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Adapting to Change: The Evolution of the Basel Accords and the Chinese Banking Sector's Response

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Abstract: This study presents a comprehensive review of the Basel regulatory framework's development, with an emphasis on the progression from the inaugural Basel I Accord to the definitive Basel III, and its integration into the regulatory practices of the Chinese banking system. It scrutinizes the impact of heightened regulatory standards on the capital adequacy and risk management strategies of Chinese banks, delving into the nuances of risk-weighted asset calibration and credit risk oversight. Through an illustrative case study, the research elucidates the strategic adaptations undertaken by Chinese financial institutions in response to these international norms.The study concludes by critically assessing the Basel reforms, contemplating their profound impact on fortifying the global banking infrastructure and supporting China's pursuit of financial stability. It considers how the reforms have reshaped risk management practices and capital adequacy standards, potentially bolstering the resilience of banks against economic shocks. The reflection extends to the Chinese financial system's adaptation to these international norms, highlighting the strategic shifts undertaken by domestic banks to align with global regulatory expectations while addressing the unique challenges of China's economic landscape. The paper emphasizes the importance of these reforms in enhancing the overall health and stability of financial markets, both internationally and within the context of China's rapidly evolving financial sector.

Keywords: Basel accord, risk management, risk measurement, capital adequacy ratio

1. Introduction

A healthy commercial banking system is an important pillar that supports economic development and is necessary to help businesses achieve sustainable growth in their financial needs. As a core component of the financial services industry, the banking sector plays a variety of functions and is pivotal in the modern economy. According to data released by the Central Bank and the China Banking and Insurance Regulatory Commission, as at the end of 2022, the total asset size of the banking sector was RMB 372.09 trillion, with RMB 34.43 trillion added in the year, an increase of 10.2%;the total liability size was RMB 340.95 trillion, with RMB 32.57 trillion added in the year, an increase of 10.6%.On the domestic front[1], commercial banks in China are closely linked to the national economy and have developed together, especially in the direction of credit investment in agriculture, general welfare and environmental protection related sector, which has contributed to the

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development of the national economy, playing an important role in economic development and industrial support. Domestically, banks act as a tool for capital allocation mechanisms, providing financing channels for individuals and groups; as a financial service intermediary, providing payment systems for transactions; and as a macro-financial regulatory tool, implementing the central bank's fiscal and monetary policies. The banking sector's growing international influence and the increased visibility of its impact on global financial markets underscore the need for robust regulatory frameworks. The Basel Accords, starting with Basel I in 1988, established international banking supervision centered on capital adequacy to mitigate operational risks and prevent systemic risks resulting from capital chain disruptions. Basel II in 2004 and Basel III in 2010 evolved these regulations, introducing comprehensive risk management structures and addressing leverage and liquidity among other factors [2]. China, joining the Basel Committee in 2009, aligned with these global standards, with the CBIRC enacting trial measures in 2012 and adopting Basel III by 2017, highlighting a global shift towards enhanced risk governance post-financial crisis [3][4][5]. Basel III reforms, effective from January 2023, aim to reshape risk management and guide banks' strategic orientation internationally. In 2023, China's financial supervisory authority announced new measures to refine capital supervision, enhancing risk measurement granularity and aligning banks with the real economy's needs. This initiative is a step towards implementing the "China Version of the Basel Accord." The 'Measures for Administration of Capitals of Commercial Banks' released in November 2023 reflect a strategic evolution in China's banking capital management, showing a commitment to international standards and addressing specific market segments, such as residential real estate exposure, repurchase transactions, and support from public fund managers.

The changes in the Capital Measures generally indicate a relaxation in regulations, contributing to a stable capital adequacy ratio within the banking sector. However, challenges remain for smaller banks adapting to the new measures, highlighting the importance of careful monitoring and tailored strategies during the transition to ensure financial stability.

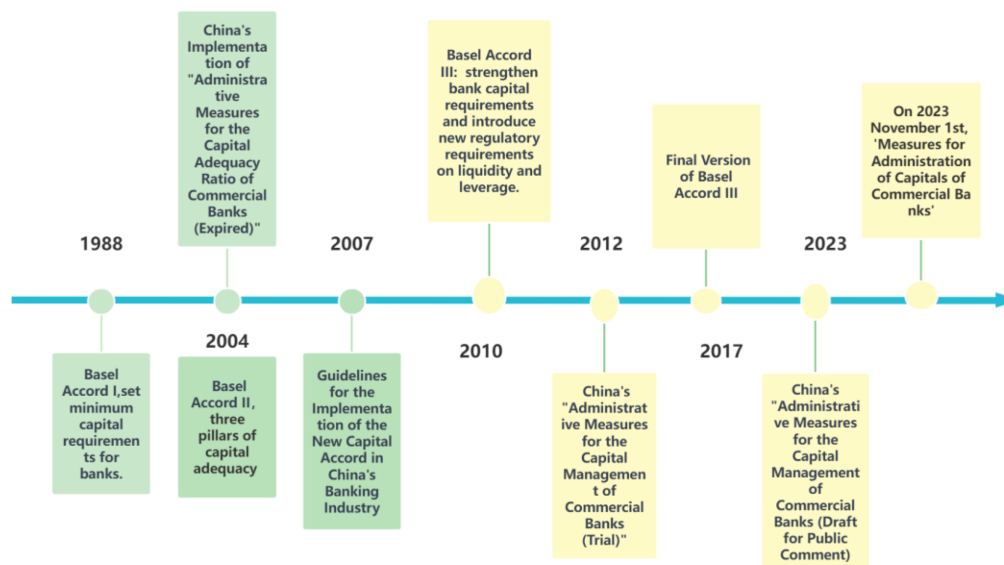

Figure 1: timeline of Basel Accord and the Chinese Banking Industry's Regulatory Response.

2. Case Study and Corresponding Strategy

This section provides a detailed analysis of the impact of the new capital regulations on a Tier 1 city commercial bank, hereafter referred to as "Bank J," based on available market information. Note that due to the low disclosure rate of the total amount of on and off-balance sheet assets. which means

that the use of total asset size as a substitute in the analysis could introduce a certain level of deviation and the objective is to discuss the impact of regulations in a general sense that could be applicable to similar institutions, rather than focusing on the specifics of a single entity which may not reflect the broader market trend. The analysis focuses on the structure of Risk-Weighted Assets (RWAs) and the implications of the new rules on credit risk management.

Table 1: Classification Criteria for Commercial Banks in Capital Measure.

Tier	Criteria
First Tier	Commercial banks that meet any one of the following conditions: 1. Consolidated balance sheet size after adjustments of both on and off-balance sheet assets exceeding 500 billion yuan (inclusive) as of the end of the previous year. 2. Overseas claims and liabilities balance exceeding 30 billion yuan (inclusive) as of the end of the previous year and accounting for at least 10% (inclusive) of the total on and off-balance sheet assets after adjustments.
Second Tier	Commercial banks that meet any one of the following conditions: 1. Consolidated balance sheet size after adjustments of both on and off-balance sheet assets exceeding 100 billion yuan (inclusive) as of the end of the previous year, and not meeting the criteria for First Tier banks. 2. Consolidated balance sheet size after adjustments of both on and off-balance sheet assets is less than 100 billion yuan, but the overseas claims and liabilities balance is greater than 0.
Third Tier	Commercial banks with a consolidated balance sheet size after adjustments of both on and off-balance sheet assets less than 100 billion yuan and with zero overseas claims and liabilities as of the end of the previous year.

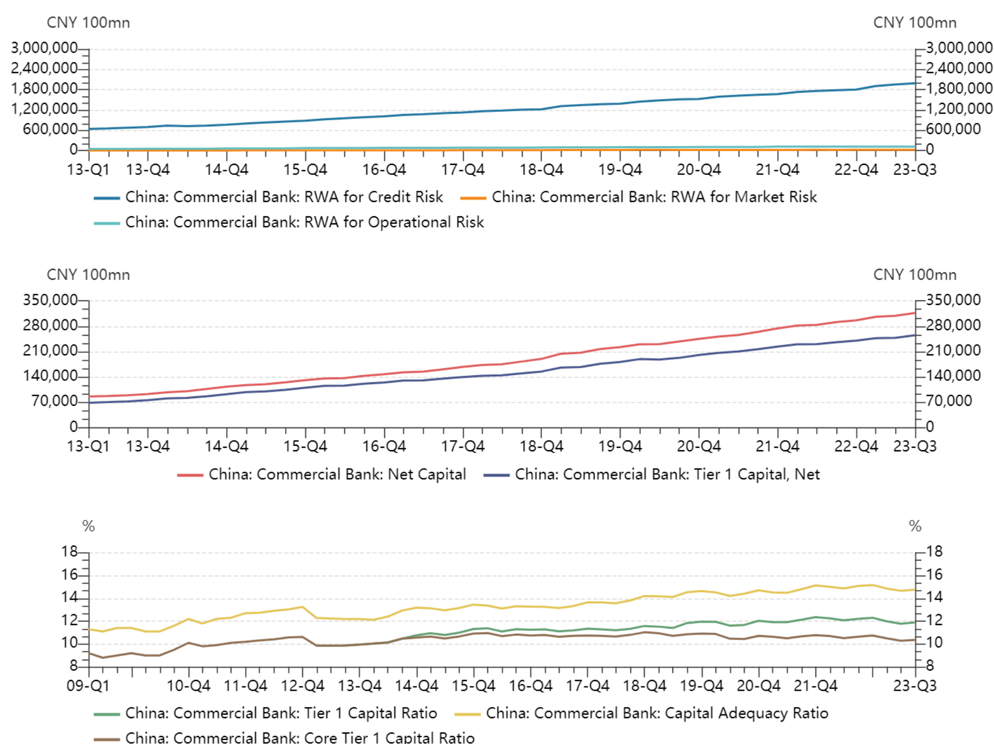

Figure 2: Major Regulatory Indicators for China Commercial Banks.

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Based on the provided data, here's a table representing the main accounting data and financial indicators for J Bank over the past three years, with values in thousands of RMB:

Table 2: Main accounting data of Bank J.

Category	**Unit: Thousand RMB**	**As of June 30, 2023**	**As of Dec 31, 2022**	**As of Dec 31, 2021**
Scale Indicators				
Total Assets		3,294,582,710	2,980,294,692	2,618,874,260
Total Liabilities		3,056,280,475	2,764,863,353	2,420,818,512
Shareholders' Equity		238,302,235	215,431,339	198,055,748
Performance Indicators				
Operating Income		38,842,871	70,570,422	63,771,353
Total Profit		22,433,659	32,628,790	26,475,857
Net Profit Attributable to Parent Company Shareholders		17,020,129	25,385,993	19,694,365
Net Profit Excluding Non-Recurring Gains and Losses Attributable to Parent Company Shareholders		16,686,784	24,957,456	19,294,182
Capital Indicators				
Net Capital Amount		282,024,224	255,236,331	236,445,596
Core Tier 1 Capital Net Amount		195,264,777	171,772,399	155,111,387
Additional Tier 1 Capital		40,565,603	40,456,447	40,364,388
Tier 2 Capital		46,193,844	43,007,485	40,969,821
Risk-Weighted Assets		2,202,992,127	1,953,237,519	1,766,603,079

Structure of Risk-Weighted Assets in Bank J:

Bank J's RWA composition indicates a dominant emphasis on credit risk-weighted assets. As of June 30, 2023, credit risk-weighted assets account for approximately 66.87% of the bank's total assets, exhibiting a slight decrease from 67.46% in 2021. This reduction, while not as pronounced as stated earlier, still suggests a downward trend in the proportion of credit risk-weighted assets. In contrast, market risk-weighted assets, which now constitute less than 1% of Bank J's total RWAs, indicate a minimal exposure to market volatility. This observation aligns with the general trend in the banking sector, where credit risk often overshadows market risk, particularly for banks focusing on traditional lending activities. Operational risk-weighted assets, maintaining stability at around 5%, signify a consistent approach to operational risk management. This steadiness demonstrates that while Bank J's primary focus is on credit risk, it has also maintained a vigilant stance on operational risk, which is crucial for overall risk management efficacy. The combination of these elements portrays Bank J as a bank with a strong focus on credit lending activities. The concentration in credit risk-weighted assets, although decreasing, still makes the bank highly responsive to changes in credit market conditions and new capital regulations. This responsiveness necessitates strategic adjustments in risk management practices to align with evolving regulatory requirements. The bank's ability to adapt to

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such changes will be vital in maintaining its financial health and stability, especially under the enhanced regulatory landscape shaped by the Basel III accord.

Corporate Lending Business:

The significant portion of Bank J's total assets in credit risk-weighted assets, predominantly influenced by its corporate lending activities, underscores the bank's substantial involvement with local government investment platforms, state-owned enterprises, and small and medium-sized enterprises (SMEs). The adjustment in capital regulations necessitates Bank J to enhance its credit qualification management, particularly for SMEs and micro-enterprises. The data indicates a need for heightened due diligence to align with risk-weight criteria under the new regulations. This strategic shift could lead to a more rigorous assessment of corporate borrowers, ensuring compliance with heightened regulatory standards while potentially enhancing the quality of the bank's credit portfolio.

Retail Lending Business:

With a downward trend in credit risk-weighted assets and an emphasis on corporate lending, Bank J's retail lending business, including its credit card segment, is likely to undergo significant recalibration. The reduced risk weight for personal revolving credit exposures will compel the bank to implement stringent customer admission standards. This strategic adjustment will not only adhere to the new capital norms but also potentially improve the risk profile of its retail portfolio, thereby balancing capital conservation with customer service quality.

Investment Business:

In light of the recent regulatory changes, Bank J's investment strategy, particularly in the non-standard investment category, is expected to evolve. Given the bank's historical trend towards standardizing its bond investments and the new nuanced risk weights for different bond types, Bank J is likely to favor investments in low capital consumption assets like local government bonds. This shift will help the bank in managing its capital more efficiently, reducing the risk of high capital consumption, and maintaining a balance between investment returns and regulatory compliance.

Overall Impact:

The new capital regulations, as indicated by the financial data, will significantly impact Bank J's corporate and retail lending practices as well as its investment strategies. The bank will need to make strategic adjustments across these areas to comply with the new rules. These adjustments include strengthening credit risk management, enhancing customer qualification processes, and recalibrating investment strategies. The ultimate goal for Bank J would be to maintain compliance with the regulatory framework while ensuring sustainable business growth and capital conservation.

3. Impact On China's Banking Industry and Corresponding Suggestions

Although the reinforcement of the "Capital Management of Commercial Banks" regulations presents positive outcomes for stabilizing financial markets, such as elevating the net stable funding ratio to enhance the profitability of banking assets, the comprehensive and stringent nature of these regulations cannot be overlooked for their potential adverse impact on the Chinese banking industry.

Market Liquidity and Capital Availability: The heightened regulatory capital requirements may constrain the liquidity in the market. The "Capital Management of Commercial Banks" regulations have escalated the capital requisites for commercial banks. The amplification in regulatory capital, which includes a minimum risk weight of 4.5% for common equity Tier 1 capital and a 2.5% capital conservation buffer, could result in a tightening of credit. This may exert macroeconomic pressure, leading to a relative contraction of both the Chinese banking industry and the real economy. Thus, a robust response from both the banking industry and macroeconomic regulatory bodies is imperative.

Profit Management Capabilities: The regulations place enhanced demands on the profit management capabilities of commercial banks. As the scope for new capital issuance recedes, retained earnings have emerged as a crucial source of bank capital. Without increasing financing costs

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for the real economy, fortifying cost management to establish a stable internal capital supplement mechanism becomes essential for the future development of Chinese commercial banks.

Stringent Liquidity Management: The regulations necessitate more rigorous liquidity management, especially for small and medium-sized banks. Asset and liability maturity mismatches pose significant liquidity risks in fluctuating interest rate scenarios.

Elevated Risk Management Requirements: The "Capital Management of Commercial Banks" regulations, coupled with technological advancements, present formidable challenges in a tightening economic environment. This includes heightened requirements for comprehensive risk identification, management levels, and control technology.

Proposed Countermeasures:

As the Chinese commercial banking sector becomes increasingly market-oriented, internationalized, and diversified, it should progressively enhance its adherence to the "Capital Management of Commercial Banks" regulations. This includes focusing on credit, market, operational, and liquidity risks, improving comprehensive risk management capabilities across all business processes, and continually augmenting the core competitiveness of commercial banks.

Facilitate a benign economic and financial cycle development environment. Stable profit margins assist banks in bridging capital gaps. The banking industry should adhere to policies that prevent detachment from the real economy, foster beneficial economic and financial development, and maintain a reasonable financial leverage ratio.

Continually refine and adjust the prudential framework. Strengthening banks' risk management capabilities is key to maintaining financial stability. The Chinese government and banks should perpetually refine prudential rules to meet higher solvency standards, bolster banks' risk resilience, and focus on regulatory rules that ensure adequate capital and liquidity buffers for potential risks.

Enhance the level of capital adequacy supplementation and management. In compliance with the "Capital Management of Commercial Banks" regulations, continuously upgrade the risk management system and capital management methods. Maximize stakeholder interests by optimizing capital measurement, improving capital return rates, and supplementing capital through various channels.

Prioritize liquidity risk management. Effectively manage liquidity positions, optimize idle asset disposal, strengthen the liquidity risk warning mechanism, and diversify asset-liability management to mitigate liquidity risk exposure.

4. Conclusions and Reflections on the Evolution of Basel Accord and its Chinese Version

Here, we offer some macro-level reflections and scrutiny on the final version of Basel III, as well as draw conclusions and summarize based on the evolution of the entire Basel series of agreements.

1. The process of refinement of the Basel series has in fact been an upward spiral process, with a constant balance between the refined design of the methodological framework and the practical and pragmatic direction. On the one hand, this is due to the dynamic business needs of the commercial banking industry and the related iterations of measurement and computer technology. On the other hand, it is also closely linked to the general economic cycle and to the specific segmental flows of bank credit facilities. We have seen that each adjustment and upgrade of the Basel Accord is closely linked to a crisis in the financial sector, and the ability to capture potential risk points in the macro-economy and micro-markets in advance is key to our ability to better capture the relevant Accord reform ideas. It also provides a strong background and theoretical support for the Basel Accord to be better implemented to serve the Chinese banking supervision.For example, the People's Bank of China can establish a high-frequency data warning function module based on internal objective data indicators, based on the inflow of bank credit funds to different industry sectors, to improve the ability to capture risks, to detect risk points in advance, and to make timely adjustments to regulatory indicators.

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2. The macro-prudential framework introduced in the final version of Basel III provides a meaningful framework for regulatory thinking, taking into account that the procyclical nature of financial institutions, as revealed by the previous economic crisis, may exacerbate the magnitude of risk volatility. Capital requirements and additional capital requirements for systemically important banks. Considering the industry and development model of the Chinese banking industry, the negative externalities of the relevant state-owned banks in specific business directions are significantly different from those of foreign banks. It is suggested here that in order to refine the capital adequacy calculation process, a refined risk-based capital measurement based on the standard method should be conducted for the nine major business lines of banks on a comparable basis, and the relevant ratios should be obtained as a safety threshold in a stress test scenario.

3. Throughout the development of the Basel series, the weight method has always played an important role. With the introduction of the IRB (Internal Ratings Board) method and the gradual roll-out of the Advanced Approach, the scope of application of the weight method was once widely debated, although the general direction of our regulation encouraged the introduction of the Advanced Approach. However, we need to see that there are differences in the acceptance of the advanced method of risk measurement for risk managers at different levels of the bank, and in addition there are several alternative risk measurement methods for each risk, which also makes banks have the moral hazard to choose the model that is most beneficial to them to reduce capital accruals, and also makes the capital adequacy ratio lack of comparability among different banks. Most importantly, there are assumptions associated with the application of different internal modelling approaches, and the satisfaction of the model assumptions under normal circumstances becomes a prerequisite for model validation when faced with extreme risk situations. Therefore, in terms of model robustness, the weighting approach appears to be more appropriate for the calculation and measurement of risky assets, and the introduction of the LTV (Loan-to-value Ratio) in the final version of Basel III instead of using the Advanced Approach to replace fixed risk weights also confirms our judgement of the merits of the Weighting Approach and the Advanced Approach in practice. The use of the advanced method instead of the weighting method also confirms our judgement as to whether the weighting method is better or worse in practice. The introduction of weights based on specific economic indicators issued by the central Bank and the introduction of macro-cyclical factors into the weighting index are possible directions for research and discussion.

4. Guidance and recommendations on enhancing model sensitivities have been referred to and implemented into the design framework in the final version of Basel III. For example, sensitivity to large bank losses has been added to the new Standardized Approach, which uses a six-step risk measurement process to enhance the sensitivity of the Standardized Approach risk calculations, considers the correlation between different financial instruments within and across different risk portfolio baskets, and reflects risk-sensitive features as far as possible based on a harmonized measurement framework. These initiatives enrich the model's adaptability to different business scenarios and sensitivity to risk, facilitate risk identification and capture, and enhance the risk coverage of the model. However, we should also note that the enhancement of the sensitivity of the model should not be limited to the single dimension of broadening the business application scenarios, and that the determination of weight thresholds for different risk-based underlying assets should be the direction in which sensitivity analysis should play a greater role. As banks and NBFCs continue to innovate in their cooperation models, new financing methods will be introduced with different business contexts, engaging in different degrees of regulatory arbitrage to reduce the capital employed in risky assets. If a subsequent improved Basel could keep a firm focus on the underlying assets and give a dynamic weight setting mechanism based on the underlying assets and exposure exposures throughout the credit process, this would undoubtedly enhance the risk coverage of the model on the one hand and reduce the redundancy of the model on the other.

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Appendix

CBIRC - China Banking and Insurance Regulatory Commission
SMEs - Small and Medium-Sized Enterprises
G-SIBs - Globally Systemically Important Banks
IRB - Internal Ratings Board
LTV - Loan-to-Value Ratio
NBFCs - Non-Banking Financial Companies

References

[1] *China Banking and Insurance Regulatory Commission. (n.d.).(2022) Total Assets and Total Liabilities of the Banking Sector (Monthly).*

[2] *Wandhöfer, R. (2014). The Journey from Basel I to Basel III: History and fundamentals explained. In R. Wandhöfer (Ed.), Transaction Banking and the Impact of Regulatory Change: Basel III and Other Challenges for the Global Economy (pp. 87–158). Palgrave Macmillan UK. https://doi.org/10.1057/9781137351777_4*

[3] *Basel Committee on Banking Supervision. (2005). The Internal Ratings-Based Approach, Supporting Document to the New Basel Capital Accord.*

[4] *Basel Committee on Banking Supervision. (2011). Basel III: Finalising postcrisis reforms.*

[5] *Cai, Z., & Wheale, P. (2007). The new capital accord and the Chinese banking industry. Journal of Banking Regulation, 8(3), 262–289. https://doi.org/10.1057/palgrave.jbr.2350049*