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Managing Banking Risks in Australian and Chinese Banking Systems:
Credit Risk Management

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Abstract

A deterioration in credit market conditions in 2007, led by the crisis in the US sub-prime mortgage market, resulted in acute balance sheet pressures, funding constraints and heightened counterparty risk concerns among major banks and financial institutions. The unfolding financial turmoil in mature economies has prompted the official and private sectors to reconsider policies, business models and risk management practices. However, under this circumstance, Industrial and Commercial Bank of China (ICBC), the largest bank by market value, China's largest bank by assets totaling RMB8.7 trillion (USD1.2trillion), accounting for 17% of China banking system assets, earned a record RMB64.5 billion (USD\$9.42billion) in the first half of this year to become the world's most profitable bank, accompanying by the continuously improved asset quality. This is attributed to the market opportunities arising from the healthy and rapid growth of China's economy, the accelerated development of its operational reforms, the rapid growth of new businesses and stringent risk management with strong technology and system supports. This paper shares information about the framework and principles for ICBC's credit risk management, in the meanwhile, provides the platform to discuss the solution to new-raised credit risk for property-related loan in China's present market by using ICBC case.

Introduction

A deterioration in credit market conditions in 2007, led by the crisis in the US sub-prime mortgage market, resulted in acute balance sheet pressures, funding constraints and heightened counterparty risk concerns among major banks and financial institutions. Regardless of its future evolution, it already threatens to become one of the defining economic moments of the 21st century. The unfolding financial turmoil in mature economies has prompted the official and private sectors to reconsider policies, business models and risk management practices.

While financial institutions have faced difficulties for a multitude of reasons, the major cause of serious banking problems continues to be directly related to lax credit standards

for borrowers and counterparties, poor portfolio risk management, or a lack of attention to changes in economic or other circumstances that can lead to a deterioration in the credit standing of a bank's counterparties. All above causes remind us of how to manage credit risk effectively.

1. Research and Understanding

Credit risk is most simply defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. The goal of credit risk management is to maximize a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Banks should also consider the relationships between credit risk and other risks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization.

For most banks, loans are the largest and most obvious source of credit risk; however, other sources of credit risk exist throughout the activities of a bank, including in the banking book and in the trading book, and both on and off the balance sheet. Banks are increasingly facing credit risk (or counterparty risk) in various financial instruments other than loans, including acceptances, inter-bank transactions, trade financing, foreign exchange transactions, financial futures, swaps, bonds, equities, options, and in the extension of commitments and guarantees, and the settlement of transactions, and credit risk transfer.

Since exposure to credit risk continues to be the leading source of problems in banks world-wide, banks and their supervisors should be able to draw useful lessons from past experiences. Banks should now have a keen awareness of the need to identify, measure, monitor and control credit risk as well as to determine that they hold adequate capital against these risks and that they are adequately compensated for risks incurred.

2. ICBC's Credit Risk Management

Credit risk is one of the main risks ICBC concentrates on. ICBC has established a centralized, independent and vertical credit risk management framework. In this structure, we have separated the front, middle and back offices, to separate business risk management and functional risk management, to focus on customer's credit risk control, to develop an updated and bank-wide risk management framework. In particular, the Bank has further accelerated the implementation of the New Basel Capital Accord and has already met the requirements for the foundation internal rating-based approach.

The main risk management techniques and approaches have carried out by ICBC are achieved below:

- a. ICBC has made a good start working towards the implementation of the New Basel Capital Accord by the end of year 2010 and has already met the requirements for the foundation internal rating-based approach. The bank utilizes IRB to determine internal capital allocation, pricing of credits and profitability of transactions and relationships. From August 2007, the bank has begun to utilize its non-retail internal Rating-Based (IRB) system, and it is also in the process of transitioning

into the advanced asset management system. It also accelerated the implementation of the internal rating-based approach for retail business.

- b. ICBC sets risk management goals based on its overall development strategy and its risk appetite. Core management is centralized control and credit risk avoidance. HO Credit Management Dept is responsible for ICBC's credit risk management, for setting up a uniform credit policy covering industry, region, customer and product, based on the bank's business strategy and for improving the structure of credit portfolio.
- c. Based on improved corporate governance, ICBC designs the delegated authorization system covering all business lines and branches. Different regional branches are delegated with different authorities mainly based on the category of regional rating, customer credit rating, obligator risk level, tenor of financing, industry and different currency etc. Branches with the same category have similar delegated authorities.
- d. Under the credit risk management framework, ICBC designs a standard credit management process throughout the Bank. The principles and processes of risk management focus on the entire process of credit business which covers customer investigation, loan evaluation, loan review and approval, loan payment and post-lending monitoring. Internal credit management models, which includes credit rating, credit line setting, loan classification and capital allocation are bank-wide measures utilized throughout the whole process. Furthermore, special organization is established to supervise the entire process of the credit business.
- e. Customer credit rating is the main component of the internal rating based system. Based on the principles of Basel \square , ICBC has established and continues to improve 12-category customer rating system. This system takes quantitative and qualitative indicators including solvency, competitiveness, managerial level, prospects etc. Its customer rating system considers various risks from industry, regions and different asset scales. There are utilized as adjustment indicators to the scores calculated by the internal model.
- f. Uniform customer credit line granting is an important measure to establish exposure limits on single counterparties, customer and groups of connected counterparties. These limits are based in part on the internal risk rating assigned to the borrower or counterparty, with counterparties assigned better risk ratings having potentially higher limits. The limit granted by ICBC to each customer covers bank-wide products including loans, acceptances, bonds, trade financing, foreign exchange transactions, financial futures, swaps, bonds, equities, options, and in the extension of commitments and guarantees. The individual transaction will be allocated within the credit line based on different risk indicators such as facility type, security type and tenor of financing.
- g. ICBC has established a strict post-lending management system comprising both post-lending administration and post-lending monitoring. Post-lending administration is a critical element in maintaining the safety and soundness of a bank. Through the effective analysis and review system towards the clients' repayment capacity, ICBC has set up an early warning system to identify and control the potential credit risk at the initial stage. Moreover, ICBC continues to

develop a 12-grade loan classification which has greatly upgraded the level of the credit risk management. Post-lending monitoring is conducted by H.O to supervise the implementation of standard credit policies and procedures through the whole bank. H.O monitors the branch's performance on a timely basis through a set of information management systems, and through regular on-site inspection regulation.

- h. ICBC has established a management system to identify ID, to set up credit limits and to manage its connected counterparties. Credit limit is a ceiling to the whole group and connected company. Under this ceiling, sub-limit are allocated to different affiliated clients. The bank utilizes the advanced information system to set up cross-default warning program, which enables it to give early warnings on the whole group if one of the member companies defaults. under the agreement. This allows the bank will take action immediately to prevent further credit risk.
- i. Information systems are an essential element in today's credit risk management framework. Core business management and processing systems included with comprehensive banking system (NOVA). The CM2002 System, which is the main credit management system, provides the bank with a comprehensive internal risk control management network. Its functions vary from data collection, business processing, management control and decision support, and its network covers all ICBC branches with a monthly data processing amount of 3,600,000 equivalents to 3,000,000,000,000 RMB Yuan. PCM2003 System is a management system especially designed for personal credit management, and has unified both the operation and monitoring of the branch's personal credit business. This system had business operations, centralized management of loan distribution, and the prevention of credit risk. This has established a good foundation for the healthy development of the branch's credit business.

As at end year 2007, ICBC's NPLs and NPL ratio fell further to RMB111.8 billion and 2.74% respectively, from RMB137.7 billion and 3.79% at end-2006. ICBC has made adequate allowance for its current level of NPLs. The ratio of year-end allowance for impairment losses to NPL has increased to 103.5% in 2007, compared to 70.6% and 54.2% in 2006 and in 2005, respectively. The bank has not been significantly affected by the US sub-prime crisis. As at end-year 2007, the bank held US sub-prime residential mortgage-backed securities of USD 1226 million in terms of face value, all of which were first-lien mortgage-backed securities with credit rating of AA- and above. Furthermore, the capital allocation has been standardized and capital cost effectiveness has been further enhanced, thereby enabling the bank to maintain capital adequacy ratio and core capital adequacy ratio at a relatively high level of 13.09% and 10.99% respectively. The above reflects ICBC's internal strengthened risk management and prudent loan growth strategy.

3. Discussion of New Considerations on Credit Risk Management in China

Though the financial market turmoil following the collapse of the sub-prime mortgage market is expected to have very little negative impact on Chinese banks, China's slightly slower macroeconomic development and the rise in the headline CPI has prompted policy tightening create uncertainty regarding China's strong macroeconomic performance. As to the financial sector, real estate loans are an area of caution. Rapidly rising property prices, driven by strong growth and high liquidity in the financial system,

could lead to a real estate bubble that, if it were to burst, could result in significant earnings and asset quality deterioration for banks with large exposure to this sector. ICBC, as one of the main participants in this market, has taken full consideration of these issues, and taken into action to manage credit risk from the very beginning stage.

In order to avoid potential credit loss in the real estate lending area, ICBC has implemented the following risk management strategies.

- a. From 2004, ICBC has begun to set up an overall limits on the bank's total risk exposures to property-related loans. The Bank has also set credit limits for each property-related business line including land reserve lending, property development loans and commercial mortgage loans.
- b. As to property development, ICBC only provides real estate loans customers with large scale, rich experience, good record and good reputation, and the minimum equity to loan ratio is 35%. As to residential mortgage loan, it requires a fully-secured mortgage before lending, the max loan to value ratio is 70%.
- c. Generally each borrower is required to open a special account with ICBC, through which all lent fund can be drawn only for specific purposes under ICBC's supervision. The loan repayment ratio should be match to the sales ratio of the property.
- d. A key risk that banks have historically faced in the residential mortgage market is the prevalence of mortgages obtained under false pretenses. In order to avoid this risk, ICBC has established strong investigation and the on-spot inspection system, including borrower confirmation by telephone or visit, double-check rules through the whole process of lending.
- e. The Bank has established and continues to improve the information system and analytical techniques for residential mortgage loan management, enhanced the personal credit management system (PCM2003) and the established credit business processes based on local management and performed timely revaluations according to system reminders.

4. ICBC Sydney

ICBC Sydney was granted its banking license in May 2008. Being one of ICBC's overseas branches, we've established a comprehensive risk management framework in accordance with ICBC risk appetite and strategies and the Australian banking regulations.

The main characteristics of the Branch's credit risk management framework are as below:

- a. Under the framework of enterprise-wide risk management (ERM), ICBC Sydney has established a centralized, vertical and independent risk management function structure; with three clear separate reporting lines including risk control, compliance and internal auditing. Risk management is the overall function of the middle office which takes full responsibility to manage credit and related risks including market risk, liquidity risk and operational risk. Compliance, an

independent function directly reporting to the General Manager, monitors all business lines in accordance with local banking regulations and branch's internal policies. An internal auditor is assigned by H.O independently monitor the compliance of overall departments in accordance with ICBC group's policies and procedures.

- b. ICBC Sydney utilizes mature model and approaches to control comprehensive risks. As to credit risk, we have transplanted matured tools from H.O which include a credit rating model, credit line calculation, risk-based credit pricing model and 12-grade loan classification etc, to enhance and strengthen risk control at the branch level. As to market risk, the branch has built risk limits system covering all treasury products. As to operation risk, besides the main seven risk categories based on Basel \square , the branch's operational risk management also covers legal risk and reputation risk. Moreover, we have also implemented an Operation Risk Register to record the likelihood and Severity of each main risks, and to identify key risk indicators.
- c. The use of Information system is also one of core approaches to enhance the branch's risk management. Besides account-posting system (MIDAS), ICBC Sydney has developed Credit Management System (CM2002) which has bank-wide utilization within the ICBC group to identify measure, control and manage credit risk in accordance with ICBC risk appetite and internal standard criteria.