increase of 12.65% over 2019; ABC's number of private banking customers reached 141,000, an increase of 14.63% over 2019; and the number of private banking customers of ICBC and CMB exceeded 100,000. Among the 12 listed banks mentioned above, ICBC, CCB, ABC and CMB each held private banking AUM of over RMB1 trillion in 2019, with CMB holding the largest size of RMB2.23 trillion. PAB's private banking AUM exceeded RMB1 trillion in 2020, reaching RMB1.13 trillion.

Number of private banking customers of 12 listed banks



Source: Calculated based on the annual reports published by the listed banks. Only large commercial banks and national joint-stock commercial banks that disclose the data are included.

Private banking AUM of 12 listed banks



Source: Calculated based on the annual reports published by the listed banks. Only large commercial banks and national joint-stock commercial banks that disclose the data are included.

Prospect of retail banking amid accelerating differentiated digital transformation

The rapid growth of retail AUM is closely related to the MAU (Monthly Active User) indicator. In the digital age, commercial banks increase investment in technology and embed "customer-centric" philosophy into people's daily life scenarios based on internet technology. As mobile banking is the primary front-end channel for retail business, user activity improvement will be a priority in the later stage of banks' retail transformation, and a fundamental approach to converting implicit MAU to explicit AUM and end-users' operating income contribution. In 2020, the listed banks leveraged digital innovation to improve customer engagement, enhance customer loyalty, and promote business transformation. For example, BOC had 211 million mobile banking customers, and the transaction amount for the year reached RMB32.28 trillion; the number of monthly active users of CMB APP and CMB Life APP reached 107 million, and the number of CMB APP users increased by 35.55% from prior year-end; CEB had 38.47 million monthly active users, an increase of 78.50% from prior year-end; the monthly active users of PAB Pocket APP increased by 15.60% year-on-year, reaching 40.33 million; and the monthly active users of CITIC mobile app increased by 20.66%, reaching 26.16 million[2].

As analyzed in the EY report *Future of consumer banking in Asia-Pacific Part 3 - Digitalize, Differentiate and Disrupt*, retail banking is facing a situation where customers are increasingly taking the initiative and seeking solutions from multiple service providers, so the traditional business model is no longer viable for sustainable long-term growth and profitability, and transformation has become an inevitable choice. To achieve digitalization, banks can invest in innovation to integrate digitalization into their business strategy and organizational strategy and explore open banking. Technology investment projects of the listed banks should focus on innovation. Modernization is a fundamental requirement for digital transformation and the development of a new financial ecosystem. IT upgrades are imperative because modern technology stacks can cut IT maintenance costs, allocate more resources to implement real innovation, and help launch excellent digital products and services, reduce service costs and improve profitability. At a time when customers are dominant, retail banking needs to differentiate itself by building a digital workforce with a customer focus and providing customized products and services that satisfy customers. Banks should improve the overall customer experience by redesigning their customer value proposition to differentiate themselves from peers, providing customers with real-time customized products and services, and advancing the development of new financial products based on sound suggestions from customers in their day-to-day transactions, shifting towards achieving a truly tailored digital experience for customers. In the face of rapid technological developments and new operating models, banks' management should develop human resource strategies for new technologies and talent insights, and develop a future-ready talent pool to support the delivery of a new generation of financial services. Banks need to disrupt themselves by reviewing their existing business models, collaborating and innovating across the digital ecosystem, and understanding how to derive additional value from customer data. Retail banks need to fundamentally transform into more efficient, customer-centric institutions that seek long-term growth with strategic changes to digitalize, differentiate and disrupt themselves.

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

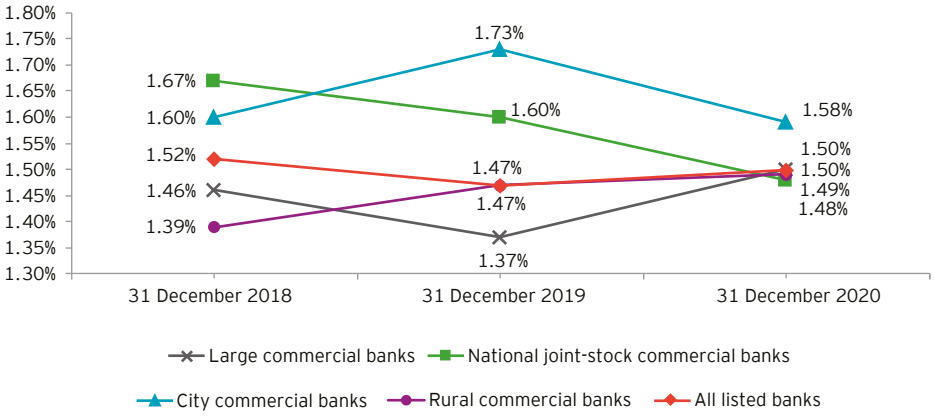
04 Addressed increasing credit risk and stepped up disposal of non-performing assets

In 2020, due to the pandemic mixed with other uncertainties, the listed banks saw increasing credit risk and rising NPL ratio that posted a decline in 2019. By strengthening credit risk prevention and control and increasing the write-off and disposal of non-performing assets, the listed banks held their asset quality largely stable.

Asset resolution was increased as NPL balance and NPL ratio rose

The 2020 year-end balance of NPLs of the listed banks totaled RMB1,827.10 billion, an increase of RMB241.10 billion from prior year-end. The weighted average NPL ratio rose from 1.47% at the end of 2019 to 1.50%, an increase of 0.03 percentage point. Particularly, the NPL ratio of large commercial banks was 1.50%, increasing by 0.13 percentage point from prior year-end. The NPL ratio of national joint-stock commercial banks was 1.48%, decreasing by 0.12 percentage point from prior year-end. The NPL ratio of city commercial banks was 1.58%, decreasing by 0.15 percentage point from prior year-end. The NPL ratio of rural commercial banks was 1.49%, increasing by 0.02 percentage point from prior year-end.

Changes in the NPL ratios of the listed banks



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

NPL balances and NPL ratios of the listed banks (Unit: RMB million)						
	31 December 2018		31 December 2019		31 December 2020	
	Amount	NPL Ratio	Amount	NPL Ratio	Amount	NPL Ratio
ICBC	235,084	1.52%	240,187	1.43%	293,978	1.58%
CCB	200,881	1.46%	212,473	1.42%	260,729	1.56%
ABC	190,002	1.59%	187,210	1.40%	237,113	1.57%
BOC	166,941	1.42%	178,235	1.37%	207,273	1.46%
BOCOM	72,512	1.49%	78,043	1.47%	97,698	1.67%
PSBC	36,888	0.86%	42,844	0.86%	50,367	0.88%
Large commercial banks	**902,308**	**1.46%**	**938,992**	**1.37%**	**1,147,158**	**1.50%**
CMB	53,605	1.36%	52,275	1.16%	53,615	1.07%
IB	46,140	1.57%	53,022	1.54%	49,656	1.25%
SPDB	68,143	1.92%	81,881	2.03%	78,461	1.73%
CMBC	53,866	1.76%	54,434	1.56%	70,049	1.82%
CITIC	64,028	1.77%	66,117	1.65%	73,452	1.64%
CEB	38,421	1.59%	42,212	1.56%	41,666	1.38%
PAB	34,905	1.75%	38,233	1.65%	31,390	1.18%
HX	29,809	1.85%	34,237	1.83%	37,976	1.80%
CZB	10,414	1.20%	14,147	1.37%	17,045	1.42%
CBHB	10,417	1.84%	12,591	1.78%	15,714	1.77%
National joint-stock commercial banks	**409,748**	**1.67%**	**449,149**	**1.60%**	**469,024**	**1.48%**
BOB	18,425	1.46%	20,298	1.40%	24,551	1.57%
BSH	9,712	1.14%	11,253	1.16%	13,401	1.22%
BJS	12,378	1.39%	14,357	1.38%	15,829	1.32%
BONB	3,353	0.78%	4,142	0.78%	5,456	0.79%
BONJ	4,272	0.89%	5,082	0.89%	6,174	0.91%
HSB	3,980	1.04%	4,815	1.04%	11,358	1.98%
BHZ	5,085	1.45%	5,533	1.34%	5,175	1.07%
BGY	2,306	1.35%	2,961	1.45%	3,536	1.53%
BOCD	2,854	1.54%	3,305	1.43%	3,868	1.37%
SJB	6,442	1.71%	8,005	1.75%	17,830	3.26%
BOCS	2,644	1.29%	3,181	1.22%	3,813	1.21%
BTJ	4,731	1.65%	5,765	1.98%	6,580	2.16%
BCQ	2,881	1.36%	3,131	1.27%	3,564	1.27%
HRB	4,397	1.73%	5,252	1.99%	8,333	2.97%
BGZ	1,905	1.36%	2,129	1.18%	2,456	1.15%
BOZZ	3,938	2.47%	4,645	2.37%	4,944	2.08%
ZYB	6,207	2.44%	6,679	2.23%	7,883	2.21%
BOXA	1,595	1.20%	1,802	1.18%	2,032	1.18%
BSZ	2,381	1.68%	2,448	1.53%	2,592	1.38%
BQD	2,117	1.68%	2,852	1.65%	3,126	1.51%
JXB	3,248	1.91%	4,737	2.26%	3,870	1.73%
BJJ	2,828	1.99%	3,055	1.71%	3,265	1.55%
JSB	1,899	1.87%	2,142	1.86%	2,509	1.84%
LZB	248	0.80%	417	0.94%	1,088	1.83%
BOGS	3,689	2.29%	4,182	2.45%	4,145	2.28%
BJZ	18,508	4.99%	37,685	7.70%	10,288	2.07%
XMB	1,109	1.33%	1,276	1.18%	1,381	0.98%
WHCCB	1,370	1.82%	1,668	1.80%	1,774	1.47%
City commercial banks	**134,502**	**1.60%**	**172,797**	**1.73%**	**180,821**	**1.58%**
CQRCB	4,926	1.29%	5,460	1.25%	6,645	1.31%
GZRCB	4,805	1.27%	8,320	1.73%	10,310	1.81%
QDRCB	2,144	1.57%	2,615	1.46%	3,137	1.44%
CSRCB	914	0.99%	1,057	0.96%	1,264	0.96%
ZJRCB	1,474	1.69%	1,718	1.68%	2,031	1.68%
WXRCB	937	1.24%	1,030	1.21%	1,098	1.10%
JTRCB	1,355	1.75%	1,617	1.68%	2,125	1.63%
JYRCB	1,356	2.15%	1,288	1.83%	1,437	1.79%
ZJGRCB	885	1.47%	982	1.38%	995	1.17%
SZRCB	781	1.31%	910	1.33%	1,009	1.28%
Rural commercial banks	**19,577**	**1.39%**	**24,997**	**1.47%**	**30,051**	**1.49%**
All listed banks	**1,466,135**	**1.52%**	**1,585,935**	**1.47%**	**1,827,054**	**1.50%**

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

The NPL ratio of all the 6 large commercial banks increased from prior year-end. With large number of overseas entities, the large commercial banks saw a general increase in the NPL ratio at their domestic entities, and a dramatic rise in the NPL ratio at their overseas entities as the overseas regions were more severely affected by the pandemic. Particularly, the NPL ratio of CCB's and BOC's overseas entities increased by 0.55 and 0.34 percentage point, respectively, from prior year-end.

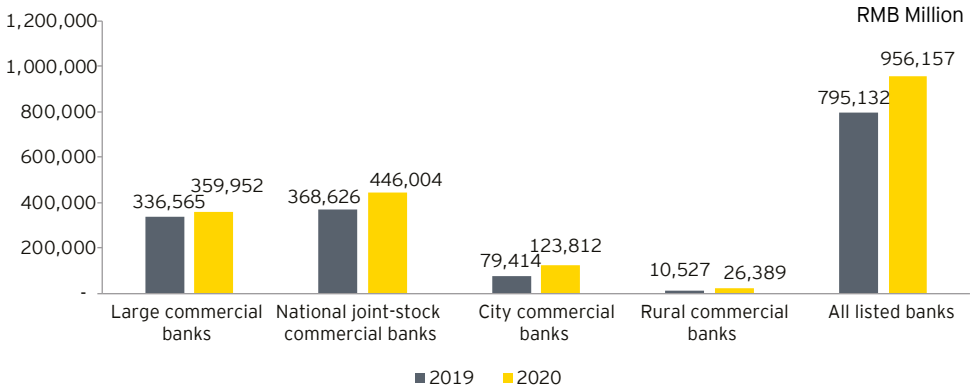
For national joint-stock commercial banks, the NPL ratio of CMBC and CZB increased while that of the others declined, mainly due to an increase in the write-off and disposal of NPLs. National joint-stock commercial banks deducted the loan impairment reserves of RMB446 billion through write-offs and disposals in 2020, an increase of RMB77.40 billion from the previous year, higher than that of large commercial banks, city commercial banks and rural commercial banks. While the overall NPL ratio declined, the credit card NPL ratio of most national joint-stock commercial banks increased. Particularly, CBHB reported a significant increase of 3.93 percentage points from prior year-end; CMBC and IB registered an increase of 0.80 and 0.69 percentage point, respectively, from prior year-end.

Among city commercial banks, 16 reported a decrease in NPL ratio, 10 reported an increase, and 2 reported the same NPL ratios as those at prior year-end. The NPL ratio of BJZ decreased from 7.70% at 2019 year-end to 2.07% at 2020 year-end, mainly due to resolution of assets. In 2020, BJZ wrote off NPLs of RMB28.60 billion, bringing down the overall average NPL ratio of city commercial banks. The NPL ratio of SJB increased from 1.75% at 2019 year-end to 3.26% at 2020 year-end, mainly due to more prudent and active loan quality management, which included loans overdue for more than 90 days and loans showing non-performing characteristics in NPL management.

Among rural commercial banks, the NPL ratio of GZRCB and CQRCB increased; the NPL ratio of CSRCB and ZJRCB remained the same as those of prior year-end; and the NPL ratio of the other 6 rural commercial banks decreased. GZRCB's NPL ratio increased by 0.08 percentage point, as the NPLs in wholesale and retail, real estate, leasing and business service industries increased rapidly due to the economic downturn under the pandemic and other factors. CQRCB's NPL ratio increased by 0.06 percentage point. Particularly, the NPL ratio of loans to manufacturing industry rose by 2 percentage points, and the NPL ratio of loans to wholesale and retail industry rose by 6.25 percentage points, as some customers with large exposures were downgraded to non-performing.

Based on the data released by the CBIRC, a great stride was made in the identification and resolution of non-performing assets in the banking industry. The resolution of NPLs from 2017 to 2020 totaled RMB8.80 trillion, exceeding the sum of NPLs resolved in the previous 12 years. The resolution of NPLs was not fully disclosed in the annual reports published by the listed banks. Analyzed based on the changes in loan impairment reserves disclosed in the annual reports, the impairment reserves used for the write-off and disposal of NPLs by the listed banks in 2020 reached RMB956.16 billion, an increase of 20% from 2019. By increasing the resolution of NPLs, the listed banks held their asset quality relatively stable amid economic downturn and the pandemic.

Loan impairment reserves reversed through write-offs



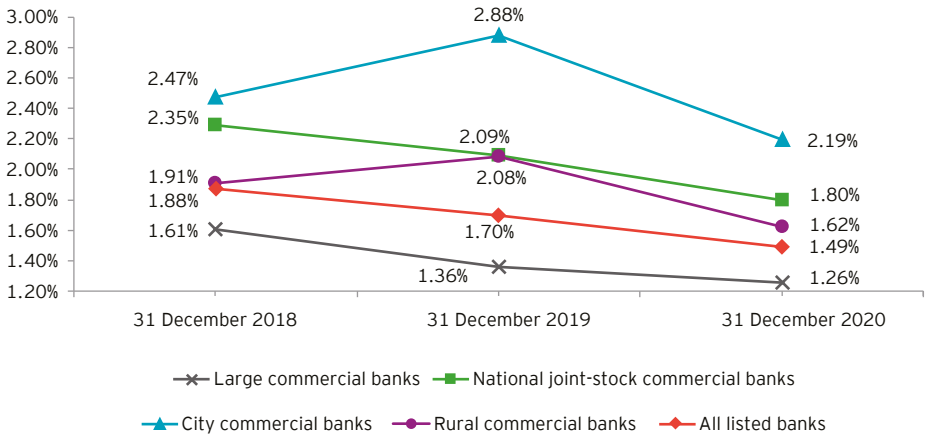
Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Decreased overdue loan ratio and monitoring of deferred repayments

Despite increased NPL ratio, listed banks' overdue loan ratio continued to decline, from 1.70% at 2019 year-end to 1.49% at 2020 year-end. By bank type, the ratio fell from 1.36% to 1.26% for large commercial banks, from 2.09% to 1.80% for national joint-stock commercial banks, from 2.88% to 2.19% for city commercial banks and from 2.08% to 1.62% for rural commercial banks.

The overdue loan ratio of the listed banks decreased due to increased resolution and regulatory policies on the fight against the pandemic. In response, the listed banks provided some borrowers affected by the pandemic with loans featuring deferred principal and interest repayment terms. Although such loans would not be presented as overdue loans before the due date as prescribed, banks should classify them based on the actual situations and substantive risks of the borrowers. CMB disclosed in its annual report that the cumulative amount of loans of which the customers were allowed to defer principal and interest repayments was RMB152.57 billion. CZB disclosed in its annual report that the number of loans granted to help SMEs affected by the pandemic from the start of the fight against the pandemic to the end of the reporting period reached 112,700, amounting to RMB181.11 billion. HX disclosed that, as at the end of the reporting period, it provided relief for 11,077 enterprises (including small businesses and individually owned businesses) by deferring principal and interest repayments and cutting interest rates, among other measures, and the cumulative transaction amount involved was RMB204.16 billion. According to the data from the CBIRC, the banking industry cumulatively deferred principal and interest repayments on loans of RMB6.60 trillion in 2020. For borrowers that enjoyed deferred principal and interest repayments, the listed banks need to monitor if their operations improve to avoid intensive risk exposures on the due date of deferred repayments.

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



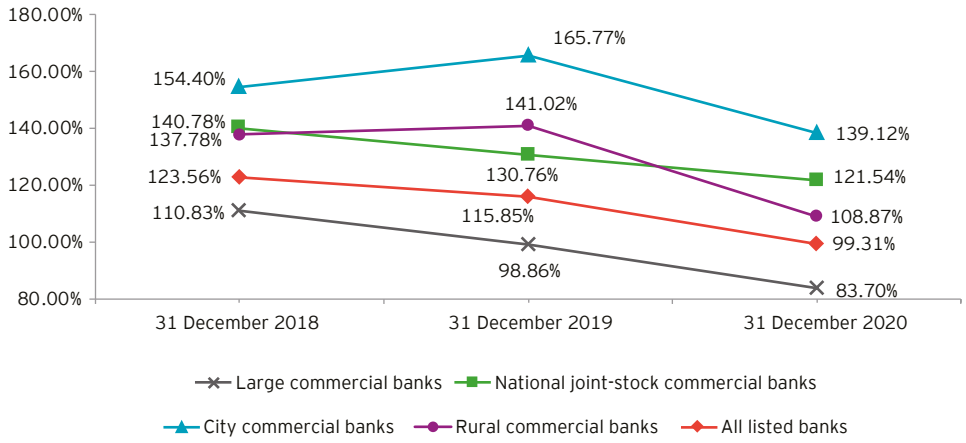
Source: Calculated based on the annual reports and prospectuses published by the listed banks.

The ratio of overdue loans to NPLs declined with stricter loan classifications

As the NPL ratio rose while the overdue loan ratio dropped, the ratio of overdue loans to NPLs of the listed banks decreased year-on-year, from 115.85% at 2019 year-end to 99.31% at 2020 year-end. By bank type, the ratio fell from 98.86% to 83.70% for large commercial banks, from 130.76% to 121.54% for national joint-stock commercial banks, from 165.77% to 139.12% for city commercial banks, and from 141.02% to 108.87% for rural commercial banks.

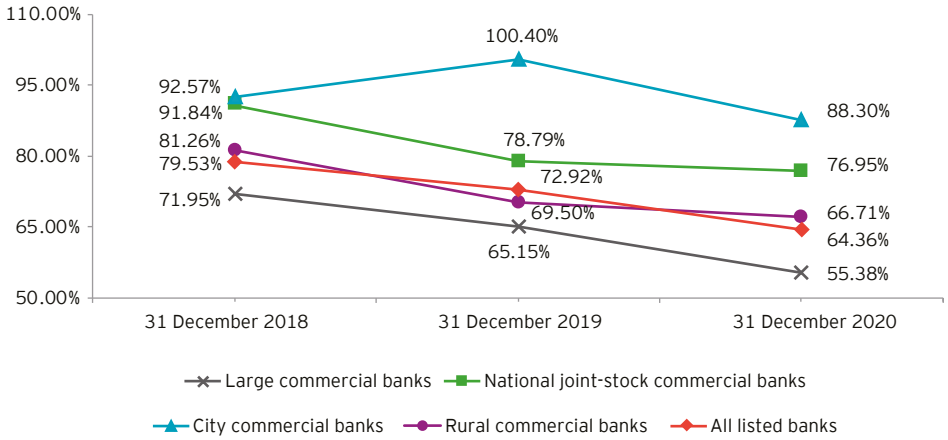
The ratio of loans overdue for 90+ days to NPLs of the listed banks decreased year-on-year, from 72.92% at 2019 year-end to 64.36% at 2020 year-end, indicating more prudent and stricter loan classifications at listed banks. By bank type, the ratio fell from 65.15% to 55.38% for large commercial banks, from 78.79% to 76.95% for national joint-stock commercial banks, from 100.40% to 88.30% for city commercial banks (particularly, from 222.17% to 90.52% for SJB and from 135.50% to 96.15% for BJZ), and from 69.50% to 66.71% for rural commercial banks. As at 2020 year-end, only 4 of the 54 listed banks reported a higher-than-100% ratio of loans overdue for 90+ days to NPLs.

Changes in ratio of overdue loans to NPL balance of the listed banks



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

Changes in ratio of loans over 90 days in arrears to NPLS of the listed banks



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

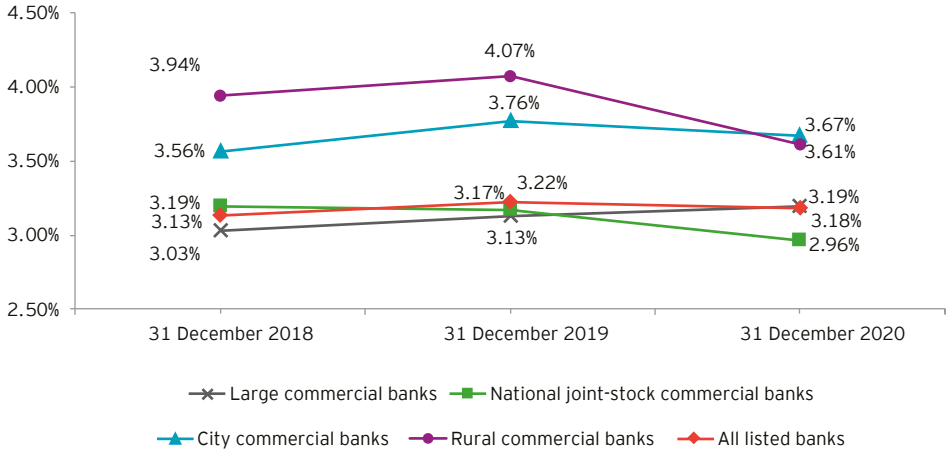
Accelerated resolution of NPLs reversed rising trend of allowance-to-loan ratio

Due to increased resolution of NPLs, the allowance for loan impairment losses increased. The weighted average allowance-to-loan ratio of the listed banks decreased by 0.04 percentage point from prior year-end to 3.18% at 2020 year-end. The ratio increased by 0.06 percentage point to 3.19% for large commercial banks, decreased by 0.21 percentage point to 2.96% for national joint-stock commercial banks, decreased by 0.09 percentage point to 3.67% for city commercial banks, and decreased by 0.46 percentage point to 3.61% for rural commercial banks.

The allowance-to-loan ratio of the listed banks decreased as increased write-off and disposal of NPLs decreased the proportion of impaired loans with longer span of overdue status that obsorbed a larger share of allowance. In terms of the impairment provision ratio for the three stages of loan impairment, as at 2020 year-end, the listed banks' impairment provision ratio for loans in Stage 1 (loans without significant increase in credit risk since initial recognition) was 1.66%, up 0.04 percentage point from 2019 year-end; the impairment provision rate for loans in Stage 2 (loans with significant increase in credit risk since initial recognition) was 20.70%, up 0.75 percentage point from 2019 year-end; and the impairment provision ratio for loans in Stage 3 (impaired loans) was 68.09%, down 2.56 percentage points from 2019 year-end.

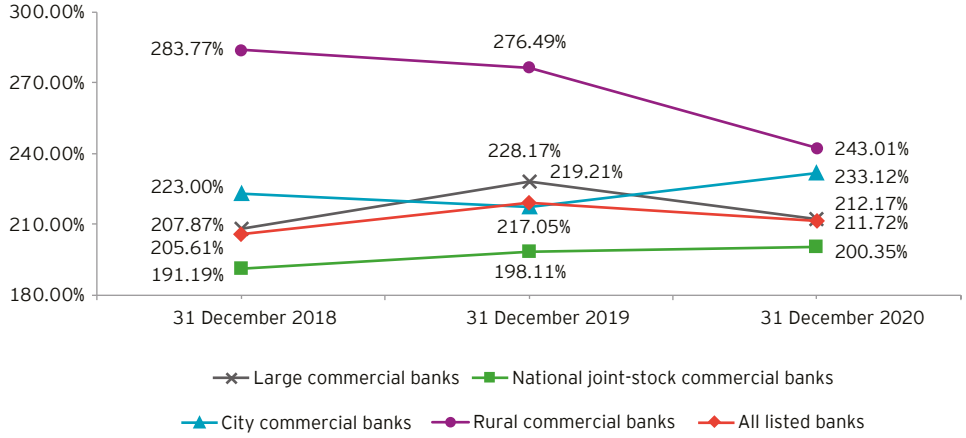
The listed banks' impairment provision ratio for loans in Stage 1 and Stage 2 increased, as the impact of the pandemic and other uncertainties were considered when making provisions for expected credit losses. The vast majority of the listed banks assessed the impact of the pandemic on asset quality and expected credit losses in their 2020 annual reports, including an assessment on credit risk of borrowers covered by the government's relief policies, and the impact of the pandemic on macroeconomic forecasts and other key indicators.

Allowance-to-loan ratio of the listed banks



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

Changes in PCR of the listed banks



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

In addition, some listed banks considered the impact of the pandemic on certain industry portfolios or borrowers enjoying deferred repayments and applied "management overlay" on the ECL model. These all led to an increase in the impairment provisions for loans in Stage 1 and Stage 2 from prior year-end.

Due to increased NPL ratio, the weighted average provision coverage ratio ("PCR") of the listed banks decreased by 7.49 percentage points from 2019 year-end to 211.72% at 2020 year-end. The PCR decreased by 16.0 percentage points for large commercial banks, increased by 2.24 percentage points for national joint-stock commercial banks, increased by 16.07 percentage points for city commercial banks, and decreased by 33.48 percentage points for rural commercial banks.

Among large commercial banks, PSBC recorded the highest PCR of 408.06%, up 18.61 percentage points from 2019 year-end. Among national joint-stock commercial banks, CMB recorded the highest PCR of 437.68%, up 10.90 percentage points from 2019 year-end. Among city commercial banks, BONB recorded the highest PCR of 505.59%, down 18.49 percentage points from 2019 year-end, and BHZ recorded the second highest PCR of 469.54%, up 152.83 percentage points from 2019 year-end. Among rural commercial banks, CSRCB recorded the highest PCR of 485.33%, up 4.05 percentage points from 2019 year-end.

PCRs of the listed banks

	31 December 2018	31 December 2019	31 December 2020
ICBC	175.76%	199.32%	180.68%
CCB	208.37%	227.69%	213.59%
ABC	252.18%	288.75%	260.64%
BOC	181.97%	182.86%	177.84%
BOCOM	173.13%	171.77%	143.87%
PSBC	346.80%	389.45%	408.06%
Large commercial banks	**207.87%**	**228.17%**	**212.17%**
CMB	358.18%	426.78%	437.68%
IB	207.28%	199.13%	218.83%
SPDB	156.38%	133.85%	150.74%
CMBC	134.05%	155.50%	139.38%
CITIC	157.98%	175.25%	171.68%
CEB	176.16%	181.62%	182.71%
PAB	155.24%	183.12%	201.40%
HX	158.59%	141.92%	147.22%
CZB	270.37%	220.80%	191.01%
CBHB	186.96%	187.73%	158.80%
National joint-stock commercial banks	**191.19%**	**198.11%**	**200.35%**
BOB	217.51%	224.69%	215.95%
BSH	332.95%	337.15%	321.38%
BJS	203.84%	232.79%	256.40%
BONB	521.83%	524.08%	505.59%
BONJ	462.68%	417.73%	391.76%
HSB	302.22%	303.86%	181.90%
BHZ	256.00%	316.71%	469.54%
BGY	266.05%	291.86%	277.30%
BOCD	237.01%	253.88%	293.43%
SJB	160.81%	160.90%	114.05%
BOCS	275.40%	279.98%	292.68%
BTJ	250.37%	220.58%	183.45%
BCQ	225.87%	279.83%	309.13%
HRB	169.88%	152.50%	133.26%
BGZ	243.72%	324.95%	334.36%
BOZZ	154.84%	159.85%	160.44%
ZYB	156.11%	151.77%	153.31%
BOXA	216.53%	262.41%	269.39%
BSZ	174.33%	224.07%	291.74%
BQD	168.04%	155.09%	169.62%
JXB	171.42%	165.65%	171.56%
BJJ	169.69%	182.34%	165.97%
JSB	212.68%	199.92%	194.06%
LZB	319.36%	349.78%	187.43%
BOGS	169.47%	135.87%	131.23%
BJZ	123.75%	115.01%	198.67%
XMB	212.83%	274.58%	368.03%
WHCCB	163.26%	165.50%	173.39%
City commercial banks	**223.00%**	**217.05%**	**233.12%**
CQRCB	347.79%	380.31%	314.95%
GZRCB	276.64%	208.09%	154.85%
QDRCB	290.05%	310.23%	278.73%
CSRCB	445.02%	481.28%	485.33%
ZJRCB	229.58%	236.95%	220.15%
WXRCB	234.76%	288.18%	355.88%
JTRCB	160.41%	167.58%	164.82%
JYRCB	233.71%	259.13%	224.27%
ZJGRCB	223.85%	252.14%	307.83%
SZRCB	248.18%	249.32%	305.31%
Rural commercial banks	**283.77%**	**276.49%**	**243.01%**
All listed banks	**205.61%**	**219.21%**	**211.72%**

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

05 Wealth management subsidiaries picked up development momentum amid challenges of transformation

In 2020, as the listed banks expedited the remediation and transformation of legacy wealth management business, wealth management subsidiaries recorded continued growth in scale and profitability. The transition period for the new regulations on asset management has been extended till the end of 2021, and the transition to net asset value-based management for banks has come to its final stage, which is crucial for the transformation and upgrading of wealth management business.

Accelerated remediation of legacy wealth management business

In July 2020, with the approval of the State Council and under the policy framework and regulatory requirements of new regulations on asset management, the PBOC, together with the National Development and Reform Commission (NDRC), the Ministry of Finance (MOF), the CBIRC, the CSRC, and the State Administration of Foreign Exchange (SAFE), fully considered the actual impact of the pandemic and prudently decided to extend the transition period for the *Guiding Opinions on Regulating the Asset Management Business of Financial Institutions* (Yin Fa [2018] No. 106) to the end of 2021. The above authorities discussed and proposed the solution of "appropriate extension of the transition period + case-by-case application arrangement" for the implementation of the policy, while encouraging orderly resolution of legacy assets through undertaking by new products, transfers through the market, contract modification and shift back on the balance sheet. The listed banks performed the duty of "managing wealth for customers", strictly implemented the regulatory requirements, actively promoted the transition towards net asset value-based management of their wealth management business, served the real economy, and continuously promoted the high-quality development of wealth management business to maintain stable market operation despite the pandemic. In 2020, the listed banks actively responded to the regulatory requirements and adopted measures such as transfers through the market and shift back on the balance sheet to continue the remediation of legacy wealth management business. For example, CMB resolved the eligible risk assets by transferring them back to the investment financial assets account on the balance sheet. The bank completed the transfer of wealth management assets with a total principal of RMB12.63 billion on the balance sheet in 2020, and made an impairment provision of RMB12.13 billion on a case-by-case basis under the ECL model. PAB made every effort to transfer its legacy non-performing wealth management assets back to the balance sheet, and made a full provision for impairment losses on these assets and other non-credit assets, with a cumulative provision of RMB27.27 billion in 2020, an increase of RMB21.03 billion year-on-year. In addition, principal-guaranteed wealth management products ("WMPs") and expected-return WMPs were significantly reduced and gradually exited from the market in 2020.

Relevant information was disclosed in the annual reports of some listed banks as follows:

Listed banks	Reduction of principal-guaranteed WMPs
CCB	The principal-guaranteed WMPs were significantly reduced. As at 31 December 2020, the balance of principal-guaranteed WMPs was RMB56.854 billion, a decrease of RMB119.99 billion, or 67.85%, from the end of 2019.
ABC	The principal-guaranteed WMPs were significantly reduced. As at 31 December 2020, the balance of principal-guaranteed WMPs was RMB72.31 billion, a decrease of RMB230.52 billion, or 76.12%, from the end of 2019.
BOCOM	All principal-guaranteed WMPs had been redeemed upon maturity in 2019, and the balance of these WMPs at the end of 2018 was RMB138.37 billion.
PSBC	As at 31 December 2019, all principal-guaranteed WMPs issued by PSBC had been redeemed upon maturity.
CITIC	All principal-guaranteed WMPs had matured as at 31 December 2020.
CMBC	All principal-guaranteed WMPs had been redeemed upon maturity in 2020, and the balance of these WMPs at the end of 2019 was RMB2 billion.
BOB	As at 31 December 2020, the principal-guaranteed WMPs had been reduced to zero.
BSH	BSH steadily reduced the legacy products. As at 31 December 2020, the principal-guaranteed WMPs of BSH had been reduced to zero.
BHZ	As at 31 December 2020, all principal-guaranteed WMPs had been settled, and the balance of these WMPs at the end of 2019 was RMB235 million.
SJB	As at 31 December 2020, all principal-guaranteed WMPs had been settled, and the balance of these WMPs at the end of 2019 was RMB3.24 billion.
HRB	HRB continued with the transformation of wealth management business, and its principal-guaranteed WMPs had been reduced to zero at the end of 2019.
BOZZ	BOZZ continued to reduce the interbank WMPs and principal-guaranteed WMPs. As at 31 December 2020, the amount of principal-guaranteed WMPs was RMB879 million, a decrease of 80.89% from the end of the previous year.
BQD	The principal-guaranteed WMPs were significantly reduced. As at 31 December 2019, all principal-guaranteed WMPs had been settled.
XMB	As at 31 December 2020, all WMPs were non-principal guaranteed WMPs.
BJZ	As at 31 December 2020, all wealth management products of BJZ were non-principal guaranteed net asset value-based WMPs.
GZRCB	The principal-guaranteed WMPs were significantly reduced. As at 31 December 2020, the balance of principal-guaranteed WMPs was RMB6.57 billion, a decrease of RMB6.70 billion, or 50.50%, from the end of 2019.
ZJRCB	As at 31 December 2020, all WMPs were non-principal guaranteed.
JYRCB	As at 31 December 2020, the principal-guaranteed WMPs had been reduced to zero, and the balance of these WMPs as at the end of 2019 was RMB1.60 billion.

Wealth management subsidiaries achieved continued growth

As at 31 December 2020, there were 19 wealth management subsidiaries of the listed banks in operation. The listed bank either tried to promote the establishment of wealth management subsidiaries, or steadily developed their existing wealth management business. As wealth management business was being transferred to subsidiaries, relying on the advantageous resources of their parent banks in sales channel, customer base, systems and operational capacity, these subsidiaries achieved substantial growth in net profit and the scale of products in 2020.

Wealth Management Subsidiary	Registered capital ***	2020				
		Total assets	Net asset	Operating income	Net profit	Legacy products
Jianxin Wealth Management Co.	150	161.0	153.95	Undisclosed	3.35	6,969.84
ICBC Wealth Management Co.****	160	178.61	167.45	Undisclosed	4.08	Undisclosed
Bank of Communications Wealth Management Co.	80	88.74	87.42	Undisclosed	6.65	5,337.97
BOC Wealth Management Co.	100	110.65	104.73	Undisclosed	4.55	7,181.22
ABC Wealth Management Co.	120	135.20	132.97	Undisclosed	9.91	9,498.14
Everbright Wealth Management Co.	50	59.14	56.37	Undisclosed	5.64	5,041.00
China Merchants Bank Wealth Management Co.	50	80.61	74.74	37.72	24.53	Undisclosed
PSBC Wealth Management Co.	80	98.52	91.60	Undisclosed	11.87	Undisclosed
Industrial Bank Wealth Management Co.	50	69.52	63.53	19.51	13.45	6,858.92
Bank of Ningbo Wealth Management Co.	15	18.80	17.97	4.94	2.97	Undisclosed
Bank of Hangzhou Wealth Management Co.	10	12.16	11.30	2.65	1.29	Undisclosed
Huishang Bank Wealth Management Co.	20	22.03	21.09	Undisclosed	1.09	Undisclosed
CQRCB Wealth Management Co.****	20	20.40	20.06	Undisclosed	0.06	Undisclosed
CITIC Wealth Management Co.	50	59.93	55.95	9.74	5.95	398.92
Bank of Nanjing Wealth Management Co.	20	20.58	20.32	Undisclosed	0.32	Undisclosed
PAB Wealth Management Co.	50	54.30	51.71	Undisclosed	1.65	Undisclosed
Bank of Jiangsu Wealth Management Co.	20	20.27	20.04	Undisclosed	Undisclosed	Undisclosed
HX Wealth Management Co.	30	30.79	30.40	0.97	0.40	Undisclosed
BQD Wealth Management Co.	10	10.32	10.03	0.22	0.03	15.37

Wealth Management Subsidiary	Registered capital ***	2019				
		Total assets	Net asset	Operating income	Net profit	Legacy products
Jianxin Wealth Management Co.	150	152.17	150.60	Undisclosed	0.60	838.26
ICBC Wealth Management Co.****	160	163.97	163.30	Undisclosed	3.30	Undisclosed
Bank of Communications Wealth Management Co.	80	81.77	80.89	Undisclosed	0.89	1,102.05
BOC Wealth Management Co.	100	102.33	101.75	Undisclosed	Undisclosed	744.92
ABC Wealth Management Co.	120	124.47	123.07	Undisclosed	2.96	Undisclosed
Everbright Wealth Management Co.	50	50.21	50.04	Undisclosed	0.04	Undisclosed
China Merchants Bank Wealth Management Co.	50	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed
PSBC Wealth Management Co.	80	80.13	80.03	Undisclosed	Undisclosed	Undisclosed
Industrial Bank Wealth Management Co.	50	50.12	50.08	0.04	0.08	Undisclosed
Bank of Ningbo Wealth Management Co.	15	15.01	15.00	0.000888	0.000384	Undisclosed
Bank of Hangzhou Wealth Management Co.	10	10.00	10.00	0.0005917	0.0002563	Undisclosed
Huishang Bank Wealth Management Co.	20	N/A	N/A	N/A	N/A	N/A
CQRCB Wealth Management Co.****	20	N/A	N/A	N/A	N/A	N/A
CITIC Wealth Management Co.	50	N/A	N/A	N/A	N/A	N/A
Bank of Nanjing Wealth Management Co.	20	N/A	N/A	N/A	N/A	N/A
PAB Wealth Management Co.	50	N/A	N/A	N/A	N/A	N/A
Bank of Jiangsu Wealth Management Co.	20	N/A	N/A	N/A	N/A	N/A
HX Wealth Management Co.	30	N/A	N/A	N/A	N/A	N/A
BQD Wealth Management Co.	10	N/A	N/A	N/A	N/A	N/A

Source: Annual reports published by the listed banks.
*Only the banks that separately disclosed the data are included therein.
**The amounts are presented in RMB 100 million.
***The companies are listed in order of the opening date.
****For ICBC Wealth Management Co. and CQRCB Wealth Management Co., the paid-in capital in their annual reports is presented instead of the registered capital.

Challenges posed to the transformation of wealth management business

The pandemic had raging impacts on the global economy and financial systems. The State Council and regulators fully considered the actual impact of the pandemic and extended the transition period of new regulations on asset management to the end of 2021. The listed banks steadily pushed forward the transformation and remediation of legacy wealth management business and promoted the development of wealth management subsidiaries in 2020, so as to complete the transformation towards net asset value-based wealth management as soon as practical. The year 2021 marks the end of the transition period for implementing the new regulations on asset management, but the listed banks and wealth management subsidiaries still face challenges of the transformation in the post-pandemic era.

In the current market environment that embraces new technologies, new products and updated regulations, the asset management industry is experiencing gradual transformation and ushering in a new era for asset management business, posing great challenges to what development and operation models should be adopted for compliant wealth management business. Under the applicable regulatory policies, the profits on wealth management business made through traditional methods such as maturity mismatches and leveraging have been restricted to some extent. Hence, to ensure profitability, asset managers should turn to diversified asset investment products and improve asset pricing and risk response capabilities. It is crucial for commercial banks to explore appropriate business models for wealth management business, enhance their core competitive strengths, and achieve a sound and orderly development of the business in the new environment.

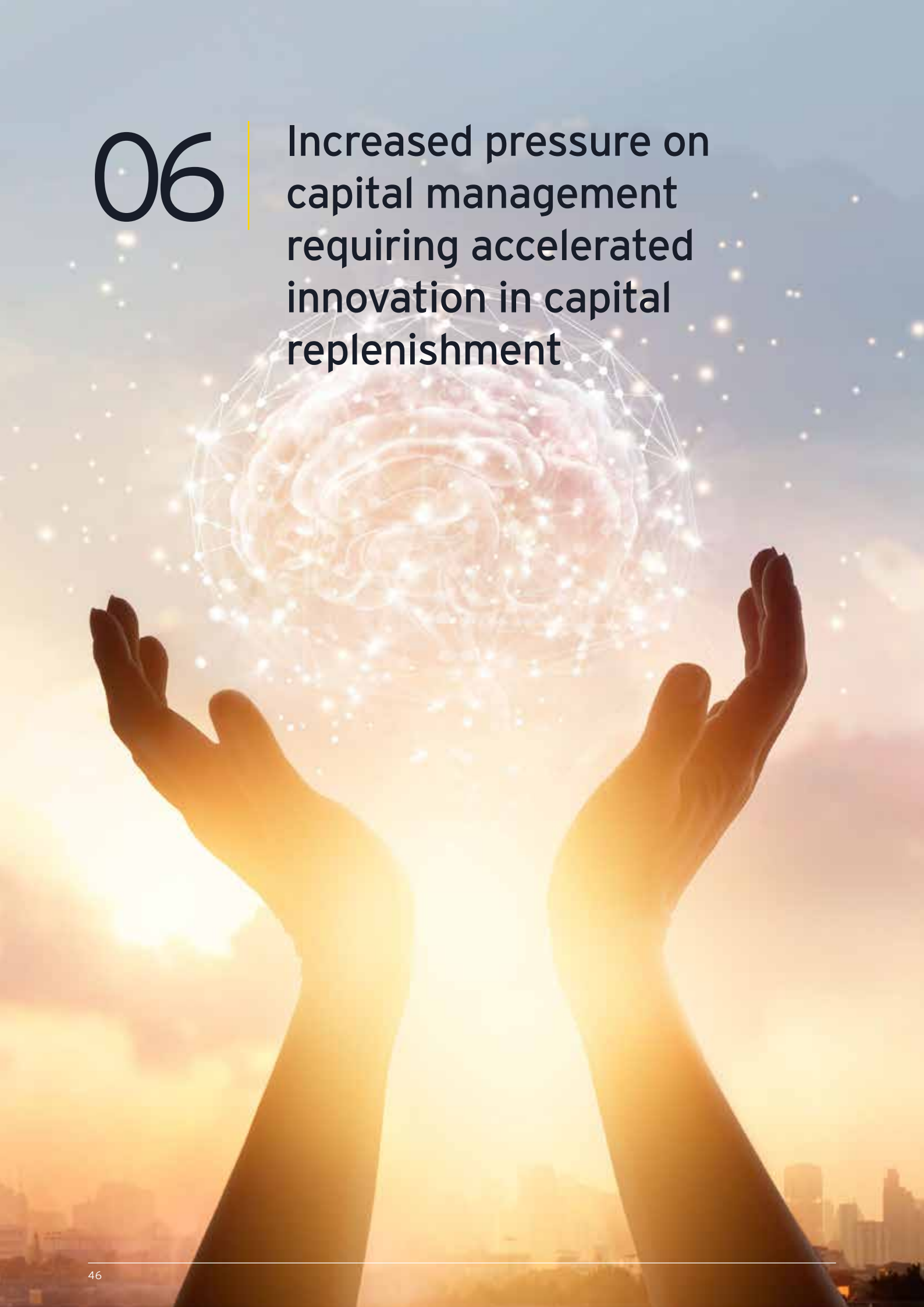
Transformation and remediation of legacy wealth management business as a top priority. Against the background of economic downturn, resolution of legacy assets remains a focus area. Particularly, when it comes to assets resolved through shifting back to the balance sheet and undertaking by new products, inadequate credit risk management may cause additional credit risk to infiltrate the balance sheet or new products. For assets transferred through the market, the risk of price fluctuations of disposed assets must be closely monitored. For assets undertaken by new products, ongoing attention should be paid to matters such as fairness of transaction pricing, reasonableness of commercial terms and disclosure of information.

Diversification of product portfolio. At the beginning of operations, wealth management subsidiaries issued a large number of cash management products, taking into account investors' risk appetite and market acceptance. However, to be aligned with the needs of business development and updated regulatory policies, the subsidiaries need to diversify the portfolio and improve their asset pricing and ability to manage product risks, in order to achieve the long-term development of their wealth management business.

Improvement of net asset value-based management. Managing products based on net asset value will bring the wealth management business back to its essential function and facilitate the high-quality development of the real economy. The establishment and improvement of a sound net asset value-based management system remains a major challenge in the transformation of wealth management business. The wealth management subsidiaries should optimize the valuation management of investment products, establish a comprehensive valuation management system, strengthen risk control, and enhance investors' awareness, in order to achieve net asset value-based management.

Compliant sales channel expansion. The pandemic has reshaped the operating environment and boosted the need to intensify online promotion of wealth management business. While ensuring adaption of WMP sales to the business model transformation, considerations should also include the protection of the investors' rights and interests as well as enhanced management of sales suitability among the WMP distribution agents. In December 2020, the CBIRC issued the *Interim Measures for the Sales Management of WMPs of Wealth Management Subsidiaries of Commercial Banks* (Exposure Draft) (the "Measures") as a supporting regulatory policy for the *Administrative Measures for Commercial Banking Financial Subsidiaries*. The Measures further regulated the concept of sales, scope of eligible institutions selling WMPs, responsibilities of product issuers and sellers, risk control responsibilities of institutions selling WMPs, management of selling process, management of sales personnel, protection of investors' rights and interests, and information registration. Wealth management subsidiaries need to strengthen their sales management and ensure business compliance in accordance with the regulatory requirements.

06 Increased pressure on capital management requiring accelerated innovation in capital replenishment

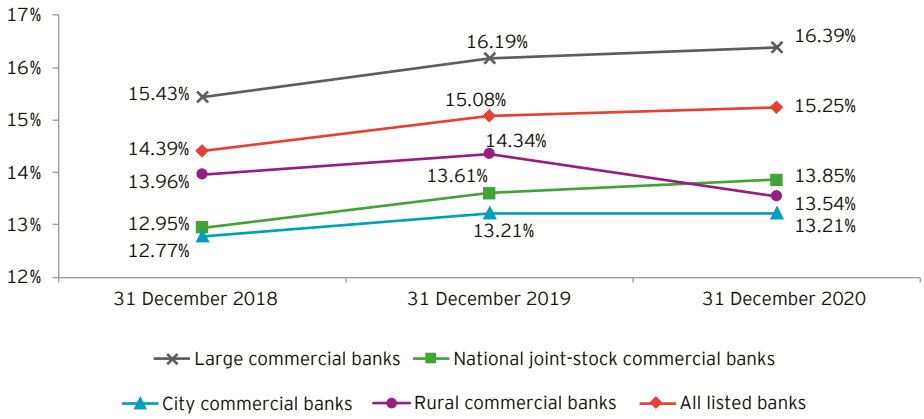


In 2020, slowing profit growth of the listed banks compounded with exposure of risks and accelerated resolution, the internal generation of capital slowed down. Thanks to supportive policies, the listed banks applies a mix of innovative instruments to expedite capital replenishment through multiple channels.

The overall capital adequacy level remained stable

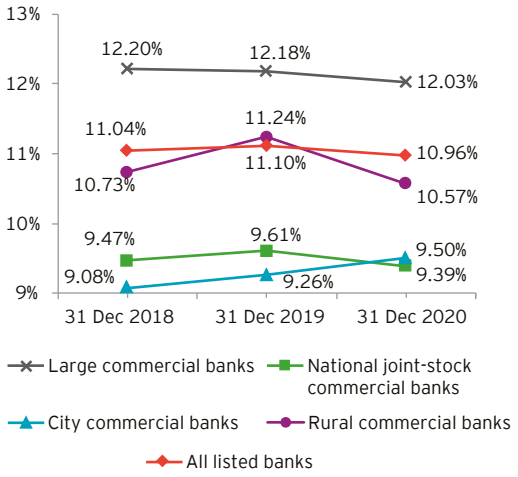
As at 2020 year-end, the core tier-1 capital adequacy ratio ("CAR") of the listed banks decreased by 0.14 percentage point from 2019 year-end to 10.96%. Tier-1 CAR increased by 0.16 percentage point from 2019 year-end to 12.48%. CAR increased by 0.17 percentage point from 2019 year-end to 15.25%. The overall capital adequacy level remained stable.

CAR of the listed banks



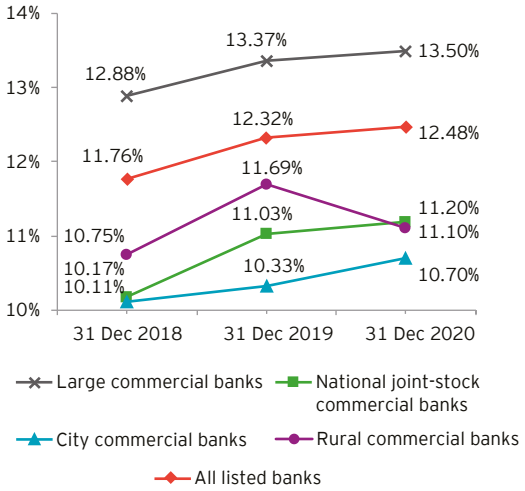
Source: Calculated based on the annual reports and prospectuses published by the listed banks.

Core tier-1 CAR of the listed banks



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

Tier-1 CAR of the listed banks



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

CAR of the listed banks	2018Y/E	2019Y/E	2020Y/E
ICBC	15.39%	16.77%	16.88%
CCB	17.19%	17.52%	17.06%
ABC**	15.12%	16.13%	16.59%
BOC	14.97%	15.59%	16.22%
BOCOM	14.37%	14.83%	15.25%
PSBC	13.76%	13.52%	13.88%
Large commercial banks	**15.43%**	**16.19%**	**16.39%**
CMB	15.68%	15.54%	16.54%
IB	12.20%	13.36%	13.47%
SPDB	13.67%	13.86%	14.64%
CITIC	12.47%	12.44%	13.01%
CEB	13.01%	13.47%	13.90%
CMBC	11.75%	13.17%	13.04%
PAB	11.50%	13.22%	13.29%
HX	13.19%	13.89%	13.08%
CZB	13.38%	14.24%	12.93%
CBHB	11.77%	13.07%	12.08%
National joint-stock commercial banks	**12.95%**	**13.61%**	**13.85%**
BOB	12.07%	12.28%	11.49%
BSH	13.00%	13.84%	12.86%
BJS	12.55%	12.89%	14.47%
BONB	14.86%	15.57%	14.84%
BONJ	12.99%	13.03%	14.75%
HSB	11.65%	13.21%	12.12%
BHZ	13.15%	13.54%	14.41%
BGY	12.97%	13.61%	12.88%
BOCD	14.08%	15.69%	14.23%
BOCS	12.24%	13.25%	13.60%
BCQ	13.21%	13.00%	12.54%
BTJ	14.53%	15.24%	14.48%
BGZ	12.83%	14.45%	13.67%
ZYB	14.37%	13.02%	13.20%
BOZZ	13.15%	12.11%	12.86%
BOXA	14.17%	14.85%	14.50%
BSZ	12.96%	14.36%	14.21%
BQD	15.68%	14.76%	14.11%
JXB	13.60%	12.63%	12.89%
BJJ	15.03%	15.21%	14.49%
WHCCB	11.55%	11.64%	10.71%
JSB	15.12%	16.03%	15.18%
JSB	12.99%	13.60%	11.72%
SJB	11.86%	14.54%	12.23%
HRB	12.15%	12.53%	12.59%
LZB	13.29%	12.09%	13.87%
BOGS	13.55%	11.83%	13.39%
BJZ	9.12%	8.09%	11.76%
City commercial banks	**12.77%**	**13.21%**	**13.21%**
CQRCB	13.52%	14.88%	14.28%
GZRCB	14.28%	14.23%	12.56%
QDRCB	12.55%	12.26%	12.32%
CSRCB	15.12%	15.10%	13.53%
ZJRCB	13.35%	14.78%	16.81%
WXRCB	16.81%	15.85%	15.21%
JTRCB	11.83%	11.98%	11.37%
JYRCB	15.21%	15.29%	14.48%
ZJGRCB	15.65%	15.10%	13.75%
SZRCB	14.89%	14.67%	13.53%
Rural commercial banks	**13.96%**	**14.34%**	**13.54%**
All listed banks	**14.39%**	**15.08%**	**15.25%**

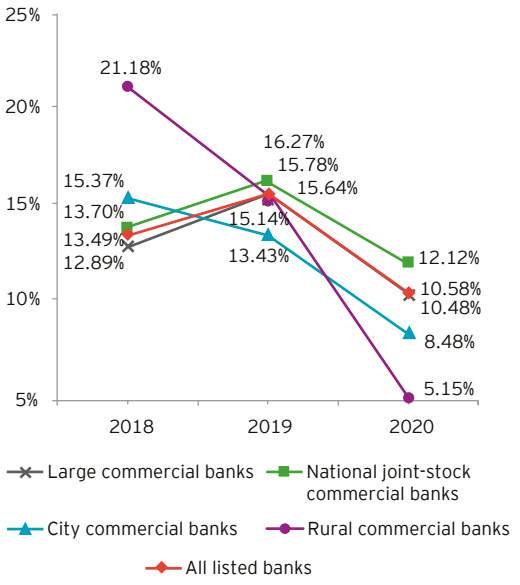
Listed banks' core tier-1 CAR	2018Y/E	2019Y/E	2020Y/E
ICBC	12.98%	13.20%	13.18%
CCB	13.83%	13.88%	13.62%
ABC**	11.55%	11.24%	11.04%
BOC	11.41%	11.30%	11.28%
BOCOM	11.16%	11.22%	10.87%
PSBC	9.77%	9.90%	9.60%
Large commercial banks	**12.20%**	**12.18%**	**12.03%**
CMB	11.78%	11.95%	12.29%
IB	9.30%	9.47%	9.33%
SPDB	10.09%	10.26%	9.51%
CITIC	8.62%	8.69%	8.74%
CEB	9.15%	9.20%	9.02%
CMBC	8.93%	8.89%	8.51%
PAB	8.54%	9.11%	8.69%
HX	9.47%	9.25%	8.79%
CZB	8.38%	9.64%	8.75%
CBHB	8.61%	8.06%	8.88%
National joint-stock commercial banks	**9.47%**	**9.61%**	**9.39%**
BOB	8.93%	9.22%	9.42%
BSH	9.83%	9.66%	9.34%
BJS	8.61%	8.59%	9.25%
BONB	9.16%	9.62%	9.52%
BONJ	8.51%	8.87%	9.97%
HSB	8.37%	8.85%	8.04%
BHZ	8.17%	8.08%	8.53%
BGY	9.61%	9.39%	9.30%
BOCD	11.14%	10.13%	9.26%
BOCS	9.53%	9.16%	8.61%
BCQ	8.47%	8.51%	8.39%
BTJ	9.83%	10.62%	11.12%
BGZ	10.62%	12.30%	11.63%
ZYB	9.44%	8.51%	8.59%
BOZZ	8.22%	7.98%	8.92%
BOXA	11.87%	12.62%	12.37%
BSZ	10.07%	11.30%	11.26%
BQD	8.39%	8.36%	8.35%
JXB	10.78%	9.96%	10.29%
XMB	10.85%	11.15%	11.34%
BJJ	8.90%	8.97%	9.02%
WHCCB	10.39%	9.76%	9.88%
JSB	10.63%	11.47%	10.72%
SJB	8.52%	11.48%	11.07%
HRB	9.74%	10.22%	10.18%
LZB	10.69%	9.31%	8.11%
BOGS	11.01%	9.92%	12.85%
BJZ	6.07%	5.15%	8.23%
City commercial banks	**9.08%**	**9.26%**	**9.50%**
CQRCB	10.95%	12.42%	11.96%
GZRCB	10.50%	9.96%	9.20%
QDRCB	10.60%	10.48%	9.73%
CSRCB	10.49%	12.44%	11.08%
ZJRCB	9.70%	11.07%	11.19%
WXRCB	10.44%	10.20%	9.03%
JTRCB	9.40%	9.55%	9.05%
JYRCB	14.02%	14.16%	13.34%
ZJGRCB	11.94%	11.02%	10.35%
SZRCB	10.99%	12.17%	11.38%
Rural commercial banks	**10.73%**	**11.24%**	**10.57%**
All listed banks	**11.04%**	**11.10%**	**10.96%**

Source: Public annual reports of the listed banks.

Tier-1 capital adequacy ratio of the listed banks			
	2018Y/E	2019Y/E	2020Y/E
ICBC	13.45%	14.27%	14.28%
CCB	14.42%	14.68%	14.22%
ABC**	12.13%	12.53%	12.92%
BOC	12.27%	12.79%	13.19%
BOCOM	12.21%	12.85%	12.88%
PSBC	10.88%	10.87%	11.86%
Large commercial banks	**12.88%**	**13.37%**	**13.50%**
CMB	12.62%	12.69%	13.98%
IB	9.85%	10.56%	10.85%
SPDB	10.79%	11.53%	11.54%
CITIC	9.43%	10.20%	10.18%
CEB	10.09%	11.08%	11.75%
CMBC	9.16%	10.28%	9.81%
PAB	9.39%	10.54%	10.91%
HX	10.43%	11.91%	11.17%
CZB	9.83%	10.94%	9.88%
CBHB	8.61%	10.63%	11.01%
National joint-stock commercial banks	**10.17%**	**11.03%**	**11.20%**
BOB	9.85%	10.09%	10.28%
BSH	11.22%	10.92%	10.46%
BJS	10.28%	10.10%	11.91%
BONB	11.22%	11.30%	10.88%
BONJ	9.74%	10.01%	10.99%
HSB	9.18%	10.85%	9.89%
BHZ	9.91%	9.62%	10.83%
BGY	11.22%	10.77%	10.53%
BOCD	11.15%	10.14%	10.65%
BOCS	9.55%	10.76%	9.97%
BCQ	9.94%	9.82%	9.57%
BTJ	9.84%	10.63%	11.12%
BGZ	10.62%	12.30%	11.63%
ZYB	11.49%	10.31%	10.35%
BOZZ	10.48%	10.05%	10.87%
BOXA	11.87%	12.62%	12.37%
BSZ	10.10%	11.34%	11.30%
BQD	11.82%	11.33%	11.31%
JXB	10.79%	9.97%	10.30%
BJJ	10.87%	11.16%	11.97%
WHCCB	8.90%	8.97%	9.02%
JSB	10.42%	11.78%	11.53%
JSB	10.63%	11.47%	10.72%
SJB	8.52%	11.48%	11.07%
HRB	9.75%	10.24%	10.20%
LZB	10.69%	9.31%	10.01%
BOGS	11.01%	9.92%	12.85%
BJZ	7.43%	6.47%	9.65%
City commercial banks	**10.11%**	**10.33%**	**10.70%**
CQRCB	10.96%	12.44%	11.97%
GZRCB	10.53%	11.65%	10.74%
QDRCB	10.61%	10.49%	10.46%
CSRCB	10.53%	12.49%	11.13%
ZJRCB	9.70%	11.07%	11.19%
WXRCB	10.44%	10.20%	10.20%
JTRCB	9.50%	9.66%	9.15%
JYRCB	14.04%	14.17%	13.36%
ZJGRCB	11.94%	11.02%	10.35%
SZRCB	10.99%	12.17%	11.38%
Rural commercial banks	**10.75%**	**11.69%**	**11.10%**
All listed banks	**11.76%**	**12.32%**	**12.48%**

On the capital side, due to the pandemic, the economic downturn and other factors, the overall profit growth of the listed banks slowed down, thus weakening their ability to generate capital internally. To alleviate the capital stress and improve the ability to serve the real economy, the listed banks actively sought for replenishment with externally-sourced capital. However, the net capital growth of all types of the listed banks in 2020 was still lower than that of the previous year.

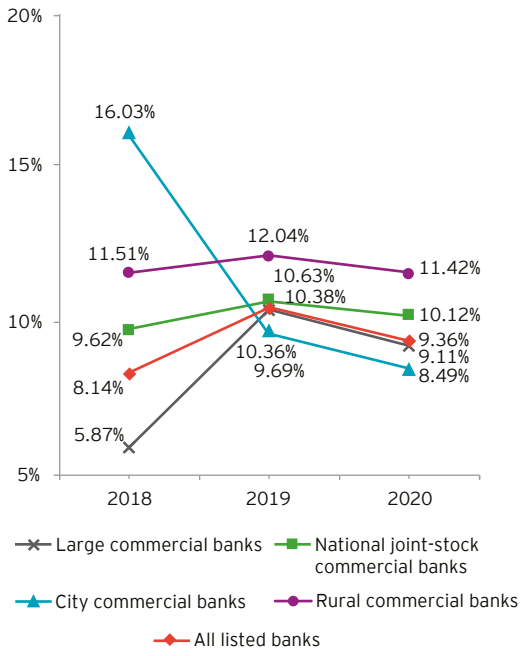
Net capital growth of the listed banks



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

On the asset side, in 2020, the listed banks continued to strengthen regulatory capital compliance, optimized the structure of on- and off-balance-sheet assets, and proactively achieved a rational increase of risk-weighted assets while enhancing the ability to serve the real economy and fighting against the pandemic.

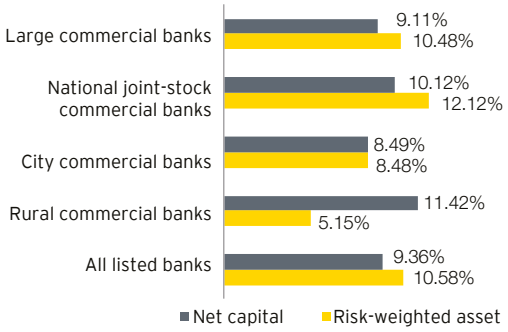
Growth rate of risk-weighted assets of the listed banks



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

The overall growth rate of risk-weighted assets of the listed banks in 2020 was still lower than that of net capital, but growth divergence was presented among different types of banks. The growth rate of risk-weighted assets for large state-owned banks and national joint-stock banks was lower than that of respective net capital, while the growth rate of risk-weighted assets for city commercial banks and rural commercial banks was higher than that of respective net capital, thus weighing on capital replenishment.

Comparison of net capital growth and risk-weighted asset growth in 2020



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

To addressing capital constraints in the banking industry, regulators continued to promote capital instrument innovation and broaden capital replenishment channels. Thanks to the policy, the listed banks adopted more diversified capital replenishment approaches and picked up the pace in 2020.

As examples of common equity tier-1 capital replenishment, 3 banks were successfully listed on the A-share or H-share markets in 2020, and the total capital raised amounted to RMB19.03 billion.

Funds raised through IPOs of the listed banks in 2020

	Listing date	Listing market	Total funds raised RMB equivalent (millions)
CBHB	16 Jul. 2020	Hong Kong	14,336
WHCCB	17 Jul. 2020	Hong Kong	2,927
XMB	27 Oct. 2020	Shanghai	1,771
Total			**19,034**

Source: Public annual reports of the listed banks.

In addition, 8 city commercial banks raised RMB74.50 billion through non-public issuance or placement of ordinary shares to improve their core capital adequacy level.

Non-public issuance and placement of ordinary shares of the listed banks in 2020*

	Listing date	Total funds raised RMB equivalent (millions)
BONJ	Apr. 2020	11,619
BHZ	May.2020	7,160
BONB	Apr. 2020	8,000
BJZ	Sep. 2020	12,090
BOZZ	Nov. 2020	4,640
BJS	Dec.2020	14,803
BOGS	Dec.2020	6,297
HSB	Dec.2020	9,895
Total		**74,504**

Source: Public annual reports of the listed banks.
*Only includes banks that separately disclosed the data.

Two listed rural commercial banks issued convertible bonds, totaling RMB9.5 billion.

Convertible bond issuance of the listed banks in 2020*

	Issuance date	RMB100 million
ZJRCB	Jul. 2020	45
QDRCB	Aug. 2020	50
Total		**95**

Source: Annual reports published by the listed banks.
*Only includes banks that separately disclosed the data.

Observations on other tier-1 capital replenishment show that the issuers of perpetual bonds were more diverse in 2020, including more city commercial banks and rural commercial banks. A total of 17 listed banks issued an aggregate of RMB577.6 billion in perpetual bonds throughout the year. Both the number of banks issuing perpetual bonds and the amount of funds raised exceeded those for the same period in the previous year.

Perpetual bond issuance of the listed banks in 2020*		
	Issuance date	RMB 100 million
BHZ	Jan. 2020	70
PAB	Feb.2020	300
PSBC	Mar. 2020	800
LZB	Mar.and Jun.2020	17
BOC	Apr., Nov. and Dec.2020	900
BJS	Apr. 2020	200
ABC	May. And Aug.2020	1,200
CMB	Jul. 2020	500
BOCOM	Sep.And Nov.2020	484
CEB	Sep. 2020	400
IB	Oct.2020	300
SPDB	Nov. 2020	500
BOCD	Nov. 2020	60
WXRCB	Dec. 2020	15
QDRCB	Dec. 2020	20
XMB	Dec. 2020	10
Total		**5,776**

Source: Public annual reports of the listed banks.
*Only includes banks that separately disclosed the data.

In addition to perpetual bonds, BOC and ICBC successfully issued overseas preferred shares to supplement additional tier-1 capital, with an aggregate issuance equivalent of RMB39.3 billion.

Preferred share issuance of the listed banks in 2020*		
	Issuance date	RMB equivalent (100 million)
BOC	Mar. 2020	196
ICBC	Sep. 2020	197
Total		393

Source: Public annual reports of the listed banks.
*Only includes banks that separately disclosed the data.

Compared with perpetual bonds, preferred shares and other tier-1 capital replenishment instruments, the tier-2 capital bond issuance, as a fixed-income capital instrument, features greater operability, thus remaining the primary way for listed banks to replenish tier-2 capital. In 2020, 17 listed banks raised RMB549.6 billion through issuance of tier-2 capital bonds.

Tier-2 capital bond issuance of the listed banks in 2020* RMB equivalent (100 million)	
ICBC	1,000
CCB	781
ABC	400
BOC	750
BOCOM	400
SPDB	800
CITIC	400
CMBC	500
BONB	100
BONJ	95
HSB	80
BOCS	60
BOXA	20
BSZ	45
WHCCB	30
LZB	15
QDRCB	20
Total	**5,496**

Source: Public annual reports of the listed banks.
*Only includes banks that separately disclosed the data.

Increased requirements on capital replenishment

In 2020, the overall CAR of the listed banks met regulatory requirements, but divergent trends were noted in different types of the listed banks. Large commercial banks had the highest CAR; National joint-stock banks exhibited lower core tier-1 CAR; and the CAR of rural commercial banks declined significantly.

There were four main reasons. Firstly, the impact of the pandemic slowed the profit growth of the listed banks, posting a challenging to bank's effort in replenishing capital with profit retention. Secondly, as the NPLs of the listed banks increased, accelerating asset resolution required additional capital. Thirdly, under the new regulations on asset management, the transformation of wealth management business and the shift of non-standard assets back to the balance sheet also required capital. Fourthly, capital was required as the listed banks vigorously supported the pandemic prevention and containment and recovery of the real economy by increasing credit asset supply in a credit forbearance environment. These four factors placed the listed banks under greater pressure on capital. In addition, the improved mechanism of differentiated regulatory capital of commercial banks has tightened the capital requirements.

For example, the PBOC and the CBIRC issued the *Circular on Establishing the Mechanism for Countercyclical Capital Buffer* in September 2020 and required the establishment of the countercyclical capital buffer. They issued the *Measures for Evaluation of Systemically Important Banks in December 2020 and the Additional Regulatory Requirements on Systemically Important Banks (Trial) (Exposure Draft)* in April 2021, to specify the regulatory requirements on additional capital for systemically important banks. In addition to existing global systemically important banks (G-SIBs), domestic systemically important banks will also be subject to requirements on additional capital of 0.25% to 1.5%. This will directly weigh on banks that will be designated as systemically important banks and seek to replenish capital, especially for some joint-stock banks, as declining profitability and further of NPLs would impair their capability on medium- and long-term capital management.

China's G-SIBs, ICBC, ABC, CCB and BOC, need to develop capital plans and make forward-looking capital replenishment arrangements to meet the requirements of the Measures for the *Administration of Total Loss Absorption Capacity (TLAC) of Global Systemically Important Banks (Draft for Public Comment)* issued by the Chinese regulators in September 2020. The Measures mandate that, from 1 January 2025, the risk-weighted ratio of external total loss absorption capacity should not be less than 16%, and from 1 January 2028, the ratio should not be less than 18%.

To improve the quality and efficiency of corporate governance, the CBIRC issued the *Guidelines for Corporate Governance of Banks and Insurance Institutions (Exposure Draft)* in January 2021. According to the Exposure Draft, key shareholders of commercial banks should make a long-term capital replenishment commitment to their respective bank in written form as part of capital planning; and banks should stipulate in their Articles of Association that capital planning should be regarded as the main consideration when formulating prudent profit distribution plans.

Therefore, the top priorities of the listed banks are to broaden the replenishment channels, innovate capital instruments, accelerate capital replenishment, and continuously improve capital planning.

Enhanced capital replenishment and innovative instruments

To promote the innovation of capital instruments and focus on supporting small- and medium-sized banks to replenish capital, the PBOC and the CBIRC designed and updated policies related to convertible capital bonds based on domestic and foreign practices in January 2021. Under the new policies, when a risk event is triggered, capital bonds of write-down type are directly written down, while convertible capital bonds can be converted into equity and be included in the distribution of an issuer's remaining assets. International practices and experience show that stronger investor protection provided by convertible capital bonds helps attract more investors. This broadens the channels of capital replenishment for small- and medium-sized banks.

In addition, regulators have expanded the scope of investors eligible for capital bonds investment, creating favorable conditions for banks' replenishment through external channels. For example, the Ministry of Human Resources and Social Security issued the *Circular on Adjusting the Investment Scope of Annuity Funds* in December 2020, which includes perpetual bonds in the investment scope of annuity, and defines the issuing bank's rating at AAA assigned by a domestic credit rating agency.

To keep up with emerging innovative instruments and increasing investors, the listed banks need to strengthen research and analysis of their capital profile and consolidate their capital base, so as to comprehensively improve their ability to pursue sustainable management, improve risk resilience, and serve the real economy. Banks should consider factors such as their development visions, business structure, and changes in the external environment when formulating capital replenishment plans, and then select appropriate capital instruments to arrange their capital replenishment by efficiently leveraging both domestic and foreign markets.

Apart from accelerating the replenishment through external sources, the listed banks should also turn pressure into motivation, actively optimizing the structures of on- and off-balance sheet assets and businesses to reasonably control risk weights, and saving capital through technological means to reduce ineffective and inefficient capital occupation. Meanwhile, the listed banks should firmly implement the strategic transformation towards "asset-light" and "capital-light" business model to achieve higher return on capital at the expense of less capital, lower risk weight and more intensive operations.

07 Deepening the development of green finance and improving inclusive finance services

In 2020, China's listed banks actively responded to national strategies and promoted the in-depth development of green finance by issuing green bonds and green credit to support the country's strategy for green industries. As 2020 is the final year of the 13th Five-Year Plan and a crucial year in fighting poverty, the listed banks stepped up efforts in promoting inclusive finance and played an active role in providing financial support for the implementation of major strategies such as poverty alleviation and rural vitalization.

Deepening the development of green finance

China's green finance has reached the world leading level in light of system construction and product innovation thanks to successful pilot trials, and is expected to provide effective support for the goal of achieving "carbon neutrality" set the central government. Green finance products such as green credit, green bond, green fund, green insurance and carbon finance are rolled out to continuously support economic activities that improve the environment, address climate change, and save and efficiently use resources, and promote social and economic development featuring "decarbonization" and "decontamination". As an important backbone and pivotal industry of China's national economic system, the banking industry carries out green finance activities by extending green credit and issuing green bonds to support the green development of the real economy.

Since 2020, China has introduced a raft of green finance policies to promote the green and low-carbon development of the real economy. In the course of conducting business, the listed banks have actively responded to national policies, implemented green finance, and extended the depth and breadth of the coverage of their green finance support.

Summary of national and local green finance policy in 2020			
Release date	Policy name	Authority	Content
January 2020	*Guiding Opinions on Boosting High-quality Development of Banking and Insurance Sectors*	CBIRC	Article 13 requires vigorously developing green finance. Banking financial institutions shall establish a sound environmental and social risk management system, incorporate requirements on environment, social responsibility and corporate governance ("ESG") into the whole credit granting process, and strengthen the ESG information disclosure as well as communication and interaction with stakeholders. Banks are encouraged to improve their green finance related professional service capabilities and risk prevention and control capabilities through the establishment of green finance business divisions and green branches (sub-branches). They should actively develop energy efficiency credit loans, green bonds and green credit asset securitization, steadily carry out environmental rights and interests, ecological compensation mortgage and pledge financing. Banks also need to establish green development funds in accordance with laws and regulations, explore such innovative green finance products as carbon finance, climate bond, blue bond, environmental pollution liability insurance and climate insurance, support the development of a green, low-carbon, circular economy, and stay well-prepared for critical battles against pollution.
March 2020	*Guiding Opinions on Building a Modern Environment Governance System*	General Office of the CPC Central Committee, General Office of the State Council	The Opinions propose improving the financial support for the modern environment and governance system; set up a national green development fund; promote the development of environmental pollution liability insurance, and explore the establishment of a compulsory environmental pollution liability insurance system in areas with high environmental risks; carry out emission rights trading, explore the collateral financing of emission rights trading; encourage financial leases of major environmental protection equipment; speed up the establishment of provincial soil pollution prevention and control funds; and adopt consistent domestic green bond standards.
May 2020	*Opinions on Financial Support for the Development of the Guangdong-Hong Kong-Macao Greater Bay Area*	PBOC, CBIRC, CSRC, SAFE	The Opinions propose promoting cooperation in green finance in the Guangdong-Hong Kong-Macao Greater Bay Area ("GBA"). It is imperative to build a sound working mechanism for cooperation on green finance in the GBA by relying on the Guangzhou Pilot Zone for Green Finance Reform and Innovation. The functions of Guangzhou Carbon Emission Exchange should be fully leveraged to establish a platform for environmental rights and interests trading and financial services in the GBA. Meanwhile, pilot programs of foreign exchange for carbon emission trading are planned to allow overseas investors (foreign institutions and individuals) who have passed the qualification examination of the Carbon Emission Trading Center Co., Ltd in the mainland areas of the GBA to participate in the mainland carbon emission trading in the GBA with foreign exchange or Renminbi. The Opinions proposes research and studies on the establishment of Guangzhou Futures Exchange, and explore the establishment of consistent green finance standards in the GBA. More enterprises in the GBA are encouraged to utilize the platforms of Hong Kong and Macao to finance and certify green projects. Guangdong local corporate financial institutions are supported in issuing green financial bonds and other green financial products in Hong Kong and Macao to raise funds for supporting green enterprises and projects in the GBA. The Opinions also support Hong Kong to build a green finance center in the GBA as well as an internationally recognized green bond certification organization.

Summary of national and local green finance policy in 2020			
Release date	Policy name	Authority	Content
October 2020	*Guiding Opinions on Promoting the Investment and Financing in Response to Climate Change*	Ministry of Ecology and Environment, NDRC, PBOC, CBIRC, CSRC	The Opinions propose better leveraging the role of investment and financing facilities in supporting the response to climate change, in promoting the implementation of the intended nationally determined contributions, and in boosting the development of green and low-carbon economy.
November 2020	*Regulations on Green Finance for the Shenzhen Special Economic Zone*	Standing Committee of the Shenzhen Municipal People' s Congress	This is China's first version of green finance laws and regulations. It plays an important role in promoting the development of Shenzhen's green finance, enhancing the ability of green finance to serve the real economy, promoting the construction of Shenzhen's sustainable financial center, and promoting sustainable economic and social development.
December 2020	*Administrative Measures for Carbon Emission Right Trading (for Trial Implementation)*	Ministry of Ecology and Environment	It is designed to regulate national carbon emission rights trading activities, including carbon emission allowance allocation and settlement; carbon emission rights registration, trading, and settlement; and greenhouse gas emission reporting and verification, to promote greenhouse gas reduction.
February 2021	*Guiding Opinions of the State Council on Accelerating the Establishment and Improvement of the Green and Low-carbon Circular Development Economic Systems*	State Council	Article 24 proposes vigorously developing green finance; developing green credit and green direct financing, and strengthening the evaluation and assessment of financial institutions' green finance performance; establishing green bond standards and green bond rating standards; developing green insurance and unleashing the function of insurance premium adjustment mechanism; supporting qualified green industry companies to go public and raise funds; supporting financial institutions and related companies to carry out green financing in the international market; promoting the convergence of international green finance standards and the opening-up of both domestic and foreign green finance markets in an orderly manner; and facilitating climate investment and financing.
April 2021	*Catalog of Programs Financed by Green Bonds (2021 Edition)*	PBOC, NDRC, CSRC	The Catalog defines more rational and targeted standards for green projects and excludes projects with high carbon emissions such as the clean utilization of coal and other fossil fuels from the scope of support. It provides a stable framework and flexible space for the development of China's green bonds and facilitates the gradual convergence of domestic and international standards and norms.

In 2020, in sustained efforts to implement the green development philosophy, the listed banks continuously developed green finance to support green industries and assisting with achieving the goal of "peaking carbon dioxide emissions and achieving carbon neutrality". We saw 43 listed banks disclose information on green loans, and the total balance of green loans as at 31 December 2020 was RMB8,872.69 billion, increasing by 23.73% from 31 December 2019, faster than the growth of overall loans. The green loan balance of 6 large commercial banks totaled RMB 6,268.34 billion, increasing by 25.38% year-on-year. Specifically, ICBC reported the largest balance of RMB1,845.72 billion and the fastest year-on-year growth of 36.64%, followed by ABC's 27.20% and BOC's 21.59%. The total balance of green loans of 10 national joint-stock commercial banks amounted to RMB2,149.47, a year-on-year increase of 18.20%. Particularly, IB reported the largest balance of RMB 1,155.80 billion, which accounted for more than 50% of the total green loan balance of national joint-stock commercial banks. As at the end of 2020, 21 city commercial banks saw a total balance of green loans of RMB411.16 billion, increasing by 29.10% from 2019. The green loan balance of 6 rural commercial banks as at 2020 year-end was RMB43.73 billion, increasing by 25.84% year-on-year.

Green loan balance*(Unit: RMB100 million)				
	31 December 2019		31 December 2020	
	Amount	Growth rate	Amount	Growth rate
ICBC	13,508.38	9.14%	18,457.19	36.64%
CCB	11,758.02	12.81%	13,427.07	14.19%
ABC	11,910.00	13.39%	15,149.00	27.20%
BOC	7,375.70	16.58%	8,967.98	21.59%
BOCOM	3,283.52	16.00%	3,872.80	17.95%
PSBC	2,157.73	13.32%	2,809.36	30.20%
Large commercial banks	**49,993.35**	**12.69%**	**62,683.40**	**25.38%**
CMB	1,767.73	6.47%	2,071.33	17.17%
SPDB	2,260.53	3.93%	2,628.00	16.26%
IB	10,109.00	19.65%	11,558.00	14.33%
CMBC	322.55	28.63%	526.69	63.29%
CITIC	651.48	3.51%	661.95	1.61%
CEB	906.99	15.69%	1,037.23	14.36%
PAB	252.00	-4.12%	227.00	-9.92%
HX**	1,191.55	Undisclosed	1,800.43	51.10%
CZB	538.78	138.84%	785.26	45.75%
CBHB	183.94	18.57%	198.81	8.08%
National joint-stock commercial banks	**18,184.55**	**N/A**	**21,494.70**	**18.20%**
BOB**	285.54	Undisclosed	225.00	-21.20%
BSH**	88.84	Undisclosed	107.87	21.42%
BJS	860	8.04%	984.00	14.42%
BONB	75.25	33.73%	88.36	17.42%
BONJ	447.54	57.33%	674.71	50.76%
HSB	148.18	34.37%	209.16	41.15%
BHZ	161.32	47.37%	314.83	95.16%
BGY	179.62	15.68%	193.71	7.84%
BOCD**	37.41	Undisclosed	44.37	18.61%
BOCS	138.33	35.81%	186.21	34.61%
BCQ	90.3	67.78%	144.1	59.58%
BGZ	181.83	43.11%	228.52	25.68%
BOZZ	8.43	373.60%	12.64	49.94%
BSZ	46.65	98.30%	77.91	67.01%
BQD	115.87	22.16%	152.33	31.47%
JXB	93.99	30.94%	149.41	58.96%
XMB	4.21	-10.04%	8.43	100.24%
BJJ	90.02	204.64%	133.20	47.97%
WHCCB**	69.99	Undisclosed	98.32	40.48%
JSB**	37.43	Undisclosed	52.15	39.33%
HRB	24.11	27.63%	26.32	9.17%
City commercial banks	**3,184.86**	**N/A**	**4,111.55**	**29.10%**
CQRCB	170.6	28.90%	245.67	44.01%
GZRCB	91.3	26.07%	112.94	23.7%
CSRCB**	17	Undisclosed	12.26	-27.88%
ZJRCB	38	126.60%	21.66	-43.00%
WXRCB	28.81	90.54%	40.23	39.64%
ZJGRCB	1.78	Undisclosed	4.51	153.37%
Rural commercial	**347.49**	**N/A**	**437.27**	**25.84%**
All listed banks	**71,710.25**	**N/A**	**88,726.92**	**23.73%**

*Data disclosed in the listed bank's annual reports or social responsibility reports/ESG reports. The names of indicators disclosed by the banks may be different, and those in the banks' public reports shall prevail.
**HX, BOB, BSH, BOCD, JSB, WHCCB, CSRCB and ZJGRCB's green credit balance as at 31 December 2019 is calculated based on their respective credit balance as at 31 December 2020 and 2020 growth rate.

In 2020, the green bond issuance of the listed banks scaled back against the backdrop of the pandemic. According to the data released by PBOC, as at 31 December 2020, the green bond issuance in China amounted to RMB1.2 trillion, ranking second in the world. In 2020, the listed banks continued to issue green financial bonds and assisted major domestic and foreign institutions to issue green bonds and supported the development of green industries by underwriting and purchasing green bonds. In terms of green bond issuance, 2 of the 54 listed banks issued green financial bonds in China in 2020 with a total issuance size of RMB12 billion. In terms of green bond underwriting, the listed banks actively underwrote green corporate bonds, green asset-backed securities and other types of green bonds to finance green industries.

Beyond established green financial debt products in the market, the listed banks extended the definition of green finance to support pandemic prevention and containment, blue economy, and sustainable development through product innovation. In February 2020, BOC, as a Chinese-funded institution, issued the first social responsibility bonds in overseas market, to support SMEs affected by the pandemic to resume operation and production as soon as possible; and in August 2020, CCB listed the first green traditional bond with the theme of "Responding to Global Climate Change" on Nasdaq Dubai, to support clean transportation projects recognized by international communities. In September 2020, BOC issued the first "blue bond" among Chinese and foreign commercial organizations, with the funds raised used to support marine-related sewage treatment and offshore wind power projects, and support marine protection and the development of a blue economy.

In 2020, the listed banks responded to China's call for "prioritizing ecological conservation and pursuing a green development path" by providing funds to the country's green undertakings and efforts. ICBC, BOC, ABC, CCB, BOCOM, SPDB and BSH contributed to the establishment of the National Green Development Fund. The funds raised will be directed to invest in key fields such as pollution control, ecological restoration, afforestation of national land, conservation of energy and resources, green transportation and clean energy.

In 2020, CQRCB and BGZ announced their adoption of the Equator Principles successively, followed by BCQ that announced its adoption in February 2021. So far, 5 Chinese listed banks have announced their adoption of the Equator Principles (including IB that announced its adoption in 2008 and BJS in 2017). The Equator Principles, as the principles of sustainable development of international finance adopted by banks to assess and manage environmental and social risks in financing projects, are designed to improve banks' ability to manage environmental and social risks, and effectively help them develop green finance.

The listed banks continued to strengthen the construction of the green financial system and improve environmental and social risk management. In response to the risks of climate change and environmental issues to the financial system, many listed banks incorporated environmental and social risk management into their internal risk management system, and prudently evaluated the environmental and social performance of customers in business processes, such as due diligence, review and approval, contract signing, fund allocation, and post-lending (post-investment) management, to control risks. ICBC, BOC and CCB, among other listed banks, performed stress testing for climate and environmental risks, and strengthened the identification and management of environmental and climate risks of customers operating in high-carbon industries and other environmentally sensitive industries.

The listed banks supported rural vitalization through green finance to integrate green finance with major national development strategies. ABC developed green financial services for "agriculture, rural areas, and rural people" ("San Nong") and proposed to increase credit supply for rural environmental governance, accelerate the shift to green rural production and lifestyles, support the development of new segments and new forms of green agriculture, and expand green agricultural financial services through bank-enterprise cooperation models. CCB established the "green + inclusive + Yunongtong" financial service platform to support green financial services in rural areas; and reasonably arranged differentiated risk mitigation measures such as forest rights pledge to diversify innovation of rural green financial products. IB increased the issuance of forest rights pledge loans to help build the value of ecological products.

As important players in China's green finance market, the listed banks actively participated in the domestic and international cooperation in green finance, provided valuable experience, and promoted the rapid and sound development of green finance. In 2020, among the listed banks, ICBC took the lead in advancing the pilot program of China-UK environmental information disclosure, conducting stress test research, and releasing the Green Finance (Investment) Index for the Belt and Road Initiative; BOC took the lead in hosting the online international seminar with the theme of "Green Financial Product Innovation" under the Green Investment Principles (GIP) for the Belt and Road Initiative; and IB released the first green standard for the leasing industry—the *Green Leasing Industry Standard Catalog* to promote the development of green leasing industry.

Greater efforts in inclusive financial services

For the listed banks, inclusive finance not only serves as a vehicle to enable their performance of corporate social responsibility, but also is a must-option for transformation and development. With more benefits generated from China's policies on inclusive finance and the continuous advancement of FinTech, developing inclusive finance has become an important approach for listed banks to improving their customer structure and deconcentrating business risks as they grow. In 2020, the listed banks continued to enhance their inclusive financial credit service capabilities, give full play to the role of inclusive finance in facilitating the realization of national strategic goals such as poverty alleviation and rural vitalization, harness the strength in supporting "San Nong" and medium-, small- and micro-sized enterprises ("MSMEs"), and increase the coverage and availability of inclusive financial services by applying FinTech to improve the quality and efficiency of inclusive financial services.

In 2020, the PBOC, CBIRC, MOF and other authorities issued a series of macro policies to lift China's economy out of plights caused by the pandemic and help enterprises resume operation and production soon enough, including reserve requirement ratio ("RRR") cuts targeting inclusive finance, preferential re-lending and re-discounting, and deferred principal and interest repayments, and to support San Nong organizations, "innovation and entrepreneurship" institutions, and MSMEs to return to normal operations. For example, in February 2020, the PBOC issued the *Circular on Increasing the Support for Re-lending and Rediscounting to Facilitate Orderly Resumption of Operations and Production* to increase re-lending and re-discounting quota by RMB500 billion, including re-lending of RMB100 billion for San Nong, re-lending of RMB300 billion for MSMEs and re-discounting of RMB100 billion.

In 2020, the listed banks stepped up efforts in inclusive finance, and improved the ability to provide financial support for poverty alleviation and serve MSMEs. According to the data from CBIRC, as at the end of 2020, the balance of inclusive loans to small- and micro-sized enterprises in China exceeded RMB15 trillion, a year-on-year growth of over 30%. In 2020, 42 listed banks disclosed data on inclusive financial loans, with the year-end inclusive financial loans totaling RMB8,534.14 billion, an increase of 40.12% over the end of 2019.

The 6 large commercial banks actively performed their responsibilities as banking role models by ensure stability on six key fronts and maintain security in six key areas. Their inclusive loans took a lead among the banking industry peers, with a total balance of RMB4,832.80 billion as at 31 December 2020, an increase of about 48.38% from 2019. Particularly, CCB's inclusive loan balance at 2020 year-end was RMB1.45 trillion, ranking first among the 6 large commercial banks. ABC reported the fastest year-on-year growth of 62.34% in inclusive loans to small- and micro-sized enterprises as at the end of 2020, followed by BOCOM with a year-on-year growth of 59.04%.

The inclusive loan balance of national joint-stock commercial banks as at 31 December 2020 was RMB2,668.16 billion, increasing by 30.17% from 2019. CMB saw the largest inclusive loan balance, which stood at RMB530.65 billion. CBHB had the fastest growth of 195.35% in inclusive loan balance from 2019 year-end. IB's inclusive loan balance was RMB203.25 billion with a year-on-year growth of 61.25%,ranking second by growth rate.

The inclusive loan balance of city commercial banks as at 31 December 2020 increased by 32.94% from the prior year-end on average. BONB and BOB reported the largest balances, both exceeding RMB90 billion. BTJ recorded the fastest growth of 113.72%, followed by BSH's 98.85%. The inclusive loan balance of rural commercial banks as at 31 December 2020 increased by over 20% from the prior year-end, with ZJGRCB and ZJRCB recording the highest growths, both over 40%.

Inclusive finance loan balance * (Unit: RMB100 million)				
	31 December 2019		31 December 2020	
	Amount	Growth rate	Amount	Growth rate
ICBC	4,715.21	52.05%	7,452.27	58.05%
CCB	9,631.55	57.88%	14,523.55	50.79%
ABC	5,923	58.20%	9,615.20	62.34%
BOC	4,129	38.00%	6,117.00	48.15%
BOCOM	1,639.52	51.62%	2,607.53	59.04%
PSBC	6,531.85	19.85%	8,012.47	22.67%
Large commercial banks	**32,570.13**	**44.96%**	**48,328.02**	**48.38%**
CMB	4,048.88	16.02%	5,306.50	31.06%
SPDB	2,040.89	23.21%	2,709.58	32.76%
IB	1,260.49	37.01%	2,032.50	61.25%
CMBC	4,042.35	Undisclosed	4,527.62	12.00%
CITIC	2,042.60	49.80%	3,024.94	48.09%
CEB	1,553.96	21.24%	2,012.51	29.51%
PAB	2,037.30	Undisclosed	2,828.30	38.83%
HX	1,001.40	18.27%	1,268.28	26.65%
CZB	2,323.52	13.59%	2,539.75	9.31%
CBHB	146.15	61.30%	431.65	195.35%
National joint-stock commercial banks	**20,497.54**	**N/A**	**26,681.63**	**30.17%**
BOB	712.00	Undisclosed	929.00	30.44%
BSH	237.29	39.58%	471.84	98.85%
BJS	657.50	20.51%	851.00	29.43%
BONB	659.90	Undisclosed	950.60	44.05%
BONJ **	384.72	Undisclosed	508.50	32.80%
HSB	525.8	Undisclosed	686.55	30.57%
BHZ	627.34	23.53%	772.48	23.14%
BGY	218.58	19.90%	247.90	13.41%
BCQ	320.49	21.65%	364.51	13.74%
BTJ	119.35	72.75%	255.08	113.72%
BGZ	126.42	Undisclosed	203.09	31.42%
ZYB	420.28	Undisclosed	508.13	20.90%
BOZZ	280.87	Undisclosed	342.30	21.87%
BOXA	42.58	Undisclosed	56.81	33.42%
BQD	140.11	Undisclosed	185.51	32.40%
JXB	280.19	Undisclosed	323.28	15.38%
XMB	210.00	Undisclosed	346.00	64.76%
JSB	45.78	Undisclosed	67.43	47.29%
HRB	373.67	Undisclosed	420.93	12.65%
BOGS	81.66	Undisclosed	103.12	26.28%
City commercial banks	**6,464.53**	**N/A**	**8,594.06**	**32.94%**
CQRCB	651.95	15.63%	784.73	20.37%
QDRCB	245.58	Undisclosed	300.26	22.27%
ZJRCB	117.96	Undisclosed	168.20	42.59%
WXRCB	85.82	22.56%	109.11	27.14%
JYRCB	114.61	Undisclosed	144.32	25.92%
ZJGRCB	156.23	Undisclosed	231.11	47.93%
Rural commercial banks	**1,372.15**	**N/A**	**1,737.73**	**26.64%**
All listed banks	**60,904.35**	**N/A**	**85,341.44**	**40.12%**

*Data disclosed in the listed bank's annual reports or social responsibility reports/ESG reports. The names of indicators disclosed by the banks may be different, and those used in the banks' public reports shall prevail.
**BONJ's inclusive loan balance as at 31 December 2019 is calculated based on its respective inclusive loan balance as at 31 December 2020 and 2020 growth rate.

The year 2020 is the final year for the *Plan for Promoting the Development of Inclusive Finance (2016-2020)*, and a crucial year for poverty alleviation. The listed banks played a leading role in supporting the implementation of major national strategic goals by actively providing targeted financial services for poverty alleviation, rural revitalization, and real economy development. For example, ABC optimized its inclusive financial service system featuring "San Nong + Small and Micro Enterprises" with and improved the operating mechanism and policy system of the County Area Banking Division, and increased lending to key areas around food security, stable production and adequate supply of agricultural products, rural industry development and construction of digital village. In addition, ABC rolled out some innovative loan products with "San Nong" features such as loans to revitalize rural parks and loans to revitalize rural industries, in an vigorous effortt to implement national poverty alleviation and rural vitalization strategies.

During the COVID-19 pandemic, inclusive finance became a more important instrument in credit support for MSMEs. As the pandemic put a halt to China's economy in 2020, MSMEs faced mounting financing pressure and operating difficulties. The listed banks provided more inclusive financial support to help MSMEs resume production and expand production capacity soon enough by establishing green channels for loan approval, simplifying the approval process, increasing interest rate concessions and other measures. BOC launched a corporate financing service at more than a dozen branches in Guangdong, Zhejiang and Hunan, etc., to support key customer groups including "specialized, boutique, featured and innovative" enterprises and manufacturing "single champion" enterprises. In nine cities including Beijing, Shanghai, Guangzhou and others, BOC replicated and promoted the technology plus finance model known as the "Zhong Guan Cun Model" to support SMEs pursuing technological innovation. ICBC launched 7*24 online, unsecured and unguaranteed loan products for small- and micro-sized enterprises, such as "Tax Loan" and "E-Business Dream Loan", to help them resume production and operate stably.

The listed banks developed inclusive finance to serve the rural revitalization strategy and empower the new urbanization initiative. New urbanization is an important part of promoting county-level economic development and a necessary task for the implementation of the rural revitalization strategy. The listed banks strengthened the service capabilities of village banks, innovated urbanization financial products and business models, and accelerated the establishment of county-level financial scenarios, to support the construction of new urbanization. ABC improved the effectiveness of its internal policies and issued the *Guiding Opinions on Further Promoting Financial Services for New Urbanization* and other documents, strengthened the service capabilities of village banks, including providing sufficient county-level services to rural enterprises and MSMEs, and improved the capability of serving the rural revitalization strategy. PSBC promoted the "Ten Business Modes" to support the implementation of the rural revitalization strategy, focusing on the key areas of the strategy, such as the building of beautiful countryside and construction of rural infrastructure. It provided more preferential policies and made credit policies more tolerant with agriculture-related non-performing loans.

FinTech accelerated the digital transformation of inclusive finance for listed banks. In 2020, the listed banks further applied big data, artificial intelligence, cloud computing and other financial technologies to empower inclusive finance strategies, upgraded inclusive financial services with digital thinking, optimized digitalization of inclusive finance, improved inclusive finance services for customers, and increased the coverage and precision of inclusive financial services. CCB used the Internet, big data, biometric identification and other technologies to provide one-stop financial services for small- and micro-sized enterprises, individual businesses and other inclusive finance customers, such as online measurement of line of credit, appointment for account opening, loan processing, loan renewal and extension, and value-added services. BOC improved the quality and efficiency of inclusive financial services with FinTech, launched a series of innovative online financing products for small- and micro-sized enterprises, and leveraged FinTech to simplify loan application and loan use processes and improve processing efficiency.

08 Unleashing the potential of FinTech to advance digital transformation

As demands for "contactless banking" services increased during the pandemic in 2020, the listed banks were fully aware of the potential of developing digitalized operations and processes and ramped up application of FinTech, embracing an accelerating digital transformation.

The listed banks stepped up investment in FinTech and talents to proactively enable business transformation in all aspects. Thanks to the accelerated integration of FinTech and businesses and the construction of a comprehensive intelligent ecosystem, the year 2020 saw breakthroughs in exploring a new path for transformation.

Accelerating FinTech innovation in organizational structure and unleash the power of FinTech in driving transformation

In recent years, the listed banks have accelerated the deployment of FinTech by setting up FinTech subsidiaries. As of now, 12 listed banks, including ICBC, CCB, ABC, BOC, BOCOM, CMBC, CMB, IB, CEB, PAB, HX and BOB, have set up FinTech subsidiaries or established long-term partnership with FinTech companies. These subsidiaries followed a similar path. They initially focused on supporting the development of the group and subsidiary entities, and then expanded the services to offer technological solutions and services to peers.

Large commercial banks integrated FinTech with their operations, used FinTech to empower businesses and support transformation in all aspects, and began to offer FinTech solutions. With a successful progress in the smart bank information ecosystem (ECOS) launched in 2019, ICBC made more efforts in the construction of 5G, data center, cloud computing and other new-type digital infrastructure, reinforcing production and operation safety. It accelerated management system and mechanism reforms and relied on the fifth generation of core banking system to boost the development of digital business forms and the digital transformation and upgrading of the bank. CCB empowered internal and external development with FinTech. It used FinTech to assist in the prevention and control of COVID-19 and the resumption of work and production and leveraged the leading edge in "CCB Match Plus" online platform to enable the whole-process digital online exhibition operation and cross-border connection. It formed a unified intelligent ecological service system that helped to improve the capability of digital government governance and provide services to sectors including house rental, rural revitalization, education and medical care. It empowered small and medium-sized financial institutions and provided risk control tools to 328 small- and medium-sized banks to promote the co-governance of risks. BOC conducted FinTech innovation, software development, platform operation, and technical consulting services through Bank of China Financial Technology Company Limited ("BOC Financial Technology"). BOC Financial Technology supported the IT construction of the group's integrated operation companies, developing three basic public platforms at the group level including operation and management, business synergy, and information sharing. It provided support for key regions, pushed forward the integrated business synergy of the Yangtze River Delta region with IT support, and comprehensively boosted the construction of Smart Hainan and Digital Xiongan, achieving its goal of offering FinTech products and services to external customers. ABC tracked, studied and brought in cutting-edge technologies around FinTech, to better serve the agriculture, rural areas, farmers and the real economy, prevent and mitigate financial risks, and empower the digital transformation strategy. It formulated the *Short-Term Information Technology Development Plan (2020–2021)*, in which "seven technologies, five pillars, six middle-end platforms and two guarantees" were proposed to promote the "iABC" strategy in information technology to build itself into an intelligent, user-oriented bank where resources

and capabilities are effectively integrated and where FinTech acts as an impetus. Agricultural Bank of China Financial Technology Co., Ltd. was established to explore the market-oriented FinTech innovation mechanism. BOCOM adhered to the technology-driven strategy to continuously enhance its technology empowerment. The FinTech and Product Innovation Committee was established to build and optimize the FinTech organizational structure that can adapt to the digitalized business development and respond quickly, to improve the FinTech top-level design and the level of integrated management. Focusing on the integration of business and technology as well as the improvement of data management, it fully applied technologies to business management and transformed the role of FinTech from "supporting" the development to "leading" the development. With the opening of the FinTech subsidiary, its new FinTech organizational structure has been established[3].

National joint-stock commercial banks continued to focus on exploring customer-centric differentiators and cultivating their comparative FinTech advantages. CMB continued to increase investment in FinTech resources, and promoted the bank-wide digital transformation and development and the upgrading of the business model 3.0 during based on the strategic "network-based, digital, and intelligent" development basis. Various achievements have been made by CMB in 2020, such as constant transformation and upgrading of business model, constant improvement of digital management, preliminary construction of future-oriented technology infrastructure and capabilities, and constant improvement of system and mechanism with technological innovation. Upholding the principle of "being technology-driven", PAB drove the strategic transformation with leading-edge technologies. In terms of transformation of technology architecture, it continued to accelerate the integration of application scenarios and cutting-edge technologies such as big data, blockchain, AI, cloud computing and biometrics to promote "technology-driven" development. Furthermore, it built platform-based data capabilities to advance data empowerment and support the operation and management to promote "data-driven" development. Pursuing agile transformation, it deepened the integration between technology and business to realize "model-driven" development driven by dual engines. It promoted the "talent-driven" development by enhancing domestic talent cultivation and attracting overseas high-caliber cross-disciplinary talents. CITIC became the first among medium- and large-sized Chinese banks to put into operation the independently developed distributed core system, improving its comprehensive capabilities of empowering development through FinTech on all fronts. New technologies such as AI and blockchain were innovatively applied in all business fields to drive the development of the bank. CEB stepped up top-level design, built the FinTech innovation system in a scientific, systematic and comprehensive way, and sharpened its core competitiveness. It also established a special funds mechanism for FinTech innovation with a budget of RMB500 million to support the rapid incubation, implementation and promotion of new technologies, new businesses and new models. The establishment of Everbright Digital Finance Academy indicated CEB's effort to advance talent cultivation, project incubation and building of innovation ecosystem. In a move to integrate the bank-wide innovation management functions, the FinTech segment was assigned responsibility for planning and promoting bank-wide innovation. Besides, the bank set up the review and management mechanism for hit digital products, thus connecting the FinTech innovation and incubation system with the review mechanism of hit digital products[3].

City commercial banks and rural commercial banks enhanced their FinTech capacity to empower customer services and to lay a solid foundation for high-quality development in the future. BOB put the Shunyi Science and Technology R&D Center into operation. It harnessed the strengths of its FinTech subsidiary, worked faster to change the internal technological structure, and established ten major "Jing Jiang" projects (FinTech-driven programs) to speed up digital transformation. To echo the trend of digital technology and the application of big data, AI and other cutting-edge technologies, BSH continued to improve FinTech talent development and increase FinTech investments. It enhanced the leading role of innovation and promoted the top-level design to build an open, integrated innovation ecosystem. The bank consolidated data and technology capabilities of middle office and pursued digital transformation to improve "online, digital and intelligent" services. It enhanced the efficiency of digital operation and management and empowered the high-quality development of core financial services. BJS was committed to "building FinTech into a core competitive edge of the bank", focused on innovation, comprehensively implemented the smart finance evolution program, accelerated the application of science and technology to empower the overall business management. BONJ focused on strategies of "Open Banking" and "Digital Transformation" and themes of "innovation, synergy and independence". It improved top-level design and organizational guarantee, strengthened technological empowerment and business synergies, enhanced technological innovation, independence and controllability, continued to promote the application of new technologies, and comprehensively enhanced its online financial service capacities and essential IT management capabilities[3].

3 Source: Annual reports published by the listed banks.

Increased investment in FinTech and talents to build a long-term differentiator

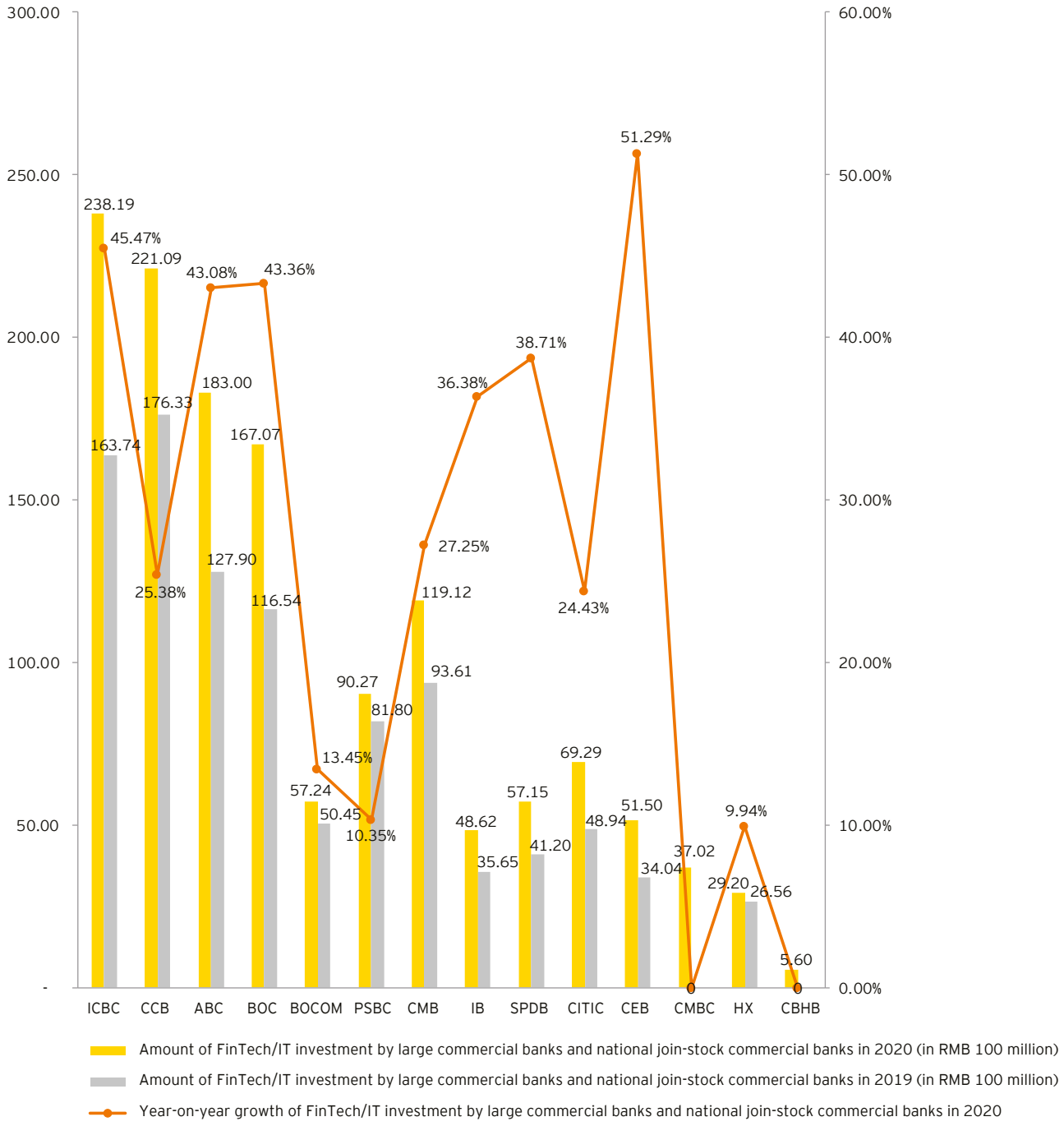
In 2020, the listed banks increased their investment in FinTech, accelerated the integration of FinTech resources and actively developed the core competitiveness for the future. Several listed banks continued to disclose their FinTech/IT investment and the number of FinTech/IT personnel in their 2020 annual reports as they did in 2019. Although the listed banks disclosed data on different bases, they generally increased financial investment in FinTech and elevated the importance of FinTech talents to an unprecedentedly high level.

We saw 22 listed banks disclose their investment in FinTech/IT in the annual reports, totaling RMB144.60 billion. Particularly, the 6 large commercial banks registered FinTech/IT investment of RMB95.69 billion, increasing by 33.50% from 2019. ICBC and CCB took the lead by investing over RMB20 billion, while the investment of ICBC, ABC and BOC all increased by over 40% year-on-year. Eight national joint-stock commercial banks reported FinTech/IT investment of RMB41.75 billion, increasing by 49.11% from 2019. CMB invested over RMB10 billion. CEB's investment increased by over 50% from 2019, while the investment of IB and SPDB increased by approximately 40%. Eight listed city commercial banks and rural commercial banks recorded FinTech/IT of RMB7.16 billion in total, an average of nearly RMB1 billion for each bank. In addition to the amount of investment, CCB, BOCOM, PSBC, CMB, IB, CEB, BOB, BSH and BONJ also disclosed the proportion of FinTech/IT investment in their operating income in 2020, which was more than 2% for each. Specifically, CMB reported the highest proportion of 4.45%[4].

Of all listed banks, 14 banks disclosed the number of FinTech/IT personnel in their annual reports. Particularly, by the end of 2020, ICBC registered the largest number of FinTech personnel of over 30,000, while CCB had over 10,000 FinTech personnel, increasing by 28.75% from 2019. National joint-stock commercial banks all assigned more than 1,000 FinTech personnel, with PAB reporting the largest number of 8,500. SPDB, CITIC, IB and CEB saw the year-on-year growth in FinTech personnel stand at above 50%, over 30%, over 20% and over 20%, respectively[4].

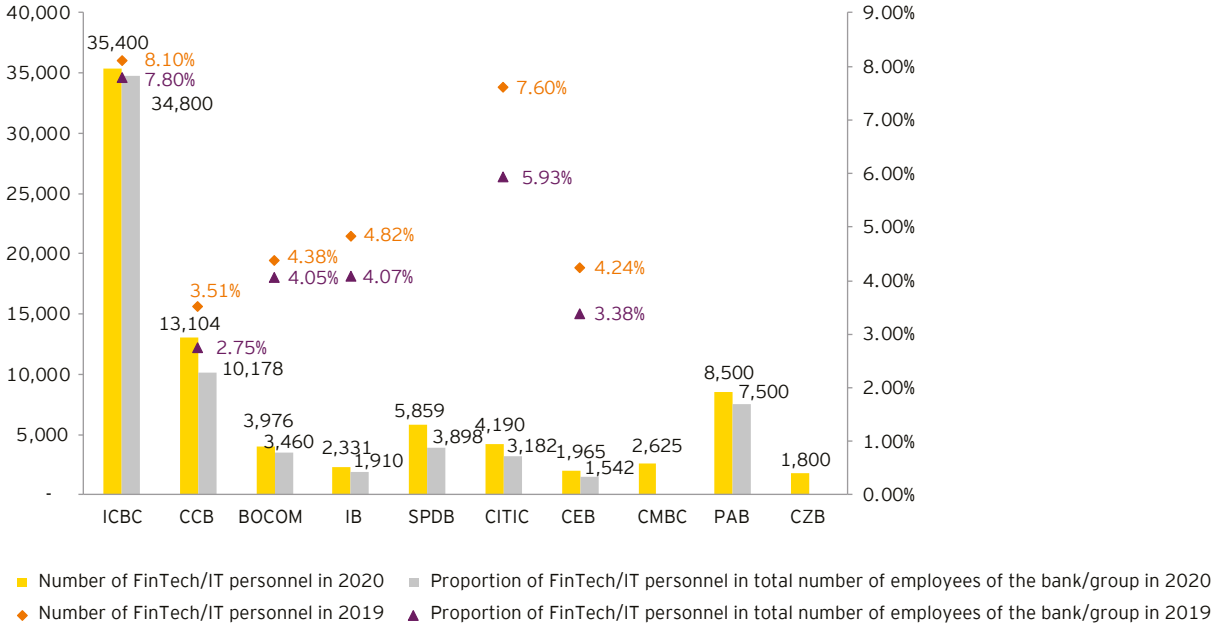
4 Source: Calculated based on the annual reports published by the listed banks.

Growth of FinTech/IT investment by large commercial banks and national join-stock commercial banks in 2019 and 2020 (in RMB100 million)



Source: Disclosures in published 2020 and 2019 annual reports of the listed banks.
Year-on-year growth is extracted from quantitative disclosures of the listed banks or is calculated based on the data disclosed in the prior year.
As CMBC and CBHB initially disclosed the amount of FinTech/IT investment in their published annual reports in 2020, the comparative data in 2019 are not available, thus the year-on-year growth of the investment amount could not be calculated.

Number of FinTech/IT personnel and its proportion to the total number of employees of large commercial banks and national join-stock commercial banks in 2019 and 2020

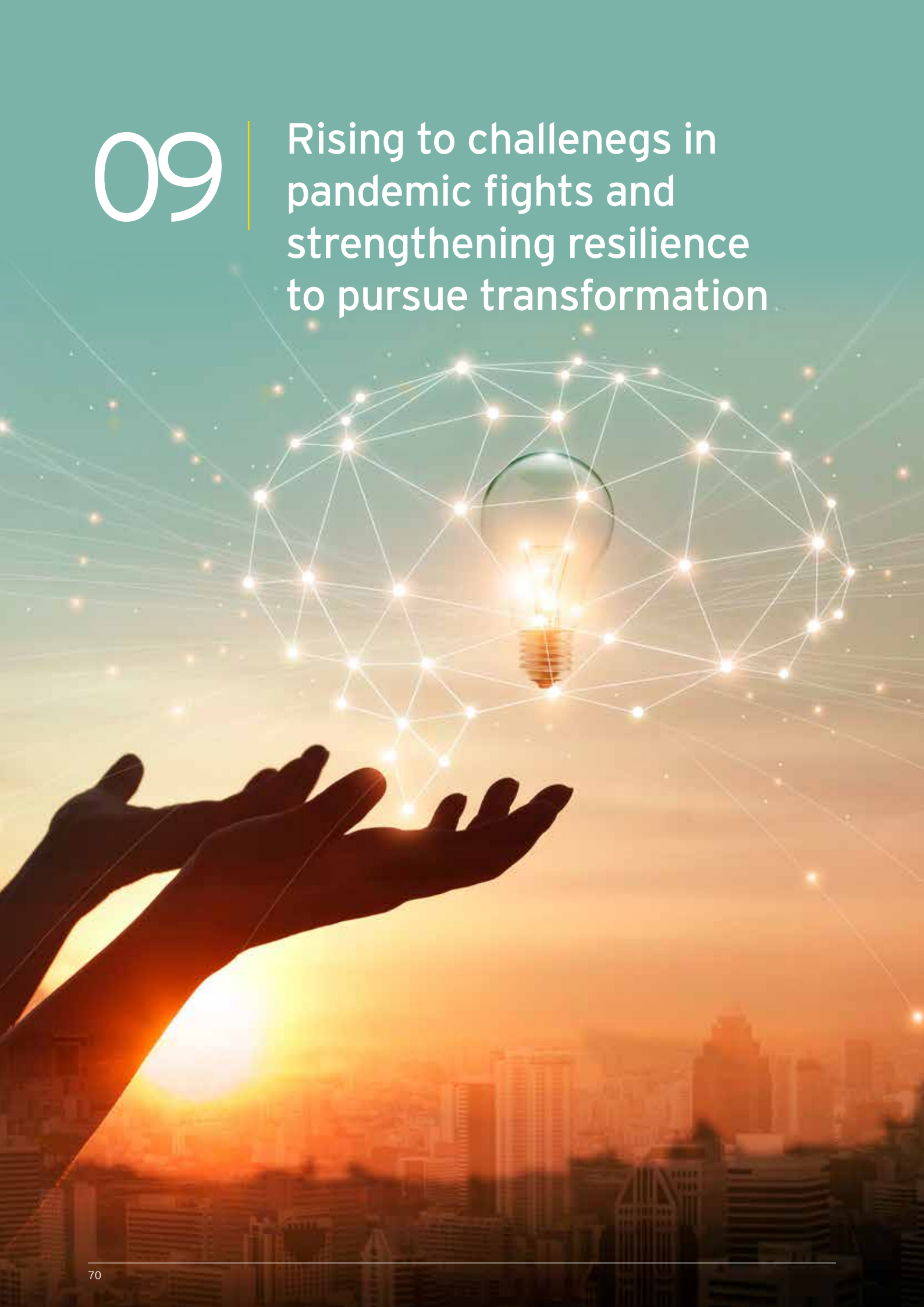


Source: Disclosures in published 2019 and 2020 annual reports of the listed banks.
The FinTech/IT personnel of PAB and CZB also included outsourcing personnel. Data of CITIC excluded those from its subsidiaries, while data of SPDB only covered FinTech/IT development personnel at the parent company. The proportion of CCB was the proportion in the total number of employees of the group. SPDB, CMBC, PAB and CZB did not disclose the proportion of FinTech/IT personnel. As CMBC and CZB began to disclose the number of FinTech/IT personnel in their published annual reports in 2020, the comparative data in 2019 are not available.

The Central Economic Work Conference held in December 2020 highlighted "Eight Major Economic Tasks" in 2021, viewing "strengthening national strategical technologies" as the top priority. Under the dual-circulation development paradigm, in which the domestic market is the mainstay and the domestic and foreign markets reinforce each other, the significance and urgency of digital transformation of the listed banks are more pronounced.

In 2021, the development of FinTech has been officially included in the 14th Five-Year Plan, signaling the Chinese government's determination to encourage and support further development of FinTech. For the listed banks, the compliance of their FinTech operations is to become a focus. Going forward, the listed banks will play a more important role in FinTech innovation, and the application and development of FinTech in the banking industry will be strengthened. Meanwhile, regulators have attached greater importance to data application and information security, evidenced by their move to roll out a raft of standards, rules and regulations on data security, which in turn will promote the compliance of FinTech and encourage banks to focus on the essence of financial services.

09 Rising to challenegs in pandemic fights and strengthening resilience to pursue transformation



In 2020, the COVID-19 pandemic paralyzed global economic activities to a very large extent and posed unprecedented challenges to the banking sector. The Chinese listed banks actively fulfilled their social responsibilities by vigorously assisting with efforts to contain the pandemic and resumption of work and production, making interest concessions and cutting fee charges, and taking a package of measures to support the real economy. They also closely tracked the changes in risk profile, enhanced monitoring of asset quality, deployed Fintech solutions to accelerate digital transformation and strive for high-quality development.

Jointly shouldering responsibilities to fight against pandemic

Since 2020, the outbreak of COVID-19 pandemic has had devastating impacts to China' economic activities. In response, the Minstry of Finance (MOF), the People's Bank of China (PBOC) and the China Banking and Insurance Regulatory Commision (CBIRC) have rolled out a raft of targeted powerful measures to stabilize the financial markets, ensure routine pandemic control and containment, and prop up the stable social and economic debelopment. Main measures include[5]:

1. Efforts to step up counter-cyclical adjustments. The PBOC injected funds into the markets through a package of monetary policy tools such as the reduction of the reserve requirement ratio, relending, rediscount, medium-term landing facility (MLF) and open market operations.

2. Guidance to lead to a downward trend in interest rates. In 2020, both the MLF interest rate and reverse repo rates based on market-oriented bidding dropped by 30 bps, driving down the loan prime rate (LPR) by 30 bps in sync, and pushing down the annual lending rate of 2020 by 0.5 percentage point from 2019.

3. Increased lending to the market. The PBOC separately expanded the relending and rediscount quota by RMB500 billion and RMB1 trillion following an allocation of RMB300 billion relending quota, which were earmarked to sustain the development of the real economy involving micro, small and medium-sized enterprises (MSMEs) and support the coordinated efforts on fight against COVID-19 and delivery of supplies, return to work and resumption of production. The two monetary policy tools that enable direct support for the real economy, namely one for provisional deferment of loan repayments by MSMEs and the other for supporting unsecured inclusive loans to micro and small businesses (MSBs), have been introduced. Some targeted financial incentives were given to financial institutions to partly offset their costs arising from certain businesses, and clear guidance was released to guide them to increase support for eligible MSBs.

4. Policies on making interest concessions and cutting service fees. Several authorities jointly issed the *Notice on further standardizing credit financing charges and reducing comprehensive financing cost of enterprises*, with an aim to regulate fee charges on direct lending, partnership lending and credit enhancement, urge commercial banks to implement the fee cut policy to reduce the burden racked by the real economy.

The banking sector has proactively responded to the government's call for delivering targeted financial services to the real economy. According to the CBIRC statistics, as of the end of 2020, the renminbi loans grew by RMB19.60 trillion from the beginning of the year, an aggregate amount of RMB6.60 trillion loans was covered by the referred repayment policy, and the yearly target of making interest concession of RMB1.50 trillion to the real economy was met, all of which strongly supported the resumption of work and production and ensured stability on the six fronts and security in the six areas.

5 Official websites of PBoC and CBIRC.

Throghtout the year, RMB2.20 trillion of new loans was granted to the mamufacturing sector, exceeding the total amount from the past five years; and RMB5.70 trillion of new loans was directed to provate enterprises, growing by RMB1.50 trillion.

As the backbone of the banking sector, the listed banks spared no effort to play a part in fight against the pandemic. While exercising their own pandemic prevention and control and keeping the business operation stable, they made appropriate made interest concessions and deferring repayment of principal and interest to finance enterprises' efforts in the pandemic control and resumption of work and production; carried out technology enablement initiatives and build "contactless" banking services; leveraged on open facilities to stay aligned with the social demand for the pandemic prevention and containment; took the initiative in efforts such as donation of funds and relief goods and fulfillment of socoal repsobsibility. In terms of risk management, the listed banks closely tracked the changes in risk profile and situations and strengthened asset quality supervision and control.

1 Keeping operation stable both domestically and overseas

Facing the sudden outbreak of COVID-19 pandemic, the Chinese listed banks moved quickly to align their response measures with targeted policies introduced by the government. Specific they: i) immediately set up the pandemic control leading team and added it as a part to their existing organization; ii) timely formulated the pandemic control guidance and emergency response plan and dynamically adjusted the control strategies, enhanced the ability to anticipate the risks such as credit risk and liquidity risk, and strengthen business continuity management; iii) exercised people and workplace and business premises management in an coordinated manner, and improved employee caring and safety and protection measures, quickly adopted flexible work arrangements, such as working remotely, rotation and commuting off peak hours, to ensure regular banking services for customers and effective protection of staff health and safety, and iv) vigorously promoted the on-line services and flexibly adjusted availaibility of service counters at outlets to maintain the continuity of financial service during the pandemic. Moreover, against the backdrop of raging pandemic overseas, the listed banks applied the practices for their overseas subsidiaries or entities (if applicable) consistent with those adoped at the home country and improved risk resilience and risk protection capability of their overseas businesses, thus ensuring smooth operation across the world.

2 Granting interest concessions and cutting fees, deferring repayment of principal and interest, and increasing credit supply

In terms of financing support, the listed banks remained responsive to the pandemic-related funding needs and introduced various targeted credit policies to support the pandemic control and resumption of work and production, ensure sustainable supply chain of large enterprises and continuous financial support for small- and mid-sized enterprises (SMEs). For example, ICBC mobilized over RMB270 billion in its funding assistance for pandemic-devastated Hubei Provine, directed about RMB900 bilion to finance the operations of 45 group enterprises and their subsidiaries that played a major part in helping with resumption of work and production, and designated its subsidiary ICBC Investment as servicer in RMB1.68 billion worth of debt-for-equity swaps of key enterprises supporting the pandemic control efforts; CCB extended an aggregate amount of RMB125.68 billion to 12,166 key enterprises covered by the pandemic control, and worked with local governements to set up "oxygen storage for enterprises", a special credit support program, through which approximately RMB180 billion of loans were granted to about 20,000 enterprises that needed funds to resume work and production; BOCOM accumulatively granted nearly RMB400 billion pandemic-related loans; CITIC allocated around RMB 200 billion loans to help fight against the pandemic; CMB increased its supply chain finance offerings to cover orders, warehouse receipts, inventory and receivables of enterprises based on their core enterprise credit information and helped the SMEs along the supply chains address the shortfall of working capital and other liquidity issues[6].

The listed banks implemented the guiding policy on postponing the repayment of principal and interest for a prescribed period and effectively eased exterprises' funding pressures by adopting the arrangements such loan renewal, extension, refinancing, grace period and adjustment to repaymemt schedule. Specifically, ICBC released more than 100,000 loan customers from originally scheduled principal and interest payment obligations, involving an aggregate amount of RMB1.5 trillion; ABC arranged deferred principal and interest payment of 109,000 individual loans involving over 80,000 borrowers and a total amount of RMB131.60billion; CMB had RMB152.57 billion of loans to be covered in its deferred principal and interest payment arrangement, and stepped up credit relief measures for the people affected by the pandemic[6]. For example, considering inconvenient repayment, CMB exempted the workers fighting the COVID-19 pandemic, the infected and their

6 Source: Annual reports or social responsibility reports of listed banks.

relatives from overdue recognition, penalty interest and default recording in the credit reference system, and also reasonably adjusted the repayment schedule for individual business loan borrowers impacted by the pandemic to reduce their repayment burden.

The listed banks helped customer navigate the hard times by making interest concessions and cutting service fees. They offered financial support to the real economy at the expense of their own profits by lowering lending rates, extending loans at preferential rates under PBOC's relending and rediscount quotas, adopting two monetary policy tools, and reasonably cutting or waiving enterprises' interest expenses and fees on bridge loans and credit guarantees. For instance, CEB offered fund transfer pricing (FTP) concessions to MSBs, cutting channel-based inclusive finance FTP by 100bps and proprietary inclusive finance FTP by 110 bps; CMB granted the loans earmarked to the pandemic control at a rate 71 bps lower than the average rate of general corporate loans; ABC cumulatively extended RMB33.64 billion in loans to 1,080 enterprises at preferential rates under PBOC's relending quota, seeing a 38.6% growth in loans to key enterprises responsible for stable production and supply of agricultural products, hog-breeding loans rose by 1.36 times from the end of 2019; PSBC granted RMB8.94 billion of loans at preferential rates under the central bank's relending quota to 706 major enterprises covered by the safeguard measures against the pandemic; CZB provided RMB168 milion worth of interest relief and exempted MSBs from 13,800 penalty interest payments, involving RMB11.01 billion[6].

3 Enabling "zero-contact" financial services through technological prowess

Some digital transformation achievements made by listed banks were sufficiently presented during the pandemic. Banks viewed the pandemic as a catalyst for digital banking and expedited the migration of brick-and-mortar outlet services to online services. For example, ICBC fully lifted the limits on small mobile and online transactions, diversified the online unsecured loan products such as "Quick Lending", and granted lines of credit of more than RMB850 billion to about 1.10 million MSBs, under which an outstanding balance of over RMB100 billion was recorded, up 200% from the end of prior year; CMB granted 1,275 loans totaling RMB28.70 billion to its customers through remote lending facility; SPDB ensured its business continuity by using AI customer services and AMA robots to address customer needs during the pandemic; CMBC launched its "5G Mobile Banking", continued to improve its "remote banking", and rolled out zero-contact emergency functions such as "cloud witness" and "cloud key" to address issues of collateral registration, disbursement of loans and fund management during the special period[6].

4 Providing facilities to connect with social pandemic control initiatives

The listed banks leveraging on established open integreated cross-over facilities and platforms to empower government insitutions and society, facilitating intelligent community management and delivery of goods and materials in need. For example, CCB rolled out "CCB Smart Community Management Platform" to assist with the establishment of an "online and offline" multi-dimensional COVID-19 prevention and control system for both urban and rural communities, which had a coverage of more than 51.07 million users. The "Online Grocery Basket" service was launched for the convenience of people's daily life in the wake of COVID-19. The platform had more than 11,000 registered merchants and malls, attracting 1.22 million visitors. CCB leveraged its leading edge in "CCB Match Plus" online platform and enabled the whole-process digital online exhibition operation and cross-border connection. It assisted with building a nationwide COVID-19 information release network based on its intelliegent government affairs platform, on which to issue, collect and report information on pandemic prevention and control, as well as to facilitate medical resource allocation. SPDB rolled out its benefit-series "registration booking service" via its online APP, covering more than 150 cities nationwide, with free online clinic services delivered to nearly 4 million person-times. CMB raised RMB700 million and initiated the "Forerunners' Alliance" through CMB Life APP to facilitate the recovery of consumer sectors such as catering, automobiles and e-commerce, to assist partnering merchants to overcome difficulties and achieve earlier recovery[6].

5 Making donations to fulfilled social responsibilities

As part of efforts in actively performing corporate social responsibilities in the global fight against the COVID-19 pandemic, the listed banks donated money and relief materials and supplies. In the wake of the pandemic, the listed banks move quickly to make donations as a contribution to the national efforts in pandemic control, treatment of the infected and protection of medical workers. Those with subsidiaries or branches set up overseas made coordinated efforts in allocating pandemic

prevention materials around the world, delivering pandemic prevention and life necessities to the Chinese students studying abroad, and making pandemic-related donations to the neighboring countries that have good relationship with China as well as the countries along the "Belt and Road".

6 Closely monitoring the changes in risk profile and strengthening control over asset quality

The listed banks comprehensively assesses the implications of the pandemic on their operation and asset quality, monitored and judged the changes of situations, and increased their own risk resilience while proactively responding to the government's call and regulatory requirements, fulfilling social responsibilities, substantially making interest concessions to support the real economy, especially those SMEs.

As risk management is the lifeline of the listed banks, the listed banks exercised the principle of prudence when helping MSBs address the shocks of the pandemic. Although the banks maximized easing of credit policy on deferred principal and interest payment, they took into account the impact of the pandemic and government relief programs on their profitability and asset quality, and increased provisions and stepped up resolution of risk assets to improve risk resilience. Meanwhile, to be well prepared for defusing credit risks, the listed banks preemptively executed stree tests against the pandemic scenarios and closely monitored the post-lending repayment status and changes in asset quality on an ongoing basis. For example, CCB monitored and reviewed the assumptions used for calculating expected credit losses ("ECLs") on a quarterly basis, including probability of default ("PD") and changes in collateral value under each loan tenure; BOC increased country risk monitoring and risk quantification technology to evaluate overseas businesses and asset quality and improve risk warning capability; under the principle of substantive judgment on risks, ICBC strengthened post-lending risk monitoring and improved risk management practice to front-load its risk measures against market volatility[6].

Increasing awareness of crisis and strengthening resilience to pursue transformation

The listed banks demonstrated impressive oprational resilience and worked well through the pandemic, which was highlighted by efficiently deployed large-scale remote working model to satisfy surging customer demands and by striking a good balance between effectively supporting the government's pandemic control initiatives and economic stimulus package including the policy for resumption of work and production and keeping their capital level and asset quality stable.

Meanwhile, as this round of stress tests under the pandemic environment have exposed some vulnerability in banks' operating models, the listed banks may consider improvements to make, such as optimizing their crisis management and business continuity plans, expanding the scope of tests, carrying out scenario-based stress tests around technical infrastructure, cyber security, data governance and regulatory compliance, and updating performance indicators, to ensure they are capable of responding quickly, taking actions agilely, and maintaining social and financial stability in case of unexpected risks. The listed banks also need to expand their efforts from strengthening credit risk monitoring, periodically reviewong related assumptions and upgrading internal systems to making more in-depth analysis of industries and and supply chains and real-tme monitoring the borrowers' financial standing.

The outbreak of COVID-19 pandemic has substantially increased customers' needs for digital financial solutions. Thus, when revisiting the existing digital transformation strategies and making necessary adjustments, the listed banks also need to realign their business models and asset structures and explore new sources of revenue to achieve a long-term ssustainable development. In is foreseeable that, in a digital age, the banks are able to satisfy customers's diverse demands by best utilizing both internal and external data resources, tapping potentials of platforms, and delivering personalized products and tailored services.

10 Outlook

The year 2021 ushers in the significant course of implementing the 14th Five-Year Plan ("the 14FYP"), marking the start of China's new journey towards "building a modern socialist country in all respects". The listed banks will build on the favorable conditions available in the new stage of development, uphold the new philosophy of economic development, and accelerate the establishment of new development patterns to navigate the complex domestic and international environment and achieve long-term sustainable development.

In 2020, China's economy showed greater resilience in face of significant shocks of COVID-19 pandemic and complex domestic and international environments, with the annual GDP growth rate standing at 2.3%, indicating that China was the only major economy in the world to register positive growth.

The year 2021 is seeing China continuing its trajectory of economic recovery. According to the data published by the National Bureau of Statistics, China's first-quarter GDP came in at RMB24.93 trillion, growing by 18.3% year-on-year, thanks to prior year's low comparison base. From a global perspective, international economic and financial landscapes remain severe and volatile due to a combination of factors such as the resurgence of pandemic, the developments of COVID-19.

Serving the national strategies and the real economy

Serving the real economy is a phrase frequently quoted in the banks' 2020 annual reports, which echoes with the major initiatives set out in 14th FYP and is of great significance to future development of China's banking industry.

During the 14FYP period, as the interest rate liberalization advances, Loan Prime Rate ("LPR") cuts are expected to drive down lending rate. This foreseeable outcome, compounded with the government policies guiding the financial institutions to reasonably make interest concessions and cut fee charges, might cause the listed banks to face narrowing net interest margin and eroded net interest income. Thus, the listed banks need to improve their risk-based pricing and management capability, leverage on data and technolog to establish an efficient high-frequency monitoring system and improve the ability to observe and navigate market trends and risk events, and use more efficient sensitivity analysis, stress testing and risk indicators to improve their interest rate risk management system.

The 14FYP is expected to boost the credit demands emerging from such national initiatives as building a manufacturing powerhouse, forming independent industrial and supply chains, and expediting new infrastructure construction, which is bound to create opportunities for the listed banks to optimize the asset structure and increase the proportion of loans in total assets. Moreover, the listed banks will also benefit from the implementation of major national strategies for regional connectivity, including coordinated development in the Beijing-Tianjin-Hebei Region, the Yangtze River Delta, the Guangdong-Hong Kong-Macao Greater Bay Area, and Chengdu-Chongqing Economic Zone.

As the 14FYP proposes to open up to the outside world more extensively and deeply, the process of RMB internationalization will accelerate and the "Belt and Road" initiative will be implemented more vigorously. For the listed banks, the mission is to assist the enterprises to strive for better results in "bringong in" and "going global" activities. However, they will be inevitably challenged by increased requirements on financial risk management and confronted with the competition from foreign banks in terms of product innovation, talent development and global strategy.

From the narratives of outlook on 2021 and beyond, we can see that the listed banks all aim at continually increase the financial service adaptability, competitiveness and inclusiveness, optimize credit structures, improve the offering system, and enhance the ability to support the real economy effectively. More importantly, they actively explore the business models and paths that are most suitable for their own development. For instance, large banks endeavor to construct the group-wide comprehensive service system to intensify coordinated development of investment, credit, equity and debt assets, insurance, and leasing businesses, and to make their services more accessible to MSBs and private enterprises. Medium- and small-sized banks give sharper focus on their local markets and main business to implement the strategy of differentiated operations targeting particular market segments and customer segments.

Continuously pushing forward retail transformation

The 14FYP proposes to accelerate the establishment of a "dual circulation" development pattern in which domestic economic cycle plays a leading role while international economic cycle remains its extension and supplement. Against this backdrop, potentials of internal demands are expected to be unleashed, indicating that retail transformation of banks will be a mega trend in a foreseeable future.

As the 14FYP particularly proposes to "develop more innovative financial products that meet the needs of household wealth management" and "better regulate and develop consumer credit services", personal wealth and asset management and consumer credit services are expected to become the new growth areas, and at the same time consumer protection regulations are expected to be tightened. To successfully seize market opportunities and drive growth, the listed banks will need to align themselves to the new environment, adopt the right market position, and enhance their core competitiveness. Major actions include:

- **Diversificatio of product portfolio:** Expanding customer coverage, refining customer segmentation, better understanding customer needs, and providing specialized or customized product solutions;
- **Improvement of sales capability:** Building a comprehensive marketing system, expanding sales channels, and heightening service awareness by considering how to protect the rights and interests of investors, and strengthening the sales suitability management among sales personnel and distribution agencies.
- **Enhancement of risk control:** Improving the risk control system through technology enablement and developing rational and robust risk control models.
- **Alignment with the regulatory updates:** As regulations on personal banking services, especially on consumer credit, have continued to tighten in recent years, and suitable sales, information security and consumer information protection are expected to remain the regulatory focus areas going forward. Thus, the listed banks will need to follow up on the regulatory developments and avoid compliance risks.

Embracing extraordinary opportunities brought by green and inclusive finance

The listed banks need to actively implement the major national economic tasks, unleash the power as financial "fountain of strength" to support for the goal of "peaking carbon dioxide emissions and achieving carbon neutrality" set by the government, as well as play an important role in promoting rural vitalization on all fronts.

On green finance, the listed banks need to focus on two areas. Firstly, they should reduce their own emission agenda by setting the carbon neutrality target under a schedule, evaluating their carbon dioxide emissions, developing approaches to and plans for energy saving and emission reduction, and actively adopting green power or trading on the carbon market. Secondly, they should step up efforts in developing green finance, support green industries, and finance the traditional industries that embark on transformation and upgrades. As China will invest at least RMB100 trillion in the transformation and upgrade of energy industries in the next four decades, banks are bound to embrace huge market opportunities throughout the course. To seize such opportunities, they should move quickly to work out development strategies enabling green finance to support the carbon neutrality program and race to acquire high-quality customers. In addition, they need to enhance the management of environmental and social risks associated with loan customers, especially the management of how the covered industries and enterprises perform their respective emission control obligations, so as to avoid financial risks arising from climate change adaption and transformation.

As for inclusive finance, it is an inexorable choice for the listed banks in the course of transformation. In 2021, the listed banks continuously expand their inclusive finance coverage to facilitate the implementation of rural revitalization among other national strategies, increase support for the "agriculture, rural areas and farmers" agenda and the development of MSBs, and leverage FinTech to improve the availability of inclusive finance and the efficiency and quality of related services.

Enhancing risk control and ensuring effective risk protection

Risk control had been a major task of the listed banks in the past few years and will remain a key item on their agenda in 2021 and the following years.

In 2021, the operating environments at home and abroad remains complex for the listed banks as the international financial markets see growing volatility amidst COVID-19 pandemic and numerous uncertainties. Globally, the gradual exit from easing monetary policies might increase the liquidity risk, rising geopolitical tensions would lead to sharper fluctuation of financial asset prices, placing the banking sector under greater pressure as it tries to manage risks and anti-money laundering activities. In China, the interim easing credit measures against the pandemic impacts rolled out in 2020 are likely to exit steadily in 2021. The financial security strategies defined in the 14FYP requires the financial sector to improve its risk prevention and risk warning system to eliminate systemic risks, increase regulation on systemically important financial institutions, ramp up efforts in identification and resolution of bad assets, defuse the risk of shadow banking, and execute resolution precedures for high-risk financial institutions in an orderly manner. When it comes to financial regulation, we can see that China's regulatory policies tend to be more focused on striking a balance between risk prevention and stable growth and financial innovation, which is highlighted by a series of recent regulations on strengthening the management of real estate loans and internet loans, improving the regulatory framework for systemically important banks, and enhancing corporate governance.

In 2021, the listed banks need to continuously improve their ERM system, maintain the awareness of addressing worst-case scenarios in risk control, and coordinate the efforts on business development and security matters. They also need to strengthen credit risk management, enhance the management of risks from key industries, key areas and key customers, increase provisions for non-performing loan losses, ramp up disposal through write-offs, properly address the risk of increasing bad loans due to the impact of the pandemic and increase risk resilience and the ability to better serve the real economy. In addition, the listed banks should strive to ensure effective protection of consumer rights and interests by embedding all the specific equirements into the entire process covering products, channels, data and services. Last but not least, they need to improve risk alert and response mechanisms and enhance compliance management capabilities to facilitate high-quality development based on robust risk control.

Empowering financial services through technology and accelerating digital transformation

The 14FYP sets out the agenda of "steadily developing FinTech and accelerating digital transformation across financial institutions. In response, the listed banks should keep abreast with technological developments, continuously explore the way to empowering business through technology, orderly deploy innovative applications in offerings, compliance and risk control, and management and operations, in a bid to improve cost-efficiency management and enhance core competitiveness.

As the 14FYP also sets out the task of accelerating digital transformation, the listed banks should consider earlier responses and actions in the following aspects:

- **Strategic guidance:** Define the strategic objectives of digital transformation, and develop FinTech development strategies aligning internal characteristics with external trends.
- **Technological innovation:** Keep abreast of evolving cutting-edge technologies, explore innovation in FinTech research capability, consolidate and enhance the output capacity of technology.
- **Cooperation across ecosystem:** Boost integration of production, education and research, strengthen the construction of the ecosystem for strategic cooperation, and collaborate in FinTech application scenario identification, implementation and promotion.

When speeding up the development of FinTech, the listed banks should take the following measures to enhance their cybersecurity protection:

- Viewing cybersecurity management from a bank-wide strategic perspective, investing more in research and development, and strengthening cultivation of talents.
- Rethinking about cybersecurity management, shifting from traditionally siloed remediation measures to enhanced comprehensive capability, and establishing the "identify-protect-detect-respond-recover" defense-in-depth system.
- Clearly understanding the relevant laws, regulations and regulatory requirements to ensure compliance in every aspect.
- Integrating cybersecurity management into digital transformation across the organization, applying new technologies such as artificial intelligence (AI), big data, blockchain, and cloud computing.
- Participating in the construction of the "cyberspace security community with a shared future" and follow up on the progress, keeping up with the developments of international rules and digital technology standards related to data security, digital currency and digital tax, and making continued efforts to build a more forward-looking, modern international cybersecurity system.

As China enters the 14FYP period in 2021, the listed banks are entering into a new stage of development that presents both opportunities and challenges. Going forward, the listed banks need to turn pressure into motivation, fully apply the new development philosophy, maintain strategic commitment, and advance business transformation, aiming at achieving long-term highquality development.


2021

Appendix

Key Operating Indicators of leading global banks

With effective vaccines in place and later becoming readily available to all, the adverse impact of the pandemic is expected to be mitigated gradually. The pandemic has unleashed a recession unseen since the 2008 financial crisis, presenting a litmus test for the banking sectors globally. Despite being tested in face of severe challenges, banks in different regions and countries have been playing an active role in supporting global fights against the pandemic and economic recovery. Overall, the global banking system has demonstrated resilience and impressive adaptability, keep the capital and liquidity stable in the entire system.

Nonetheless, the pandemic shocks to global banking sectors could be felt to a certain extent. To offset the negative impact of the pandemic on asset quality, banks increased provisions at varying levels, which inevitably eroded their profitability and led to weaker financial performance across the industry in 2020. On a positive side, the health crisis caused by the pandemic is accompanied by opportunities as the banks could rethink about the most practical approaches to transformation based on the operating model vulnerabilities and the areas requiring improvements emerging from the pandemic period.

We select the key financial indicators of 10 leading European and American banks in the following table, based on the annual reports of these banks for the past three years. It is envisaged that the global banking sectors will rise to seize such opportunities and expedite digital transformation and innovation to ride on the right trajectory leading to rapid growth.

Profitability

	ROAA			ROE			Net profit growth		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Bank of America	1.21%	1.14%	0.67%	11.04%	10.62%	6.76%	54.38%	-2.55%	-34.76%
Citibank	0.94%	0.98%	0.50%	9.40%	10.30%	5.70%	365.08%	7.67%	-43.05%
JP Morgan	1.24%	1.33%	0.91%	13.00%	15.00%	12.00%	32.87%	12.19%	-20.04%
Wells Fargo	1.19%	1.02%	0.17%	11.53%	10.23%	1.04%	1.85%	-12.39%	-82.11%
HSBC	0.60%	0.30%	0.20%	7.70%	3.60%	2.30%	26.48%	-42.04%	-29.96%
Barclays	0.23%	0.30%	0.20%	3.60%	5.30%	3.20%	458.75%	29.85%	-26.62%
Standard Chartered	0.30%	0.30%	0.10%	1.40%	4.20%	0.80%	-12.54%	111.00%	-67.91%
Deutsche Bank	0.02%	-0.38%	0.04%	-0.10%	-9.50%	0.20%	146.39%	-1,643.99%	-111.85%
Santander	0.64%	0.54%	-0.50%	8.21%	6.62%	-9.80%	13.50%	-12.87%	-194.97%
BNP	0.40%	0.41%	0.32%	8.20%	8.50%	7.60%	-2.46%	7.22%	-13.61%

	NII growth			NII/Total operating income			Cost-income ratio		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Bank of America	6.46%	1.51%	-11.31%	52.91%	53.58%	50.70%	58.40%	60.17%	64.56%
Citibank	3.33%	1.69%	-8.02%	63.91%	63.74%	58.61%	57.43%	56.54%	58.11%
JP Morgan	9.90%	3.97%	-4.69%	50.61%	49.61%	45.64%	58.05%	56.56%	55.76%
Wells Fargo	0.88%	-5.53%	-15.66%	57.86%	55.52%	55.07%	64.95%	68.39%	79.67%
HSBC	8.21%	-0.09%	-9.47%	56.69%	54.30%	54.69%	64.45%	75.49%	68.28%
Barclays	-7.95%	3.81%	-13.66%	42.87%	43.49%	37.32%	76.85%	71.35%	63.80%
Standard Chartered	-4.72%	-1.64%	-10.63%	52.71%	49.73%	46.44%	78.75%	70.92%	70.35%
Deutsche Bank	7.58%	3.25%	-16.17%	52.60%	59.35%	47.97%	92.70%	108.20%	88.30%
Santander	0.13%	2.74%	-9.32%	70.92%	71.67%	72.26%	47.04%	47.29%	47.72%
BNP	-0.61%	0.31%	0.88%	49.54%	47.37%	48.14%	71.93%	70.27%	68.20%

Assets and liabilities

	Asset growth			Loan growth		
	2018	2019	2020	2018	2019	2020
Bank of America	3.21%	3.38%	15.84%	1.08%	3.86%	-5.65%
Citibank	4.07%	1.76%	15.83%	2.57%	2.23%	-3.37%
JP Morgan	3.51%	2.47%	26.00%	9.14%	-1.79%	1.53%
Wells Fargo	-2.86%	1.67%	1.43%	0.78%	0.96%	-7.76%
HSBC	1.44%	6.14%	9.91%	0.16%	4.91%	1.74%
Barclays	0.00%	0.61%	18.35%	-20.68%	3.68%	1.60%
Standard Chartered	3.81%	4.59%	9.53%	-11.41%	1.07%	1.47%
Deutsche Bank	-8.58%	-3.74%	2.15%	6.89%	4.69%	-1.52%
Santander	1.04%	4.35%	-0.95%	14.30%	6.43%	-2.56%
BNP	4.67%	6.07%	14.96%	4.70%	4.83%	0.15%

	Loans as % of assets			Deposit growth			Deposits as % liabilities		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Bank of America	40.22%	40.40%	32.91%	5.49%	3.86%	25.14%	66.13%	66.14%	70.50%
Citibank	35.68%	35.85%	29.91%	5.56%	5.67%	19.62%	58.89%	60.93%	62.17%
JP Morgan	38.73%	37.12%	29.91%	1.85%	6.24%	37.24%	62.16%	64.40%	69.02%
Wells Fargo	50.27%	49.92%	45.40%	-3.73%	2.83%	6.18%	75.71%	76.03%	79.38%
HSBC	41.53%	41.05%	38.01%	-1.07%	5.58%	15.13%	60.03%	59.39%	62.06%
Barclays	29.40%	30.29%	26.01%	-0.97%	5.31%	15.69%	36.92%	38.69%	37.50%
Standard Chartered	47.10%	45.51%	42.16%	-6.65%	3.54%	7.73%	61.25%	60.52%	59.51%
Deutsche Bank	32.16%	34.98%	33.72%	-2.82%	1.38%	-0.78%	44.11%	46.31%	44.95%
Santander	62.10%	63.34%	62.31%	0.36%	5.62%	3.03%	57.73%	58.38%	59.94%
BNP	39.67%	39.21%	34.16%	-5.55%	4.79%	12.74%	41.16%	40.66%	39.69%

Regulatory capital ratios

	Common equity Tier 1 capital			Tier 1 capital			Regulatory capital ratios		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Bank of America	11.60%	11.20%	11.90%	13.20%	12.60%	13.50%	15.10%	14.70%	16.10%
Citibank	11.86%	11.79%	11.73%	13.43%	13.33%	13.31%	16.14%	15.87%	15.61%
JP Morgan	12.00%	12.40%	13.10%	13.70%	14.10%	15.00%	15.50%	16.00%	17.30%
Wells Fargo	11.74%	11.14%	11.59%	13.46%	12.76%	13.25%	16.60%	15.75%	16.14%
HSBC	14.00%	14.70%	15.90%	16.60%	17.20%	18.50%	19.40%	18.90%	20.20%
Barclays	13.20%	13.80%	15.10%	17.00%	17.70%	19.00%	20.70%	21.60%	22.10%
Standard Chartered	14.20%	13.80%	14.40%	16.80%	16.50%	16.50%	21.60%	21.20%	21.20%
Deutsche Bank	13.60%	13.60%	13.60%	15.70%	15.60%	15.70%	17.50%	17.40%	17.80%
Santander	11.47%	11.65%	12.34%	13.12%	13.14%	13.95%	14.98%	15.05%	16.18%
BNP	11.80%	12.10%	12.80%	13.10%	13.50%	14.20%	15.00%	15.50%	16.40%

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