Risk Management

The Bank continued to improve its risk management system in line with the Group's strategies and refine its risk management structure, mechanism, process, tools and foundations, thus ensuring the sustainable and robust operation of the Group. It followed regulatory requirements and responded positively to the implementation of Basel III and international benchmark interest rate reform. It also enhanced accountability for rectification to ensure compliant operations. In addition, the Bank intensified risk control of its overseas institutions and comprehensive operation companies and facilitated the development of the "Two Engines". It established and refined a whole-process financial risk prevention mechanism covering risk judgment, risk investigation, stress testing and emergency plans, etc., and thus formed a closed-loop risk management system. It refined its multi-tier risk control and early warning system and strengthened its emergency response capability. Furthermore, the Bank developed risk data governance work in an orderly manner, and accelerated the digital transformation of risk management. It also strengthened bottom-line thinking to cultivate a risk culture that supports sustainable development.

Credit Risk Management

Closely monitoring changes in macroeconomic and financial conditions, the Bank pushed forward the optimisation of its credit structure, improved its credit risk management policies, strengthened credit asset quality management and took a more proactive and forward-looking stance on risk management.

The Bank continuously optimised its credit structure. Aiming to advance strategic implementation and balance risk, capital and return, it pushed forward the establishment of an industrial policy system, formulated industry guidelines for credit granting, and improved the management scheme for its asset portfolios. In line with the 14th Five-Year Plan of the country and that of the Bank, as well as requirements for the development of the "Eight Priority Areas for Enhancing Financial Services Capabilities", the Bank optimised its industry credit structure, promoted green development of industries, and prevented industrial credit risks. It identified key industries for credit development, steadily increased infrastructure construction business, and helped to sharpen the core competitiveness of the manufacturing industry. Furthermore, the Bank firmly pushed forward the development of technology finance, guided the green and low-carbon development of key industries, steadily carried out energy transformation and supply provision, and improved the quality of people's livelihood consumption services. In addition, it stepped up support for rural revitalisation and seized policy opportunities such as urban renewal and government-subsidised housing rental.

The Bank strengthened its unified credit granting management and enhanced centralised comprehensive credit risk management. It continuously improved its long-acting credit management mechanism, strengthened the control of customer concentration risk, improved asset quality screening and monitoring system, enhanced the screening and monitoring of key risk areas, and further upgraded the effectiveness of potential risk identification, control and mitigation. The Bank enhanced the supervision of risk analysis and asset quality control in key focus regions, and strengthened window guidance, inspection and post-assessment across its business lines. In addition, it constantly identified, measured and monitored large exposures in line with related large exposure management requirements.

In terms of corporate banking, the Bank further strengthened risk identification, control and mitigation in key areas, strictly controlled the aggregate amount and orientation of loans through limit management, and prevented and mitigated risks associated with projects in high energy consumption and high carbon emission industries. In addition, it implemented the macro prudential management system for real estate finance, supported reasonable real estate financing demands and maintained stable and orderly real estate financing activities. In terms of personal banking, the Bank supported the stable development of its personal credit business in line with regulatory requirements and business development needs under the new situation.

The Bank stepped up efforts in the mitigation of NPAs, consolidated asset quality, and prevented and resolved financial risks. It continued to adopt centralised and tiered management of NPA projects in order to apply classified policies, drive for major breakthroughs and improve the quality and efficiency of disposal. The Bank expanded disposal channels, pushed forward single corporate transfers and batch individual transfers, and issued securitisations of non-performing bank card assets.

The Bank scientifically measured and managed the quality of its credit assets based on the *Guidelines for Loan Credit Risk Classification*, which requires Chinese commercial banks to classify loans into the following five categories: pass, special-mention, substandard, doubtful and loss, among which loans classified as substandard, doubtful and loss are recognised as NPLs. In order to further refine its credit asset risk management, the Bank used a 13-tier risk classification criteria scheme for corporate loans to companies in the Chinese mainland, covering on- and off-balance sheet credit assets. In addition, the Bank strengthened risk classification management of key industries, regions and material risk events, and dynamically adjusted classification results. It strengthened the management of loan terms, managed overdue loans by the name list system and made timely adjustments to risk classification results, so as to truly reflect assets quality.

As at 30 June 2022, the Group's NPLs[5] totalled RMB227.232 billion, an increase of RMB18.440 billion compared with the prior year-end. The NPL ratio was 1.34%, an increase of 0.01 percentage points compared with the prior year-end. The Group's allowance for impairment losses on loans and advances was RMB416.425 billion, an increase of RMB25.884 billion compared with the prior year-end. The coverage ratio of allowance for loan impairment losses to NPLs was 183.26%, a decrease of 3.79 percentage points compared with the prior year-end.

5 Total loans and advances to customers in the "Risk Management — Credit risk management" section are exclusive of accrued interest.

Five-category Loan Classification

Unit: RMB million, except percentages

Items	As at 30 June 2022		As at 31 December 2021	
	Amount	**% of total**	Amount	% of total
Group				
Pass	**16,465,570**	**97.37%**	15,255,389	97.32%
Special-mention	**218,804**	**1.29%**	210,813	1.35%
Substandard	**84,652**	**0.50%**	61,790	0.39%
Doubtful	**69,280**	**0.41%**	60,718	0.39%
Loss	**73,300**	**0.43%**	86,284	0.55%
Total	**16,911,606**	**100.00%**	15,674,994	100.00%
NPLs	**227,232**	**1.34%**	208,792	1.33%
Chinese mainland				
Pass	**13,633,495**	**97.26%**	12,586,668	97.17%
Special-mention	**178,771**	**1.28%**	173,561	1.34%
Substandard	**70,930**	**0.51%**	53,591	0.41%
Doubtful	**62,726**	**0.45%**	55,923	0.43%
Loss	**70,513**	**0.50%**	83,516	0.65%
Total	**14,016,435**	**100.00%**	12,953,259	100.00%
NPLs	**204,169**	**1.46%**	193,030	1.49%

Migration Ratio

Unit: %

Items	**For the six-month period ended 30 June 2022 (annualised)**	2021	2020
Pass	**1.12**	1.18	1.21
Special-mention	**27.56**	32.91	32.66
Substandard	**48.86**	83.68	24.68
Doubtful	**15.41**	23.06	28.62

Distribution of Loans and NPLs by Industry

Unit: RMB million, except percentages

	As at 30 June 2022				As at 31 December 2021			
Items	Loans	% of total	NPLs	NPL ratio	Loans	% of total	NPLs	NPL ratio
Chinese mainland								
Corporate Loans								
Commerce and services	**1,884,391**	**11.14%**	**34,197**	**1.81%**	1,589,119	10.14%	30,111	1.89%
Manufacturing	**1,793,957**	**10.61%**	**48,589**	**2.71%**	1,549,639	9.89%	55,341	3.57%
Transportation, storage and postal services	**1,678,236**	**9.92%**	**18,259**	**1.09%**	1,578,645	10.07%	18,073	1.14%
Real estate	**734,769**	**4.34%**	**41,678**	**5.67%**	687,186	4.38%	34,694	5.05%
Production and supply of electricity, heating, gas and water	**705,072**	**4.17%**	**13,558**	**1.92%**	657,020	4.19%	13,173	2.00%
Financial services	**564,832**	**3.34%**	**211**	**0.04%**	500,380	3.19%	201	0.04%
Construction	**329,072**	**1.95%**	**2,968**	**0.90%**	266,775	1.70%	3,406	1.28%
Water conservancy, environment and public utility administration	**336,245**	**1.99%**	**2,610**	**0.78%**	295,183	1.88%	2,257	0.76%
Mining	**166,993**	**0.99%**	**5,348**	**3.20%**	161,473	1.03%	4,717	2.92%
Public utilities	**186,441**	**1.10%**	**2,832**	**1.52%**	159,284	1.02%	2,215	1.39%
Others	**53,844**	**0.32%**	**563**	**1.05%**	46,175	0.30%	608	1.32%
Total	**8,433,852**	**49.87%**	**170,813**	**2.03%**	7,490,879	47.79%	164,796	2.20%
Personal loans	**5,582,583**	**33.01%**	**33,356**	**0.60%**	5,462,380	34.85%	28,234	0.52%
Hong Kong (China), Macao (China), Taiwan (China) and other countries and regions	**2,895,171**	**17.12%**	**23,063**	**0.80%**	2,721,735	17.36%	15,762	0.58%
Total of the Group	**16,911,606**	**100.00%**	**227,232**	**1.34%**	15,674,994	100.00%	208,792	1.33%

The Bank continued to optimise its credit structure and stepped up efforts to support the real economy. As at 30 June 2022, loans to the transportation, storage and postal services industries totalled RMB1,678.236 billion, an increase of RMB99.591 billion or 6.31% compared with the prior year-end. Loans to the manufacturing industry totalled RMB1,793.957 billion, an increase of RMB244.318 billion or 15.77% compared with the prior year-end. The NPL ratios of the commerce and services industry and manufacturing industry decreased by 0.08 percentage points and 0.86 percentage points respectively compared with the prior year-end.

In accordance with IFRS 9, the Bank assesses expected credit losses with forward-looking information and makes relevant allowances. In particular, it makes allowances for assets classified as Stage 1 and assets classified as Stage 2 and Stage 3 according to the expected credit losses over 12 months and the expected credit losses over the entire lifetime of the asset, respectively. As at 30 June 2022, the Group's Stage 1 loans totalled RMB16,428.474 billion, accounting for 97.17% of total loans; Stage 2 loans totalled RMB252.252 billion, accounting for 1.49% of total loans; and Stage 3 loans totalled RMB226.625 billion, accounting for 1.34% of total loans. In the first half of 2022, the Group's impairment losses on loans and advances stood at RMB45.576 billion, a decrease of RMB2.174 billion compared with the same period of the prior year. The credit cost was 0.56%, down 0.09 percentage points compared with the same period of the prior year. Please refer to Notes III.16 and IV.1 to the Interim Financial Information for detailed information regarding loan classification, stage determination and allowance for loan impairment losses.

The Bank continued to focus on controlling borrower concentration risk and was in compliance with regulatory requirements on borrower concentration.

Unit: %

Indicators	Regulatory standard	**As at 30 June 2022**	As at 31 December 2021	As at 31 December 2020
Loan concentration ratio of the largest single borrower	≤10	**1.8**	2.3	2.8
Loan concentration ratio of the ten largest borrowers	≤50	**12.1**	12.8	13.9

Notes:

1 Loan concentration ratio of the largest single borrower = total outstanding loans to the largest single borrower ÷ net capital.

2 Loan concentration ratio of the ten largest borrowers = total outstanding loans to the ten largest borrowers ÷ net capital.

The following table shows the ten largest individual borrowers as at 30 June 2022.

Unit: RMB million, except percentages

	Industry	Related parties or not	Outstanding loans	% of total loans
Customer A	Transportation, storage and postal services	NO	49,803	0.29%
Customer B	Commerce and services	NO	44,390	0.26%
Customer C	Transportation, storage and postal services	NO	41,484	0.25%
Customer D	Manufacturing	NO	36,915	0.22%
Customer E	Transportation, storage and postal services	NO	36,509	0.22%
Customer F	Transportation, storage and postal services	NO	31,917	0.19%
Customer G	Financial services	NO	27,751	0.16%
Customer H	Transportation, storage and postal services	NO	26,039	0.15%
Customer I	Transportation, storage and postal services	NO	24,340	0.14%
Customer J	Manufacturing	NO	23,491	0.14%

Market Risk Management

In response to changes in the market environment, the Bank continued to refine its market risk management system in order to control its market risk.

The Bank strengthened its judgement and analysis of the financial market situation, closely supervised "hotspot" events, actively carried out risk investigation and prevented the cross-infection of risks caused by extreme events, thereby making its risk management more proactive and forward-looking. It optimised the Group's market risk management system, reviewed its market risk appetite and promoted the formation of risk management synergies among the first and second lines of defence. In addition, the Bank consolidated the market risk management of key products, improved policies and procedures for derivatives, and strengthened unified risk control at the Group level. It improved market risk measurement and increased the accuracy of system measurement. It also effectively implemented regulatory requirements, including continuous promotion of implementation of new regulations on market risk. For more information regarding market risk, please refer to Note IV.2 to the Interim Financial Information.

The Bank improved the market risk limit system for its bond investment business and strengthened cross-risk management. It continued to strengthen risk control of its securities investment activities, bolstered the early warning of domestic bond market default risks and the tracking of the Chinese offshore USD bond market, and enhanced its post-investment monitoring and early-warning capabilities.

In terms of exchange rate risk management, the Bank sought to achieve currency matching between fund source and application. It controlled its foreign exchange exposure through currency conversion and hedging, thus maintaining its exchange rate risk at a reasonable level.

Management of Interest Rate Risk in the Banking Book

Based on the principles of "matching, comprehensiveness and prudence", the Bank strengthened the management of interest rate risk in the banking book (IRRBB). Through effective management, the Bank's IRRBB management strategy is to control risks within an acceptable level by considering factors such as the Bank's risk appetite and risk profile, as well as macro-economic and market conditions, so as to achieve a reasonable balance between risk and return and thus maximise shareholder value.

The Bank assessed the interest rate risk in the banking book mainly through the analysis of interest rate repricing gaps. Based on changes in the market situation, it made timely adjustments to the structure of its assets and liabilities, optimised its internal and external pricing strategy or implemented risk hedging.

The Bank attached great importance to the reform of interest rate benchmarks, proactively participated in the establishment of the global benchmark rate market by capitalising on its advantages in globalised operations, and took a crucial part in the invention and promotion of alternative benchmark rate products. It also pressed ahead with the transition of remaining LIBOR contracts as scheduled by strengthening customer communication, and the overall transition risk is under effective control.

Liquidity Risk Management

The Bank endeavoured to develop a sound liquidity risk management system with the aim of effectively identifying, measuring, monitoring and controlling liquidity risk at the Bank and Group level, including that of branches, subsidiaries and business lines, thus ensuring that liquidity demand is met in a timely manner and at a reasonable cost.

Adhering to an appropriate balance of safety, liquidity and profitability, and following regulatory requirements, the Bank improved its liquidity risk management in a forward-looking and effective manner. It enhanced liquidity risk management at the Bank and Group level, including that of branches, subsidiaries and business lines. It formulated sound liquidity risk management policies and contingency plans, periodically re-examined the liquidity risk limits, upgraded the early warning system for liquidity risk, and strengthened the management of high quality liquid assets, in order to strike an appropriate balance between risk and return. In addition, the Bank regularly improved its liquidity stress-testing scheme and performed stress tests on a quarterly basis. The test results indicated that the Bank had adequate payment ability to cope with distressed scenarios.

As at 30 June 2022, the Group's liquidity risk indicator met regulatory requirements. The Group's liquidity ratio is shown in the table below (in accordance with the relevant provisions of regulatory authorities in the Chinese mainland):

Unit: %

Ratio		Regulatory standard	**As at 30 June 2022**	As at 31 December 2021	As at 31 December 2020
Liquidity ratio	RMB	≥25	**52.5**	49.6	54.5
	Foreign currency	≥25	**67.9**	69.9	58.6

Reputational Risk Management

The Bank earnestly implemented regulatory requirements on reputational risk management, continued to enhance its reputational risk management system and mechanism and strengthened the consolidated management of reputational risk, so as to enhance its overall reputational risk management capabilities. It attached great importance to the investigation and pre-warning of potential reputational risk factors, strengthened public opinion monitoring, continued to conduct reputational risk identification, assessment and reporting, and dealt appropriately with reputational events, thus effectively protecting its brand reputation. In addition, the Bank continued to roll out reputational risk management training so as to enhance employees' awareness and foster a culture of reputational risk management.

Internal Control and Operational Risk Management

Internal Control

The Board of Directors, senior management and their special committees earnestly performed their duties regarding internal control and supervision while emphasising early risk warning and prevention, thus improving the Group's level of operational compliance.

The Bank continued to adopt the "Three Lines of Defence" mechanism for internal control. The first line of defence consists of business departments and all banking outlets. They are the owners of, and are accountable for local risks and controls. They undertake self-directed risk control and management functions in the course of their business operations, including formulate and implement policies, conduct business examination, report control deficiencies and organise rectifications.

The internal control and risk management departments of the Bank's institutions at all levels form the second line of defence. They are responsible for the overall planning, implementing, examining and assessment of risk management and internal control, as well as for identifying, measuring, monitoring and controlling risks. They lead the first line of defence to enhance its use of the Group's operational risk monitoring and analysis platform, and are responsible for handling employee violations and management accountability. Through regular monitoring of material risks, the Bank identified and mitigated risks in a timely manner and promoted the optimisation of its business processes and systems.

The third line of defence rests in the audit department of the Bank. The audit department is responsible for performing internal audits of the Bank's internal control and risk management in respect of its adequacy and effectiveness. Adhering to the risk-oriented principle and focusing on the implementation of national policies, regulatory requirements and the Group's strategies, the audit department concentrated its efforts on the main responsibilities of audit supervision, closely monitored material potential risks and weak links, and carried out audit inspections as scheduled. It carried out audits in a more forward-looking and proactive manner, established and promoted the coordination and connection mechanism with other supervisory bodies, and improved the capabilities of the first and second lines of defence to prevent problems at source. The audit department attached equal importance to problem revelation and rectification supervision. It further improved its rectification supervision mechanism for audit findings, arranged and clarified the rectification process for problems identified, continuously supervised rectification implementation and promoted the application of audit results and the improvement of rectification quality and efficiency. The Bank also stepped up overall audit planning, pressed ahead with improvements to the audit management system, continued to enhance audit team building and promoted the digital development of its audit function, thus further reinforcing the efficiency of audit supervision.

The Bank devoted great efforts to internal control and case prevention management, consolidated the liabilities of primary responsible parties and took multiple control measures. It consistently improved internal control rules, processes and systems, and carried out a special campaign regarding case prevention in high-risk areas, thereby continuously improving its internal control and case prevention management. The Bank also focused on internal control inspection and the rectification of findings, conducted warning and education activities on a regular basis, raised employees' compliance awareness and fostered an internal control compliance culture.

The Bank continued to implement the *Basic Standard for Enterprise Internal Control* and its supporting guidelines, and implemented the *Guidelines for Internal Control of Commercial Banks* by following the basic principles of "complete coverage, checks and balances, prudence and correspondence", so as to promote internal control governance and an organisational structure characterised by a reasonable delegation of work, well-defined responsibilities and clear reporting lines.

The Bank established and implemented a systematic financial accounting policy framework in accordance with relevant accounting laws and regulations. As such, its accounting basis was solidified and the level of standardisation and refinement of its financial accounting management was further improved. The Bank continuously strengthened the quality management of its accounting information and endeavoured to establish a long-term mechanism of basic accounting work, and continued to deepen the implementation of good accounting standard for domestic and overseas branches.

Focusing on strengthening fraud risk prevention and control, the Bank proactively identified, assessed, controlled and mitigated risks. In the first half of 2022, the Bank successfully prevented 69 external cases involving RMB22.9339 million.

Operational Risk Management

The Bank continuously improved its operational risk management system. It promoted the application of operational risk management tools, including Risk and Control Assessment (RACA), Key Risk Indicators (KRI), Loss Data Collection (LDC), etc., carried out the identification, assessment and monitoring of operational risks and further standardised its operational risk reporting mechanism, thus continuously improving its risk management measures. The Bank enhanced its IT system support capabilities by optimising its operational risk management information system. It strengthened its business continuity management system, optimised its operating mechanism, enhanced its business continuity policies, and performed business impact analysis. The Bank also refined contingency plans, carried out business continuity drills, proactively addressed the COVID-19 pandemic and improved the Group's business continuity capacity.

Compliance Management

The Bank continuously improved its compliance risk governance mechanism and management process to ensure the Group's sound operation and sustainable development. It improved its anti-money laundering (AML) and sanctions compliance management mechanism, strengthened refined management, optimised institutional money laundering risk assessment and reinforced transaction monitoring and reporting. It enhanced its system and model building and improved system functionality. The Bank continuously reinforced its robust long-term management framework for overseas institutions' compliance and consolidated its compliance management foundations, thus enhancing the compliance management capabilities of its overseas institutions. It improved its AML and sanction compliance training management mechanism and conducted various forms of compliance training, so as to enhance all employees' compliance awareness and abilities.

The Bank continuously enhanced the management of its connected transactions and internal transactions, and actively promoted the implementation of the CBIRC's new regulatory rules on connected transactions. It improved the management of connected parties and consolidated the foundation of its connected transaction management. It strengthened the monitoring of connected transactions and internal transactions to strictly control their risks. In addition, it was also committed to improving its connected transaction monitoring system and internal transaction management system, and thereby enhanced IT applications in compliance management.

Country Risk Management

The Bank incorporates country risk into its comprehensive risk management system in strict accordance with regulatory requirements. It manages and controls country risk through a series of management tools, including country risk ratings, country risk limits, statistics and monitoring of country risk exposures, and provisioning of allowances. In the first half of 2022, the Bank continued to strengthen country risk management in strict accordance with regulatory requirements and based on its business development needs. It continuously made country rating and limit management more science-based and efficient. It also strengthened country risk monitoring, improved country risk analysis and reporting, and enhanced its country risk management system. The Bank actively pushed forward the provisioning of country risk allowances and enhanced its ability to mitigate country risk. Country risk exposures were mainly concentrated in countries and regions with low and relatively low country risk, and the overall country risk was controlled at a reasonable level.