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# Manifestations and causes of credit risk in China's banking system

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**Abstract.** Based on an analysis of the research background, objectives, and significance, this paper employs a variety of research methods to examine the manifestations of credit risk prevention and control in China's banking industry. It further identifies the underlying causes of these risks from four perspectives: the external economic environment, internal banking operations, borrowers, and institutional factors. In response to the emerging trends and challenges facing bank lending, the paper proposes a series of countermeasures, including strengthening risk awareness, enhancing risk management, improving early warning systems, making effective use of credit risk mitigation instruments, implementing sound credit authorization policies, optimizing corporate governance structures, making appropriate dynamic adjustments to credit limits, and reinforcing governance functions, with the aim of improving credit risk prevention and control across China's banking sector.

**Keywords:** banking system, credit risk, problems, causes

## 1. Introduction

The development of new quality productive forces, the advancement of Chinese modernization, the vigorous expansion of the real economy, and the stimulation of domestic demand all require efficient financial intermediation and strong financial support. If commercial banks accumulate excessive non-performing assets, their normal operations will inevitably be impaired. The quality of bank assets is closely associated with credit risk. Therefore, conducting an in-depth study of credit risk in China's banking system and its underlying causes is of considerable theoretical and practical importance.

## 2. Research background

Credit risk is influenced and constrained by a wide range of factors. The internal risk prevention and control mechanisms of the banking system exhibit inherent limitations when confronted with increasingly complex market conditions. As shown by macroeconomic data from the end of 2024 through the end of the first quarter of 2026, the balance of Non-Performing Loans (NPLs) remains substantial, while the NPL ratio continues to stay at a relatively high level. Consequently, it is both urgent and necessary to investigate the mechanisms

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underlying the occurrence of bank credit risk and to identify and eliminate vulnerabilities in credit risk management.

"Effective credit risk management enables banks to arrange loan issuance and recovery according to borrowers' repayment capacity and market conditions, thereby ensuring the normal circulation of bank funds and maintaining liquidity. If credit risk becomes uncontrollable and a large number of loans cannot be recovered on schedule, banks may experience severe liquidity pressure or even a liquidity crisis" [1].

## 2.1. Macroeconomic environment

The data presented in Tables 1–7 below consist of the principal macroprudential regulatory indicators for China's banking industry during 2025–2026. All figures are derived from the official statistics released by the National Financial Regulatory Administration.

**Table 1.** Total assets of the banking industry

| Time | Total Assets (RMB trillion) | Year-on-Year Growth |
|---|---|---|
| End of 2024 | 380.52 | — |
| End of Q1 2025 | 394.29 | — |
| End of Q2 2025 | 467.3 | 7.9% |
| End of Q3 2025 | 409.63 (legal-entity basis) | - |
| End of Q4 2025 | 480 | 8.0% |
| End of Q1 2026 | 494.7 | 8.0% |

Among these (Table 1), the total assets of large commercial banks exceeded RMB 210 trillion by the end of the fourth quarter of 2025, representing a year-on-year increase of 10.8%. By the end of the first quarter of 2026, their total assets had reached RMB 219.5 trillion, up 10.6% year on year and accounting for 44.4% of the industry's total assets.

**Table 2.** Non-performing loan ratio and outstanding non-performing loans

| Time | Time | NPL Ratio | Outstanding NPLs |
|---|---|---|---|
| End of 2024 | 1.50% | — | — |
| End of Q1 2025 | 1.51% | — | +0.01 percentage points |
| End of Q2 2025 | 1.49% | RMB 3.4 trillion | –0.02 percentage points |
| End of Q3 2025 | 1.52% | — | +0.03 percentage points |
| End of Q4 2025 | 1.50% | RMB 3.5 trillion | –0.02 percentage points |
| End of Q1 2026 | 1.51% | RMB 3.7 trillion | +0.02 percentage points |

As shown in Table 2, the NPL ratio fluctuated within the range of 1.49% to 1.52% during 2025. By the end of the first quarter of 2026, the outstanding balance of non-performing loans had increased by RMB 174.2 billion compared with the end of 2025, while the NPL ratio edged up to 1.51%.

Table 3 indicates that the provision coverage ratio exhibited a gradual downward trend overall but remained well above the regulatory benchmark of 120%–150%, suggesting that banks maintained adequate capacity to absorb potential credit losses.

As shown in Table 4, by the end of the first quarter of 2026, the capital adequacy ratio, Tier 1 capital ratio, and Common Equity Tier 1 (CET1) ratio had declined by 0.46, 0.32, and 0.21 percentage points, respectively,

compared with the end of the previous year. This decline mainly resulted from the seasonal concentration of new lending during the first quarter, which increased risk-weighted assets.

**Table 3.** Provision coverage ratio and loan loss provisions

| Time | Provision Coverage Ratio | Loan Loss Provisions | Provision-to-Loan Ratio |
|---|---|---|---|
| End of 2024 | 211.19% | — | — |
| End of Q1 2025 | 208.13% | — | — |
| End of Q2 2025 | 211.97% | RMB 7.3 trillion | — |
| End of Q3 2025 | 207.15% | — | — |
| End of Q4 2025 | 205.21% | — | — |
| End of Q1 2026 | 203.14% | RMB 7.5 trillion | 3.07% |

**Table 4.** Capital adequacy ratios

| Time | Capital Adequacy Ratio | Tier 1 Capital Ratio | Common Equity Tier 1 Ratio |
|---|---|---|---|
| End of 2024 | — | — | 11.00% |
| End of Q1 2025 | — | — | 10.70% |
| End of Q2 2025 | 15.58% | 12.46% | 10.93% |
| End of Q3 2025 | — | — | 10.87% |
| End of Q4 2025 | 15.46% | 12.37% | 10.92% |
| End of Q1 2026 | 15.00% | 12.05% | 10.71% |

**Table 5.** Profitability and net interest margin

| Time | Net Interest Margin | Average Return on Equity | Average Return on Assets |
|---|---|---|---|
| End of 2024 | 1.65% | — | — |
| End of Q1 2025 | 1.60% | — | — |
| End of Q2 2025 | — | 8.19% | 0.63% |
| End of Q3 2025 | 1.42% | — | — |
| End of Q4 2025 | — | 7.78% | 0.60% |
| End of Q1 2026 | — | 7.97% | 0.60% |

Commercial banks recorded net profits of RMB 2.4 trillion in 2025. Net profit for the first quarter of 2026 amounted to RMB 632.3 billion, representing a Year-on-Year (YoY) decline of 3.7%. Meanwhile, the net interest margin continued to narrow, reaching only 1.42% in the third quarter of 2025.

The data in Table 6 show that rural commercial banks recorded the highest NPL ratio, at 2.79%, while their provision coverage ratio was only 156.85%, the lowest among the five categories of banks. This indicates that rural commercial banks are under the greatest pressure with respect to asset quality.

As indicated in Table 7, the average interest rate on newly issued inclusive loans to micro and small enterprises fell to 3.64% in the first quarter of 2026, representing a decline of 0.19 percentage points compared with the average level in 2025.

**Table 6.** Comparison by type of banking institution (end of Q1 2026)

| Institution Type | NPL Ratio | Provision Coverage Ratio | Net Interest Margin |
|---|---|---|---|
| Large commercial banks | -1.22% | 240.65% | — |
| Joint-stock commercial banks | -1.22% | 204.60% | — |
| City commercial banks | 1.85% | 171.16% | — |
| Rural commercial banks | 2.79% | 156.85% | — |
| Private banks | 1.89% | 222.95% | 3.62% |

**Table 7.** Inclusive finance indicators

| Time | Outstanding Inclusive Loans to Micro and Small Enterprises | YoY Growth | Outstanding Inclusive Agricultural Loans | YoY Growth |
|---|---|---|---|---|
| End of Q2 2025 | RMB 36 trillion | 12.3% | RMB 13.9 trillion | — |
| End of Q4 2025 | RMB 37 trillion | 11.0% | RMB 14.2 trillion | 10.3% |
| End of Q1 2026 | RMB 38.8 trillion | 9.9% | RMB 15 trillion | 9.5% |

Overall, the banking industry during 2025–2026 exhibited the characteristics of steady expansion in scale, increasing pressure on profitability, and generally controllable asset quality. The principal challenges included the continued decline in net interest margins, widening divergence in asset quality among small and medium-sized banks—particularly rural commercial banks—and the simultaneous expansion in the scale of inclusive finance alongside declining lending rates, which further compressed banks' profitability.

## 2.2. Internal management and technological factors

From the perspective of internal management, risk assessment and internal control mechanisms are often fragmented, resulting in delayed risk identification and early warning. From a technological standpoint, China's banking industry still has considerable room for improvement in digital transformation and the development of digital banking. Data silos remain prevalent, and information asymmetry has not been fundamentally resolved. In particular, when confronted with increasingly complex lending scenarios, banks frequently encounter difficulties in accurately tracing the ultimate use of loan proceeds and evaluating borrowers' repayment capacity. Consequently, loan funds may be diverted for unauthorized purposes or circulate within the financial system without entering the real economy, thereby increasing credit risk.

## 2.3. Credit environment and the development of the legal system

China's social credit system has continued to improve in recent years. Nevertheless, debt evasion by certain enterprises has not been completely eliminated. Some firms exploit related-party transactions, bankruptcy restructuring, and other arrangements to launder assets or evade debt obligations, thereby seriously undermining the legitimate interests of creditors. In addition, employee misconduct, loopholes in the legal framework, and failures in internal control often interact to create both legal and operational risks. The combined effect of these factors makes the occurrence of credit risk difficult to avoid.

## 3. Research objectives

This study aims to conduct an in-depth analysis of the specific manifestations of credit risk in order to accurately identify banks' risk exposures and characterize the nature of credit risk. It further seeks to uncover the underlying causes of credit risk, provide policy recommendations on credit risk management for decision-makers and financial regulators, establish a comprehensive credit risk prevention and control framework, identify breakthroughs for optimizing credit management processes, and develop a new intelligent paradigm for credit risk prevention and control.

## 4. Research significance

This study is intended to provide a useful reference for the screening, identification, assessment, early warning, prevention, and control of credit risk in commercial banks, thereby improving the quality of bank assets. It also offers practical guidance for regulatory authorities in strengthening the supervision of credit risk. Furthermore, the findings provide policy and legislative references on how digital technologies and artificial intelligence can be utilized to identify and mitigate credit risk in the banking sector. From an academic perspective, the study contributes to ongoing research in the context of developing new quality productive forces by offering insights into how the banking industry can cultivate high-quality financial assets while avoiding the accumulation of distressed assets.

## 5. Research methods

This study employs a comprehensive range of scientific research methods to provide a systematic analysis of credit risk from both macroeconomic and microeconomic perspectives, integrating qualitative and quantitative approaches. The principal methods adopted are as follows.

### 5.1. Literature review

The literature review focuses primarily on the risk management requirements established under the Basel III framework, together with the classical theoretical perspectives of domestic and international scholars regarding the causes of credit risk, particularly information asymmetry and principal-agent problems.

### 5.2. Integration of normative and empirical analysis

This study emphasizes the integration of theory with practice by combining theoretical analysis with an examination of real-world issues. Adhering to a problem-oriented approach, it directly addresses the challenges of credit risk in the banking industry through in-depth investigation. Rather than relying solely on theoretical reasoning when exploring the causes of credit risk, the study also employs empirical analysis based on relevant data.

### 5.3. Integration of qualitative and quantitative analysis

#### *5.3.1. Qualitative analysis*

Qualitative analysis is applied to factors that are difficult to quantify, including deficiencies in banks' internal governance structures, the absence of a sound credit culture, human factors contributing to operational risk, imperfections in the legal environment, and the concealed nature of related-party transactions conducted by enterprises.

#### *5.3.2. Quantitative analysis*

Wherever possible, quantitative indicators are introduced to analyze the determinants of credit risk. For example, loan concentration indicators are used to measure concentration risk, while financial ratio analysis is employed to evaluate borrowers' debt-servicing capacity. The combination of qualitative and quantitative approaches not only enhances the depth of the analysis but also improves its analytical precision.

### 5.4. Inductive analysis

This study employs inductive analysis to investigate the causes of credit risk. By examining specific cases of loan defaults, non-performing asset disposals, and regulatory enforcement actions, common patterns and recurring problems are identified. These individual risk factors are then systematically synthesized into a coherent analytical framework explaining the underlying causes of credit risk.

### 5.5. Comparative analysis

#### *5.5.1. Cross-sectional comparison*

A comparative analysis is conducted across different types of commercial banks, such as state-owned commercial banks and joint-stock commercial banks, to examine differences in credit risk management practices, asset quality, and risk resilience, as well as the institutional and organizational factors underlying these differences.

#### *5.5.2. Longitudinal comparison*

The study also compares the performance of China's banking industry across different phases of the economic cycle in order to draw lessons for strengthening credit risk prevention and control.

### 5.6. Systems analysis

**Table 8.** Indicator system under the systems analysis framework

| Level | Indicator Category | Representative Indicators |
|---|---|---|
| Macroeconomic Level | Economic Environment Indicators | GDP growth rate; Purchasing Managers' Index (PMI); M2 growth rate |
| Industry Level | Industry Risk Indicators | Capacity utilization rate; average industry profit margin |
| Enterprise Level | Financial Risk Indicators | Debt-to-asset ratio; interest coverage ratio; operating cash flow |
| Enterprise Level | Non-financial Risk Indicators | Management stability; litigation records; environmental protection penalties |
| Bank Level | Asset Quality Indicators | Non-performing loan ratio; migration rate of special mention loans |
| Bank Level | Management Effectiveness Indicators | Completion rate of post-loan inspections; response time to risk early warnings |

As shown in Table 8, the systems analysis framework consists of four analytical levels: the macroeconomic, industry, enterprise, and bank levels. Correspondingly, six categories of indicators are examined. At the macroeconomic level, economic environment indicators include GDP growth, the Purchasing Managers' Index (PMI), and M2 growth. At the industry level, industry risk indicators comprise capacity utilization and average industry profitability. At the enterprise level, two categories of indicators are

considered. Financial risk indicators include the debt-to-asset ratio, interest coverage ratio, and operating cash flow, while non-financial risk indicators include management stability, litigation records, and environmental protection penalties. At the bank level, two additional categories are evaluated. Asset quality indicators include the non-performing loan ratio and the migration rate of special mention loans, whereas management effectiveness indicators include the completion rate of post-loan inspections and the response time of risk early warning systems.

## 6. Manifestations of problems in credit risk prevention and control

### 6.1. Outdated risk management approaches

Because enterprises may collude with accounting firms to conceal unfavorable financial information, decision-making based solely on financial ratios can be subject to significant bias. Outdated information identification methods also undermine the effectiveness of post-loan management, thereby increasing the likelihood of credit risk.

"The loan review system has become little more than a formality. Various internal policies are difficult to implement effectively in practice, and many internal audit mechanisms exist in name only. Problems arising during the lending process cannot be identified and addressed in a timely manner" [2].

By the end of the first quarter of 2026, loans accounted for a substantially smaller proportion of total banking assets, while asset diversification had increased significantly, with higher shares of bond investments, interbank assets, and wealth management products. At the same time, the outstanding balance of performing loans reached RMB 239.2 trillion, whereas special mention loans totaled RMB 5.1 trillion.

"Many enterprises have taken advantage of restructuring and bankruptcy proceedings to evade bank debt, resulting in the loss of credit assets from which banks receive virtually no return. Meanwhile, under the new accounting standards, a substantial amount of accrued but uncollected interest is classified as taxable income, thereby increasing banks' tax burden" [3].

### 6.2. Weak risk awareness across the organization

The performance evaluation system adopted by the head offices of Chinese banks remains predominantly performance-oriented. Employee compensation continues to be closely linked to deposit mobilization and loan origination, placing greater emphasis on business performance than on risk management. To meet performance targets, relationship managers may selectively submit information favorable to loan approval while neglecting rigorous due diligence and post-loan supervision. Moreover, accountability mechanisms primarily focus on penalties after defaults occur, while offering few positive incentives for effective post-loan management. As a result, post-loan inspections often become little more than procedural formalities.

### 6.3. Inadequate implementation of internal credit supervision and management

The qualification requirements for credit officers are insufficiently rigorous, with limited standardization regarding educational background, professional certification, and ethical competence. Consequently, the overall quality of credit personnel varies considerably. Some relationship managers lack the professional capability required for effective credit assessment and, under intense performance pressure, tend to prioritize business expansion over prudent risk management.

## 6.4. High concentration of credit exposure

According to Tobin's Portfolio Theory, investment risk should be mitigated through diversification rather than concentration. Excessive credit concentration runs counter to this principle, as lending resources become overly concentrated instead of being appropriately diversified. Credit concentration is primarily manifested in four dimensions.

### *6.4.1. Concentration among borrowers*

Banks often exhibit a preference for certain large corporate clients and allocate an excessive proportion of credit to them. Banking regulations therefore impose strict concentration limits, stipulating that the outstanding credit exposure to a single borrower must not exceed 10% of the bank's net capital, while the combined credit exposure to the ten largest borrowers must not exceed 50% of net capital.

### *6.4.2. Concentration in particular industries*

Industries such as infrastructure construction, real estate, and energy have traditionally been favored recipients of bank lending and consequently receive disproportionately large amounts of credit.

When these industries experience declining revenues or deteriorating operating performance due to changes in the macroeconomic environment or government policy adjustments, banks are exposed to widespread repayment defaults, leading to increases in non-performing assets and bad debts.

### *6.4.3. Regional concentration*

To further promote economic opening and regional development, China has established a number of strategic development zones, including Special Economic Zones, Pilot Free Trade Zones, Economic and Technological Development Zones, the Guangdong–Hong Kong–Macao Greater Bay Area, the Chengdu–Chongqing Economic Circle, Xiong'an New Area, and the Hainan Free Trade Port. These regions naturally attract substantial investment activity, encouraging banks to channel a large share of their lending into these areas. Excessive regional concentration, however, increases banks' exposure to localized economic fluctuations, thereby heightening regional credit risk.

### *6.4.4. Maturity concentration*

An excessive concentration of medium- and long-term loans reduces asset liquidity while diminishing the efficiency and profitability of capital utilization. Banks should therefore maintain an appropriate balance among short-, medium-, and long-term lending in order to achieve an optimal trade-off between liquidity and profitability and to reduce liquidity risk arising from concentrated loan maturities.

## 6.5. Rising non-performing loans

According to official statistics released by the National Financial Regulatory Administration, the following tables summarize developments in non-performing loans across China's banking industry during 2025–2026.

**Table 9.** Changes in outstanding non-performing loans and NPL ratios

| Time | Outstanding NPLs | Change from Previous Quarter | NPL Ratio | Change from Previous Quarter |
|---|---|---|---|---|
| End of Q1 2025 | RMB 3.44 trillion | — | 1.51% | — |
| End of Q2 2025 | RMB 3.43 trillion | –RMB 10 billion | 1.49% | –0.02 percentage points |
| End of Q3 2025 | RMB 3.52 trillion | +RMB 90 billion | 1.52% | +0.03 percentage points |
| End of Q4 2025 | RMB 3.50 trillion | –RMB 20 billion | 1.50% | –0.02 percentage points |
| End of Q1 2026 | RMB 3.70 trillion | +RMB 174.2 billion | 1.51% | +0.02 percentage points |

Note: Source: *"Key Regulatory Indicators for Commercial Banks (2025–2026)",* National Financial Regulatory Administration.

Table 9 shows that the outstanding balance of non-performing loans fluctuated between RMB 3.43 trillion and RMB 3.52 trillion throughout 2025. In the first quarter of 2026, however, outstanding NPLs surged by RMB 174.2 billion, while the NPL ratio remained persistently high at 1.51%.

**Table 10.** Changes in non-performing loans by institution type (Q1 2026)

| Institution Type | Outstanding NPLs | Increase from Previous Quarter | NPL Ratio | Change from Previous Quarter |
|---|---|---|---|---|
| Large commercial banks | RMB 1,573.1 billion | +RMB 68.2 billion | 1.22% | Unchanged |
| Joint-stock commercial banks | RMB 553.2 billion | +RMB 18.4 billion | 1.22% | +0.01 percentage points |
| City commercial banks | RMB 652.0 billion | +RMB 35.7 billion | 1.85% | +0.03 percentage points |
| Rural commercial banks | RMB 853.0 billion | +RMB 46.5 billion | 2.79% | +0.07 percentage points |
| Private banks | — | — | 1.89% | +0.21 percentage points |

Note: Source: National Financial Regulatory Administration.

As indicated in Table 10, all major categories of banks experienced significant increases in outstanding non-performing loans compared with the previous quarter. Large commercial banks recorded the largest increase, amounting to RMB 68.2 billion. Rural commercial banks followed with an increase of RMB 46.5 billion and an NPL ratio as high as 2.79%. Private banks experienced the largest increase in the NPL ratio, rising by 0.21 percentage points.

**Table 11.** Changes in non-performing loans among China's six largest state-owned commercial banks (2025)

| Bank | Outstanding NPLs at End-2025 | Increase from End-2024 | Change in NPL Ratio |
|---|---|---|---|
| Industrial and Commercial Bank of China | RMB 399.013 billion | +RMB 19.555 billion | Slight decline |
| China Construction Bank | RMB 363.982 billion | +RMB 19.291 billion | Slight decline |
| Agricultural Bank of China | RMB 343.456 billion | +RMB 21.291 billion | Slight decline |
| Bank of China | RMB 288.036 billion | +RMB 19.255 billion | Slight decline |
| Bank of Communications | — | — | Slight decline |
| Postal Savings Bank of China | RMB 91.524 billion | +RMB 11.205 billion | +0.05 percentage points (the only bank with simultaneous increases in both indicators) |

Note: Source: *2025 Annual Reports* of the six major state-owned commercial banks.

Table 11 indicates that all six state-owned commercial banks reported increases in outstanding non-performing loans during 2025. However, except for the Postal Savings Bank of China, the remaining five banks recorded slight declines in their NPL ratios, largely attributable to the dilution effect of loan portfolio expansion. The Postal Savings Bank of China was the only large state-owned bank to experience simultaneous increases in both outstanding NPLs and the NPL ratio. According to its Vice President, the pace of new non-

performing loans in the personal and small business loan segments is expected to stabilize and improve during 2026.

**Table 12.** Risk absorption capacity

| Indicator | End of Q1 2026 | Regulatory Requirement |
|---|---|---|
| Loan loss provisions | RMB 7.5 trillion | — |
| Provision coverage ratio | 203.14% | ≥ 150% |
| Provision-to-loan ratio | 3.07% | ≥ 1.5% |
| Capital adequacy ratio | 15.00% | ≥ 10.5% |
| Common Equity Tier 1 capital ratio | 10.71% | ≥ 7.5% |

Note: Source: *"Key Regulatory Indicators for the Banking and Insurance Sectors in the First Quarter of 2026"*, National Financial Regulatory Administration (May 15, 2026).

Table 12 demonstrates that, by the end of the first quarter of 2026, banks had maintained loan loss provisions totaling RMB 7.5 trillion, a provision coverage ratio of 203.14%, and a capital adequacy ratio of 15.00%. Although non-performing loans increased, the banking industry's risk absorption "safety cushion" remained robust, indicating that overall credit risk remained under control (Table 13).

**Table 13.** Disposal of non-performing assets by the six largest state-owned commercial banks in 2025

| Bank | Total Disposal | Cash Recovery | Loan Write-offs | Bulk Transfers | NPL ABS | Debt Restructuring |
|---|---|---|---|---|---|---|
| Industrial and Commercial Bank of China | RMB 97.368 billion | RMB 28.65 billion | RMB 32.02 billion | RMB 15.68 billion | RMB 11.168 billion | RMB 9.85 billion |
| Postal Savings Bank of China | RMB 96.772 billion | RMB 21.331 billion | RMB 29.454 billion | RMB 10.50 billion | RMB 33.802 billion | — |
| China Construction Bank | RMB 92.57 billion | RMB 27.82 billion | RMB 31.26 billion | RMB 14.89 billion | RMB 9.57 billion | RMB 9.03 billion |
| Agricultural Bank of China | RMB 88.59 billion | RMB 26.53 billion | RMB 30.15 billion | RMB 14.26 billion | RMB 8.93 billion | RMB 8.72 billion |
| Bank of China | RMB 76.59 billion | RMB 22.47 billion | RMB 26.83 billion | RMB 12.05 billion | RMB 7.68 billion | RMB 7.56 billion |
| Bank of Communications | RMB 73.80 billion | — | — | — | — | — |

Note: Source: *2025 Annual Reports* of the six major state-owned commercial banks.

### 6.6. Imbalanced credit structure

**Table 14.** Five major manifestations of the current imbalance in credit structure

| Dimension | Manifestation of Imbalance |
|---|---|
| Customer Structure | Corporate lending dominates, while retail lending contracts amid household deleveraging. |
| Industry Structure | A K-shaped divergence has emerged between traditional and emerging industries, with credit increasingly concentrated in new sectors while traditional sectors continue to contract. |
| Credit Concentration | Excessive exposure to government financing-related projects, the real estate sector, and large corporate loans has resulted in highly concentrated risk exposures. |
| Maturity Structure | Short-term lending aimed at expanding loan volumes has become increasingly prevalent, while genuine demand for medium- and long-term financing remains insufficient. |
| Regional Structure | Credit has expanded rapidly in regions with emerging industries, whereas lending growth has approached zero in regions experiencing population outflows. |

As shown in Table 14, these multidimensional structural imbalances are both an inevitable consequence of China's ongoing economic transformation and a source of new challenges for banks with respect to risk management, capital allocation, and sustainable profitability.

## 7. Causes of credit risk

### 7.1. External economic factors

Credit risk is significantly influenced by changes in the external economic environment. The principal external drivers include fluctuations in the macroeconomic cycle and market demand, policy adjustments and industrial restructuring, as well as external shocks arising from the global financial environment. These factors affect borrowers' operating performance and debt-servicing capacity, thereby increasing the uncertainty of banks' credit portfolios.

### 7.2. Internal factors within the banking industry

"At present, the risk assessment models commonly adopted by banks rely excessively on historical data and are unable to accurately characterize or predict emerging risk events. Consequently, both the accuracy and timeliness of risk forecasting have declined substantially. Moreover, the evaluation indicators are overly simplistic and rigid, making it difficult to comprehensively reflect borrowers' operating conditions and repayment capacity" [4].

#### *7.2.1. Deficiencies in credit management mechanisms and risk control*

Weaknesses in credit management are primarily reflected throughout the lending process. Before loan approval, insufficient attention is often paid to thoroughly evaluating borrowers' creditworthiness, while the approval process tends to place excessive emphasis on collateral rather than cash flow and repayment capacity. After loan disbursement, inadequate monitoring of fund utilization frequently results in weak oversight of loan proceeds, allowing part of the funds to be diverted to unauthorized purposes or even illicit activities, thereby increasing credit risk.

*7.2.2. Distorted internal governance and incentive mechanisms*

The corporate governance structure of many banks remains imperfect, leaving institutional weaknesses and procedural loopholes within credit operations. Excessive emphasis on expanding asset size often encourages irrational increases in banks' risk appetite.

Furthermore, deficiencies in internal controls expose banks to both operational risk and moral hazard. These weaknesses may lead to violations of lending regulations, improper loan approvals, and collusion between bank employees and external parties to fraudulently obtain credit.

*7.2.3. Lagging financial technology application and data governance*

*7.2.3.1. Insufficient technological application*

Although concepts such as "green finance" and "technology-driven finance" have been widely promoted for many years, their practical implementation remains uneven. Many small and medium-sized banks still face significant technological limitations in applying artificial intelligence and big data to develop risk early warning models and accurately identify interconnected credit risks.

*7.2.3.2. Information asymmetry*

Information asymmetry continues to exist between banks and borrowers. Because borrowers often possess information unavailable to lenders, banks may fail to identify hidden liabilities, related-party guarantees, or other concealed financial risks in a timely manner, thereby increasing the probability of adverse credit outcomes.

*7.2.4. Low operational efficiency of banks*

**Table 15.** Key regulatory indicators released by the national financial regulatory administration (end of Q1 2026)

| Indicator | Latest Data (End of Q1 2026) |
|---|---|
| Outstanding non-performing loans of commercial banks | RMB 3.7 trillion |
| Non-performing loan ratio | 1.51% |
| Total assets of the banking industry | RMB 494.7 trillion |
| Provision coverage ratio | 203.14% |
| Capital adequacy ratio | 15.00% |

Note: Source: *"Key Regulatory Indicators for the Banking and Insurance Sectors in the First Quarter of 2026"*, National Financial Regulatory Administration (May 15, 2026).

Table 15 shows that, by the end of the first quarter of 2026, commercial banks reported outstanding non-performing loans of RMB 3.7 trillion, an NPL ratio of 1.51%, total banking assets of RMB 494.7 trillion, a provision coverage ratio of 203.14%, and a capital adequacy ratio of 15.00%. These figures indicate that although the scale of non-performing loans and the NPL ratio remain relatively high, reflecting considerable credit risk and room for improvement in banks' operating efficiency, the high levels of loan loss provisions and capital adequacy also demonstrate that banks possess sufficient financial resources to absorb potential losses and that overall credit risk remains manageable.

*7.2.5. Inadequate evaluation of loan projects*

Project evaluation is a highly systematic process for banking and financial professionals, involving multidimensional analysis and comprehensive risk identification.

The discussion below examines the methodological framework for project evaluation, the assessment of major risk factors, and the evaluation of common issues.

*7.2.5.1. Core methodological framework for loan project evaluation*

(1) Project compliance review

1) Policy compliance: The proposed project should be examined to determine whether it conforms to national industrial development policies, government support policies for technology enterprises, and regulatory requirements governing green industries, environmental protection, renewable energy, and clean industries.

2) Approval compliance: Banks should verify whether the project has been formally approved by the relevant development and reform authorities and whether all necessary documentation, including land-use certificates and construction permits, has been obtained.

3) Qualification compliance: Borrowers' business qualifications, operational capabilities, and business scope should be carefully examined to ensure that they satisfy regulatory requirements and do not involve prohibited activities.

(2) Reasonableness of investment estimates and financing requirements

Banks should carefully review the project's feasibility study report to prevent both the understatement and overstatement of investment costs. Total investment should include construction expenditure, interest incurred during the construction period, and initial working capital. Supporting documentation, such as equipment quotations and engineering contracts, should also be verified.

(3) Financial statement analysis

Particular emphasis should be placed on verifying borrowers' actual repayment capacity through comprehensive financial analysis, including the authenticity of cash holdings, the consistency between accounts receivable growth and revenue growth, the maturity structure of liabilities, contingent liabilities, and whether operating cash flows have remained negative over an extended period.

*7.2.5.2. Assessment of major risk factors*

Project evaluation should incorporate break-even analysis, sensitivity analysis, and probability-based risk analysis. Stress testing should be conducted on key variables, such as occupancy rates, product prices, and raw material costs, to assess whether the project remains financially viable under adverse scenarios.

*7.2.5.3. Evaluation of common issues*

(1) Risks associated with guarantees and collateral

1) Inaccurate collateral valuation: Inadequate supervision of appraisal agencies may result in significant overvaluation of collateral.

2) Collateral management risk: Weak post-loan management of collateral, particularly collateral located outside the lending institution's jurisdiction, increases the likelihood that pledged assets may be disposed of prematurely or suffer physical deterioration.

(2) Weakening of secondary sources of repayment

When the primary and secondary repayment sources are highly correlated—for example, where highway toll revenues are pledged as collateral—a decline in toll income simultaneously weakens both repayment capacity and the value of the pledged rights.

(3) Compliance and legal risks

Legal deficiencies involving land ownership, regulatory approvals, environmental permits, or occupancy licenses may prevent projects from proceeding lawfully, thereby jeopardizing loan repayment.

(4) Policy change risk

Changes in industrial policy, interest rates, exchange rates, and other macroeconomic policies may significantly affect project feasibility and increase lending risk.

#### *7.2.6. Deficiencies in banking institutions and systems*

##### *7.2.6.1. Institutional deficiencies throughout the credit process*

(1) Weaknesses in pre-loan investigation

Pre-loan investigations are often insufficiently thorough, with only superficial verification of borrowers' qualifications and financing conditions. As a result, banks frequently fail to obtain an accurate understanding of borrowers' actual financial circumstances.

(2) Weaknesses in loan approval and decision-making

The separation between loan review and approval functions remains incomplete, and oversight mechanisms are often inadequate. Risk factors are not fully considered, the independence of the approval process is insufficiently protected, and delegated approval authority is not consistently implemented.

(3) Weaknesses in risk identification and assessment

Banks have not fully utilized digital technologies and modern risk detection tools. Institutional arrangements governing risk identification and assessment remain incomplete and exhibit significant shortcomings.

(4) Weaknesses in post-loan management

After loans are disbursed, effective monitoring of fund utilization is often lacking. Inadequate supervision of loan proceeds and deficiencies in the design of post-loan management systems increase the likelihood of credit risk.

##### *7.2.6.2. Deficiencies in collateral management*

(1) Distorted collateral valuation

Collateral values are sometimes significantly overstated at the time of lending. For example, industrial land pledged by a liquor company was originally appraised at RMB 2.9 million per mu, but a subsequent revaluation reduced its value to only RMB 837,800 per mu, representing a depreciation of more than 80%.

(2) Failure to conduct timely revaluations

Some collateral assets are not reappraised within the prescribed time limits, violating asset management requirements and reducing the reliability of collateral valuation.

##### *7.2.6.3. Deficiencies in internal control and corporate governance*

(1) Insufficient independence of internal auditing

Internal audit functions are often constrained and primarily focus on ex post supervision. Consequently, they are unable to identify operational problems in a timely manner, resulting in significant delays in risk detection.

(2) Weak accountability mechanisms

Responsibilities at critical stages of the lending process are often poorly defined. Institutions frequently lack clear procedures for addressing losses resulting from improper lending practices, and employees may have only a limited understanding of their fundamental responsibilities.

##### *7.2.6.4. Deficiencies in contract administration and operational standardization*

The institutional deficiencies of China's banking system can generally be summarized as two categories: the existence of formal rules that are poorly implemented and the absence of institutional arrangements in critical areas. The former is reflected in superficial pre-loan investigations, ineffective separation between loan review and approval, and standardized yet perfunctory post-loan inspections. The latter is evident in the absence of comprehensive risk early warning systems, inadequate monitoring of employee conduct, and insufficient mechanisms for the dynamic management of collateral. Recent regulatory enforcement trends indicate that failures in the "three-stage loan review process"—namely pre-loan investigation, loan approval, and post-loan

management—have become widespread across the entire banking sector, including large state-owned commercial banks, joint-stock commercial banks, city commercial banks, and rural commercial banks.

*7.2.7. Inappropriate organizational structure of banking institutions*

An inadequately designed organizational structure is a systemic problem involving multiple dimensions, including hierarchical management, functional division, branch network distribution, and the allocation of lending approval authority. Its principal manifestations are summarized as follows.

(1) Unreasonable organizational hierarchy: excessive management layers and lengthy reporting chains

An excessive number of management levels slows information transmission and decision-making, reducing the efficiency of credit approval and risk management while weakening the effectiveness of internal oversight.

(2) Inappropriate functional department structure

The traditional "departmental banking" model suffers from several deficiencies. Functional responsibilities are often poorly defined, resulting in departments attempting to perform a wide range of tasks without developing specialized expertise. High levels of organizational homogeneity exist from headquarters to branch offices, with differences largely limited to customer size rather than functional specialization. Consequently, operational efficiency remains low, and the approval process for a single loan may take as long as six months.

(3) Inappropriate branch network distribution

1) Uneven branch distribution: Employees in densely distributed branch networks often face excessive workloads and considerable pressure, whereas staff in sparsely distributed areas may experience comparatively light workloads.

2) Inadequate branch planning: Branch distribution should reflect regional differences in population density and economic activity. Areas with larger populations require more banking outlets, whereas areas with lower population density should have fewer branches. Likewise, branch allocation should correspond to regional levels of economic development rather than adopting a uniform approach. In addition, branch planning should accommodate the differing characteristics and financial needs of various customer groups.

3) Urban-rural imbalance: Rural areas are generally characterized by lower population density and less convenient transportation infrastructure than urban areas. If only a single bank operates in a rural locality, it may effectively enjoy a monopoly, reducing competitive pressure to improve service quality and operational efficiency. Such conditions may result in poorer customer service and a narrower range of financial products, making it difficult to satisfy the diverse financial needs of rural residents.

(4) Inappropriate allocation of approval authority

1) Incomplete implementation of the separation between loan review and approval: Although most banks have established credit approval committees, these committees are typically composed of senior lending managers and branch executives. Consequently, conflicts often arise between committee members' managerial responsibilities and internal control requirements, preventing the approval process from serving as an effective risk control mechanism.

2) Excessive concentration of authority: In some banks, branch presidents are able to intervene directly in the approval process or pressure subordinate approval departments to accelerate decision-making. Even after branch-level approval has been completed, business departments may continue to influence the headquarters' approval process.

3) Unclear authorization framework: Ambiguities in delegated authority create procedural confusion. Frequent adjustments to authorization policies also contribute to cyclical distortions: lending standards may become excessively restrictive during economic downturns, causing banks to lose high-quality customers, while becoming overly lenient during economic expansions, thereby accumulating future credit risk.

(5) Inadequate risk management organizational structure

1) Insufficient independence of risk management: Risk management functions are often embedded within business divisions rather than operating independently. Risk officers frequently remain subordinate to business managers at the same organizational level and lack institutional safeguards, such as veto authority over high-risk lending decisions. This problem is particularly pronounced in small and medium-sized banks, where headquarters often exercises limited oversight over branch-level lending activities and relies heavily on branch reports during pre-loan investigations.

2) Lack of differentiated approval mechanisms: Many banks have not established differentiated approval procedures based on customer segmentation or product-specific risk characteristics. As a result, authorization limits, approval processes, review timelines, and approval methods remain largely uniform across different customers and lending products. This reduces approval efficiency for low-risk business while failing to provide sufficiently rigorous scrutiny for higher-risk transactions.

3) Weak post-loan management organization: Dedicated organizational support for post-loan management is often inadequate. Relationship managers may be responsible for an excessive number of borrowers, with some experiencing an increase in managed accounts from 38 to more than 100. Combined with performance evaluation systems that prioritize loan origination over post-loan supervision, the actual completion rate of post-loan inspections frequently falls below 50%.

(6) Inappropriate performance evaluation and incentive systems

Performance evaluation continues to emphasize loan growth and market share while assigning insufficient weight to asset quality and regulatory compliance, thereby encouraging short-term business expansion. Front-line personnel are assessed primarily on business performance, transferring risk pressure to the loan approval process. At the same time, incentive and accountability mechanisms for approval personnel remain inadequately balanced.

*7.2.8. Shortage of highly qualified banking professionals*

The shortage of highly qualified banking professionals constitutes one of the fundamental constraints on improving the quality of loan project evaluation and credit risk management. This problem extends beyond staffing levels to encompass deficiencies in the overall talent structure, recruitment mechanisms, professional training systems, and performance-based incentive and accountability arrangements. Without sufficient numbers of well-trained professionals possessing expertise in finance, risk management, data analytics, and regulatory compliance, banks face increasing difficulties in identifying, assessing, and managing increasingly sophisticated credit risks.

*7.2.9. Blind spots in systemic risk management strategy*

Blind spots in banks' systemic risk management strategies represent deep-rooted problems involving strategic planning, governance structures, technological capabilities, and organizational culture. These shortcomings can be summarized as follows.

(1) Strategic positioning: disconnect between business development and risk management

1) Insufficient integration of risk strategy into business decision-making: In many banks, business development and risk management operate largely independently. Business units focus primarily on achieving performance targets, whereas risk management departments concentrate on controlling non-performing loan ratios. As lending portfolios expand, latent risks accumulate and eventually require extensive corrective measures. This recurring pattern reflects the absence of effective integration between business strategy and risk management.

2) Excessive strategic homogeneity: Some small and medium-sized banks formulate development strategies without adequately considering regional economic characteristics or their own resource

endowments. Consequently, strategic positioning remains ambiguous, leading to excessive similarity among institutions and a lack of differentiated competitive strategies.

(2) Risk identification: mismatch between static experience and dynamic risk

Major weaknesses include outdated information processing capabilities, limited risk coverage, and inadequate capacity to identify strategic risks associated with rapidly changing economic and financial conditions.

(3) Data governance: data silos and information distortion

Survey evidence indicates that approximately 55% of banks experience serious data silo problems, while 59% lack sufficient capability to extract value from available data resources. These deficiencies significantly reduce the effectiveness of risk identification and early warning systems.

(4) Governance structure: insufficient independence and ineffective coordination

1) Security vulnerabilities arising from fragmented information systems: Global systemically important banks have expanded through both organic growth and acquisitions, inheriting multiple legacy information systems and databases. When systems across different business units remain incompatible, risk information cannot be efficiently integrated or shared, increasing the likelihood that significant risks will go undetected. Fragmented data management also allows similar vulnerabilities to persist simultaneously across multiple risk domains.

2) Inadequate business continuity management: As banks continue to upgrade and modernize their digital systems, corresponding business continuity mechanisms have not always been updated in parallel. Traditional compliance management frameworks therefore struggle to accommodate increasingly digitalized business operations.

(5) Organizational culture and incentives: short-termism and weak compliance awareness

1) Performance evaluation distorts risk preferences: Some banks continue to rely heavily on growth-oriented and point-in-time performance evaluation systems. When employee compensation and promotion depend primarily on monthly or quarterly performance indicators, compliance costs may be viewed as obstacles to achieving business targets rather than essential components of prudent banking practices.

2) The persistent mindset of prioritizing business performance over risk management: Some small and medium-sized banks continue to tolerate institutional weaknesses or deliberately lower compliance standards in pursuit of rapid business growth. In previous years, several such institutions experienced serious financial distress after relaxing internal controls under competitive pressure.

Risk culture is ultimately shaped by senior management. When organizational leaders fail to prioritize prudent risk governance, attempts to strengthen risk management may encounter resistance, delaying implementation and creating strategic blind spots that become increasingly evident over time.

*7.2.10. Low level of credit management*

Credit management in commercial banks is an extremely complex process centered on the allocation and management of lending capital. Its effectiveness depends fundamentally on managerial philosophy, governance quality, decision-making capability, and professional competence. At present, numerous deficiencies remain, including weaknesses in management procedures, inadequate implementation of risk control measures, delayed updating of management systems, and the absence of rapid corrective mechanisms. These shortcomings prevent existing credit management practices from adequately supporting the rapid expansion and increasing complexity of modern banking operations.

## 7.3. Causes related to borrowers

### *7.3.1. Poor operating performance of enterprises*

In bank loan project evaluation, poor operating performance is one of the core indicators used to assess a borrower's repayment capacity and the feasibility of lending. It can be analyzed from four dimensions: financial indicators, operational characteristics, cash flow signals, and underlying causes.

(1) Manifestations in financial indicators

Deterioration is often observed in operating efficiency, profitability, and solvency indicators. Typical warning signals include a debt-to-asset ratio exceeding 70%, a current ratio below 1, and an interest coverage ratio below 1. In such cases, the enterprise's operating profit is insufficient even to cover interest expenses, meaning that additional borrowing further aggravates losses rather than improving financial conditions.

(2) Operational characteristics

1) Breakdown of the capital chain: The industrial chain, supply chain, value chain, financing chain, and distribution chain of borrowing enterprises may be disrupted by problems involving upstream and downstream firms, blocked distribution channels, brand damage caused by inappropriate publicity, irrational governance structures, or outdated management practices. Once cash flow problems emerge, bank loans become difficult to repay on schedule, credit default risk rises sharply, bad debts increase, and banks' non-performing assets expand.

2) Irrational business structure: A sound business structure should encompass product structure, technological structure, R&D structure, customer management structure, operational structure, market positioning, channel structure, supply-and-sales structure, production-demand structure, warehousing structure, and sales structure. In practice, many enterprises exhibit deficiencies in one or more of these areas. Structural imbalances can significantly weaken operating performance and may even lead to business failure.

(3) Cash flow risk signals

Abnormal operating cash flow is an important warning sign. An enterprise may report positive net profit while its cash flow from operating activities remains persistently lower than net profit. This suggests that profits are largely "paper profits" and that substantial funds are tied up in accounts receivable or inventory, raising serious concerns about earnings quality and repayment capacity.

### *7.3.2. Imperfect corporate systems*

Under the market economy, enterprises are expected to bear their own profits and losses. Many problems accumulated over long periods have gradually become exposed, causing some firms to lose the ability to repay bank loans at maturity and thereby generating non-performing loans. When enterprises suffer from insufficient capital, inadequate liquidity, and weak risk resistance, the safety of bank lending is directly affected.

## 7.4. Institutional factors

### *7.4.1. Insufficient punishment for dishonest borrowers*

Although China's social credit system and credit reporting infrastructure have become increasingly comprehensive, some borrowers still engage in dishonest behavior. One important reason is that the cost of default remains relatively low. In some cases, regulatory supervision is insufficient, penalties for dishonest borrowers are inadequate, and the actual deterrent effect of enforcement measures remains limited.

### *7.4.2. Transitional frictions between old and new institutional systems*

When analyzing the institutional causes of credit risk in Chinese commercial banks, attention should be paid not only to traditional internal factors such as corporate governance, performance evaluation, and credit culture, but also to the impact of recent top-level institutional reforms. As these reforms reshape the financial

risk management framework, the transition between old and new systems has inevitably generated adjustment pains and institutional frictions, which in turn create new sources of credit risk.

## 8. New trends and challenges in bank credit business

In today's rapidly evolving technological environment, each wave of technological innovation generates new productive forces and reshapes the economic landscape. Credit risk management in the banking industry must therefore move beyond traditional working methods and increasingly rely on digital technologies and artificial intelligence to screen, analyze, and monitor borrowers with greater precision. Against this background, several new trends and challenges have emerged.

### 8.1. Challenges brought by digital technology

#### *8.1.1. AI inclusion and scenario integration*

Financial institutions are no longer satisfied with merely "selling computing power" or "selling models". Instead, they are increasingly shifting toward the provision of integrated, scenario-based solutions. For example, the combination of "AI + mobile applications" and the use of technologies such as dialect-based voice interaction can significantly reduce the barriers faced by elderly users in accessing financial services.

#### *8.1.2. New forms of cross-sector cooperation*

Under the impact of digital technologies and AI, banks can no longer operate as isolated entities outside the broader economic ecosystem. They must actively embrace digital transformation and develop new models of digital banking. Cooperation with technology firms, internet platforms, and other ecosystem partners is becoming essential for building closed-loop financial ecosystems that seamlessly embed banking services into customers' daily lives. This trend is driving the development of customized, personalized, specialized, automated, and fully digital financial services.

### 8.2. Balancing relief and empowerment

In the era of globalization, industrial digitalization, and intelligent living, banks must transform their functions by providing greater support to micro and small enterprises. By extending financing and helping firms overcome temporary difficulties, banks can reduce the risk of capital-chain disruptions and cash-flow crises that may otherwise push businesses into distress. Supporting small enterprises also contributes to employment creation and broader social stability.

### 8.3. Value reconstruction

The value of financial services is no longer measured solely by the accessibility of capital. Increasingly, it lies in the extent to which finance can genuinely support individual livelihoods and the real economy. This policy orientation requires banks to pursue commercial sustainability while simultaneously fulfilling broader social responsibilities and translating the principle of "finance serving the people" into concrete practice.

## 9. Policy recommendations

### 9.1. Macroeconomic level

At the macroeconomic level, countercyclical regulation should be strengthened through the use of appropriate policy instruments to mitigate external shocks and support high-quality economic development. Stable

macroeconomic conditions provide the fundamental basis for improving the quality of bank credit assets and reducing systemic credit risk.

## 9.2. Banking level

Banks should accelerate digital transformation by leveraging artificial intelligence and big data technologies to improve the accuracy of credit risk identification, assessment, and forecasting, as demonstrated by leading domestic commercial banks such as Ping An Bank.

*9.2.1. Strengthening risk awareness across the banking workforce*

(1) Bank-level indicators for monitoring credit risk (Table 16)

**Table 16.** Fundamental data dimensions for credit risk analysis

| Data Category | Key Indicators |
|---|---|
| Asset Quality Indicators | Non-Performing Loan (NPL) ratio (year-end/monthly average), proportion of special mention loans, distribution of the five-category loan classification (pass, special mention, substandard, doubtful, and loss), provision coverage ratio, loan loss provision ratio |
| Credit Structure Indicators | Total loan balance, loan distribution by industry, maturity, collateral type, and customer category; concentration indicators; proportion of large single exposures |
| Profitability Indicators | Net Interest Margin (NIM), interest collection ratio, Return on Assets (ROA), Return on Equity (ROE) |
| Capital Adequacy Indicators | Common Equity Tier 1 (CET1) ratio, Tier 1 capital ratio, total capital adequacy ratio, leverage ratio |
| Liquidity Indicators | Loan-to-deposit ratio, Liquidity Coverage Ratio (LCR), Net Stable Funding Ratio (NSFR) |
| Interbank Business Indicators | Interbank deposits, interbank lending and borrowing ratios, purchased resale and sold repurchase financial assets, which can be used to construct interbank risk contagion networks |

(2) Borrower-level evaluation indicators (Table 17)

**Table 17.** Borrower-level data for default probability modeling and credit scoring

| Borrower Category | Data Dimensions |
|---|---|
| Corporate Borrowers | Financial statements (balance sheet, income statement, cash flow statement), credit ratings, industry classification, enterprise size (total assets and number of employees), ownership structure, guarantee information, related-party transactions |
| Individual Borrowers | Income level, debt-to-income ratio, credit score (e.g., Fair Isaac Credit Organization (FICO) score), repayment history, occupation, age, education, and other demographic characteristics |
| Loan Contract Information | Loan amount, maturity, interest rate, repayment method, collateral type (mortgage, pledge, guarantee, or unsecured), loan disbursement date, number of overdue days, default status |

(3) Macroeconomic indicators (Tables 18 and 19)

**Table 18.** Macroeconomic indicators affecting credit risk

| Data Category | Key Indicators |
|---|---|
| Economic Growth Indicators | GDP growth rate, industrial value added, Purchasing Managers' Index (PMI) |
| Price Indicators | Consumer Price Index (CPI), Producer Price Index (PPI), GDP deflator |
| Monetary Policy Indicators | Benchmark interest rate, M2 growth rate, total social financing, Loan Prime Rate (LPR) |
| Real Estate Market Indicators | Housing price index, growth rate of real estate investment (an important proxy for collateral value changes) |
| Industry Prosperity Indicators | Industry business climate indices, industry profit margins |

**Table 19.** Green finance and ESG indicators

| Data Category | Key Indicators |
|---|---|
| Green Credit Indicators | Outstanding green loans, proportion of green lending, issuance of green bonds |
| Carbon Emissions Indicators | Corporate and industry carbon emissions, carbon trading prices |
| ESG Indicators | Overall ESG ratings, environmental, social, and governance sub-scores |
| Climate Risk Indicators | Climate scenario parameters, physical climate risk exposure indicators |

In summary, the data framework for bank credit risk assessment can be described as a "three-level, four-dimensional" framework. The three analytical levels comprise the bank level, borrower level, and macroeconomic level. The four dimensions include structured financial data, unstructured textual data, alternative behavioral data, and policy/regulatory data. Before extending credit, banks should prioritize the collection and analysis of data according to the characteristics of each lending project while taking data availability into account.

*9.2.2. Improving the credit concentration early warning system to diversify industry and customer concentration risk*

In addition, at the end of 2020, the People's Bank of China and the former China Banking and Insurance Regulatory Commission established a real estate loan concentration management system that imposed differentiated ceilings on both real estate lending and residential mortgage lending for banks of different sizes (Table 20).

Reducing credit concentration risk remains one of the central objectives of commercial bank risk management. This objective can be achieved through several approaches.

**Table 20.** Regulatory limits on credit concentration in China

| Indicator | Regulatory Limit | Legal or Regulatory Basis |
|---|---|---|
| Single-borrower loan concentration | ≤ 10% of net capital | *Article 39(4) of the Commercial Bank Law of the People's Republic of China* |
| Single group customer credit concentration | ≤ 15% of net capital | *Article 9 of the Core Regulatory Indicators for Commercial Banks (Trial)* |
| Loan concentration among the ten largest borrowers | ≤ 50% of net capital | Annual reports of commercial banks and regulatory evaluation framework |
| Overall related-party exposure | ≤ 50% of net capital | *Article 9(3) of the Core Regulatory Indicators for Commercial Banks (Trial)* |

(1) Diversification of credit portfolios

Credit risk should be dispersed by diversifying lending portfolios across industries, geographic regions, customer segments, and loan maturities. Appropriate combinations of short-, medium-, and long-term loans help balance liquidity and profitability while reducing concentration risk.

(2) Establishment of risk exposure limits

1) Single-borrower limit: Outstanding credit exposure to any individual borrower should not exceed 10% of the bank's net capital.

2) Group customer limit: Credit exposure to any single corporate group should not exceed 15% of the bank's net capital.

Banks should also establish industry-specific and regional exposure limits.

Syndicated lending provides an effective means of risk diversification. For example, the US$4.65 billion syndicated loan arranged for Tencent illustrates how multiple banks can jointly finance large projects while sharing risk.

A further example is the "three-line" concentration management framework adopted by Bank of Shanghai, which monitors concentration risk across customer, industry, and institutional dimensions through a three-stage mechanism consisting of notification, early warning, and risk control.

Overall, credit diversification strategies may be classified into four dimensions: strategic measures (small-value diversified lending and industry exposure limits), risk management tools (syndicated loans and joint lending arrangements), technological measures (digital risk management and stress testing), and institutional mechanisms (early warning systems and watch-list management).

### *9.2.2. Utilizing credit risk mitigation instruments*

#### *9.2.2.1. Syndicated loans*

Large-scale financing projects should be jointly funded by multiple banks in order to distribute credit exposure and reduce the concentration of risk borne by any single institution.

#### *9.2.2.2. Guarantees and credit insurance*

Borrowers should be required, where appropriate, to provide third-party guarantees or purchase credit insurance so that part of the credit risk can be transferred to external guarantors or insurers.

#### *9.2.2.3. Asset securitization*

Banks may package and sell selected loan portfolios through securitization, thereby releasing lending capacity that can be redirected toward higher-quality assets and improving overall balance sheet efficiency.

*9.2.3. Dynamic adjustment of credit limits*

Banks should establish quarterly or monthly review mechanisms to dynamically adjust credit allocation among business lines in response to changing market conditions and evolving regulatory policies.

*9.2.4. Strengthening talent development and risk culture*

Credit concentration management should be incorporated into enterprise-wide risk culture initiatives. Through systematic training programs, simulation exercises, and case-based learning, front-line lending personnel can improve their ability to identify and manage credit risk, thereby ensuring the effective implementation of risk management policies.

*9.2.5. Addressing the imbalance in credit structure*

In accordance with the regulatory policy direction of "maintaining lending growth, optimizing credit structure, improving asset quality, and promoting sustainable development" jointly emphasized by the financial regulators and the People's Bank of China in 2026, the following recommendations are proposed.

(1) Reshape performance evaluation by shifting from scale expansion to value creation

In 2026, regulators eliminated mandatory growth targets for inclusive loans to micro and small enterprises, signaling a transition away from competition based solely on lending volume. Banks should seize this opportunity to reform their internal performance evaluation and pricing systems.

1) Optimize performance evaluation systems: The emphasis on loan growth alone should be reduced, while greater weight should be assigned to quality-oriented indicators such as the expansion of first-time borrowers, the proportion of small and diversified loans, targeted agricultural lending, and the comprehensive financing costs borne by borrowers. Such reforms would encourage branch-level institutions to shift from passive loan expansion toward strategic business optimization.

2) Restore commercially sustainable pricing: Under an appropriately accommodative monetary policy environment, banks should strengthen asset-liability management so as to expand lending and maintain business scale while simultaneously safeguarding asset quality.

(2) Implement differentiated market positioning and establish a complementary competitive landscape

1) Large commercial banks should serve as industry leaders: Large banks should concentrate on developing digital finance, intelligent finance, ecosystem finance, technology finance, green finance, inclusive livelihood finance, agricultural finance, and elderly care finance. By supporting technological innovation, rural revitalization, green energy, digital industries, and other emerging sectors, they can contribute to the development of new quality financial productive forces.

2) Small and medium-sized banks should strengthen their regional competitive advantages: City commercial banks and rural commercial banks should abandon indiscriminate cross-regional expansion and instead capitalize on their familiarity with local markets. They should focus on regional industrial chains, sole proprietors, and small and micro enterprises by promoting innovative models such as district-wide and village-wide credit authorization, thereby developing distinctive regional financial services characterized by specialization and local responsiveness.

(3) Expand financial services for new quality productive forces and optimize incremental credit allocation

As demand for financing in the real estate sector and traditional infrastructure industries continues to weaken, banks should proactively identify new sources of credit growth. In particular, they should develop innovative financing models tailored to technology-based enterprises characterized by light assets and intensive technological innovation. Products such as intellectual property pledge financing, order-based credit enhancement, and loans supporting the commercialization of scientific and technological achievements can help overcome the "first-loan dilemma" faced by start-up enterprises while promoting a more balanced and sustainable credit structure.

### 9.3. Regulatory level

Regulatory authorities should make full use of digital technologies and artificial intelligence to screen and monitor credit funds, establish proactive early warning mechanisms, and strengthen the prevention, mitigation, and diversification of credit risk so as to reduce the likelihood of systemic financial crises.

"Loans should be classified into five categories: pass, special mention, substandard, doubtful, and loss. A combination of methods and measures should be adopted to prevent the deterioration of pass and special mention loans. For pass loans, routine customer relationship management should be strengthened, and prompt action should be taken once early warning signals emerge to eliminate potential risks. For special mention loans, post-loan management measures should be refined, and the frequency of post-loan inspections should be increased to prevent further deterioration into non-performing loans. For substandard and doubtful loans, priority should be given to preserving the statute of limitations for legal claims, intensive debt collection, litigation, and the disposal of pledged or mortgaged collateral through auction, thereby maximizing asset preservation and minimizing losses. For loss loans that satisfy write-off requirements, write-offs should be carried out promptly and comprehensively" [5].

## 10. Conclusion

In conclusion, credit risk in China's banking system results from the combined effects of macroeconomic cycles, policy adjustments, and deficiencies in banks' internal management. If credit risk in commercial banks is not identified and controlled in a timely manner, it may escalate rapidly and cause severe financial consequences. Consequently, credit risk management should remain a continuous priority throughout the entire lending process. By systematically identifying the manifestations and underlying causes of commercial bank credit risk, financial institutions can conduct timely risk assessment, establish effective early warning mechanisms, and implement targeted preventive measures. Such efforts will strengthen the resilience of the banking system, improve the quality of credit assets, and reduce the likelihood of major financial crises.

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