

# How to Respond to Liquidity Risks of Commercial Banks

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On May 23, 2018, the China Banking and Insurance Regulatory Commission officially released the Guideline on Liquidity Risk Management of Commercial Banks, put into force on July 1, 2018, with the aim of enhancing liquidity risk management of commercial banks and ensuring their secure and steady functioning.

The fundamental feature that distinguishes commercial banks from other financial institutions is that they provide loans through taking deposits and align funding supply with demand by resorting to leverage and maturity transformation, which makes them inherently likely to have liquidity risks. Once they occur, commercial banks, the entire financial system, and even the whole economy, would be severely destructed.

The global financial crisis that broke out in 2008 plunged the international banking system into the predicament of liquidity squeeze, wreaking havoc on both the international financial market and the global economy. This is another indication that it's imperative for commercial banks to constantly maintain effective management of liquidity risks, which, if not well managed due to negligence, would probably become disastrous. And that is why enhancing regulation on liquidity risks of financial institutions became an important part of international regulation reforms following the subprime mortgage crisis.

The cash crunch in June 2013 exposed the liquidity risks lurking in China's banking sector. The interbank market witnessed several rounds of drastic fluctuations in 2015 and 2018. And in May 2019, Baoshang Bank was taken over, which not only caused volatility for a short while but contributed to market liquidity stratification, resulting in significantly heightened liquidity risks confronting small and medium-sized banks and non-bank financial institutions. On the whole, it has become increasingly obvious that liquidity risks in China's banking sector have been on a long-term structural trend and become a major source of risks to the banking sector in recent years, necessitating more in-depth research and systematic responses.

## **1. Liquidity Risks of Banks**

In 1992, the Basel Committee defined liquidity as “the ability to ensure banks liquidate their matured debts.” The definition was changed by the Committee to “the ability of a bank to fund increases in assets and meet obligations as they come due” in the Sound Practices for Managing Liquidity in Banking Organizations, a document released in 2000 as an alternative to the one in 1992.

The financial regulatory authority of the United States, the Office of Thrift Supervision (OTS), offered three definitions of liquidity in the Liquidity Risk Management and Investment Securities released in 2010: 1) the ability to fund assets and meet obligations as they come due; 2) the amount an association holds in cash and other assets that are quickly convertible into cash without significant loss; 3) and an association’s capacity to meet its financial obligations and commitments at reasonable or acceptable costs. The OTS pointed out at the end that the essence of liquidity is having cash when you need it regardless of any definitions.

In the Commercial Bank Examination Manual released by the Federal Reserve System in 2010, liquidity was defined as “a financial institution’s capacity to meet its cash and collateral obligations without incurring unacceptable losses... To ensure it has adequate liquidity, an institution must balance the costs and benefits of liquidity: Too little liquidity can expose an institution to an array of significant negative repercussions arising from its inability to meet contractual obligations. Conversely, too much liquidity can entail substantial opportunity costs and have a negative impact on the firm’s profitability.”

And in the Guideline on Liquidity Risk Management of Commercial Banks issued in 2018, the China Banking and Insurance Regulatory Commission defined liquidity risk as “the risk of the inability of a commercial bank to duly acquire adequate funds at a reasonable cost to repay debts at maturity, meet other payment obligations, and provide other funding required for its operations.”

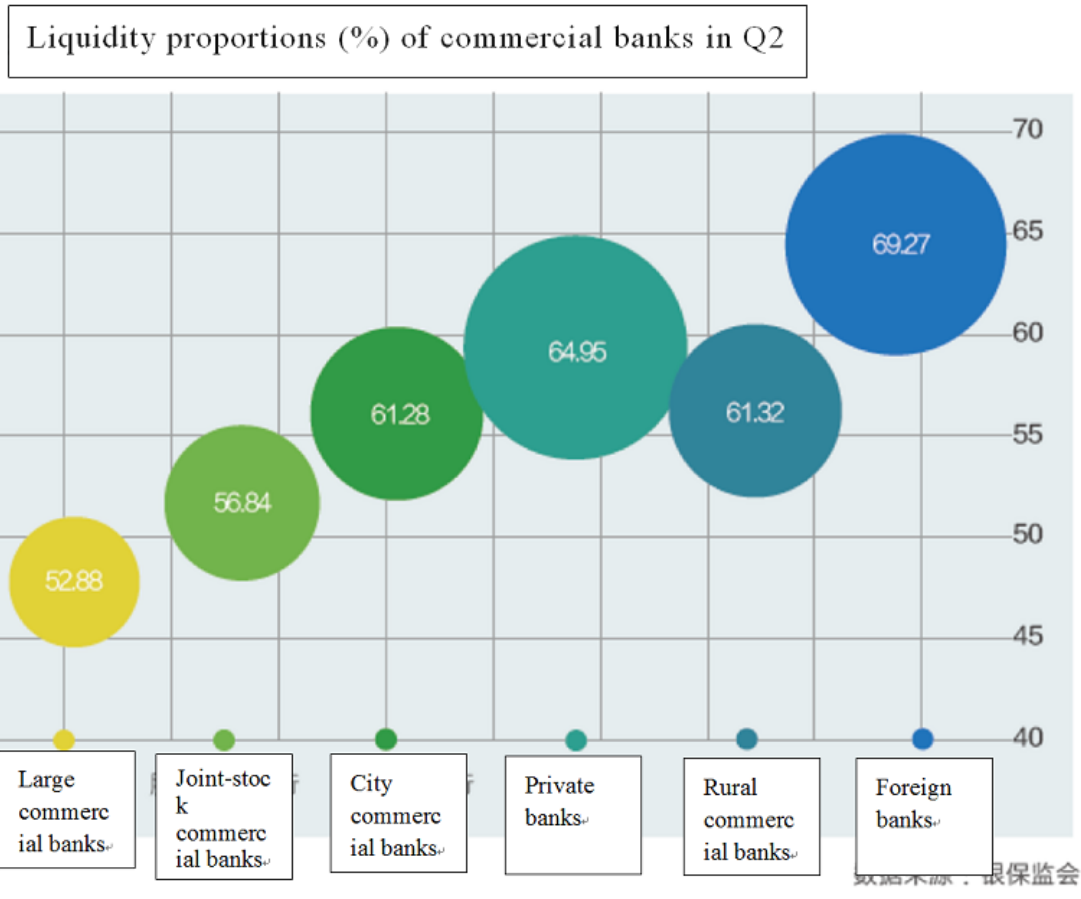


Figure 1: Liquidity Proportions (%) of Commercial Banks in Q2 2019

Source: China Banking and Insurance Regulatory Commission

It can be seen from the various definitions above that liquidity includes three elements albeit with different highlights in each definition. First and foremost, time. What liquidity focuses on or reflects is not the long-term solvency of banks but the ability to liquidate in specific time. If a bank cannot undertake liquidation of matured debts or deliver on its cash pledges at specific time, liquidity risks would still occur regardless of how sound its balance sheet is. Second, cost. Liquidity should be measured by whether costs are reasonable or acceptable. In this sense, overemphasis on maintaining short-term ability to liquidate without taking into account asset profitability cannot be regarded as sound liquidity management. Third, quantity. Sound liquidity means the overall amount of cash or other assets acquired by banks at certain time should be enough in quantity to cover debt repayable at maturity.

In practice, it's necessary to differentiate liquidity risks of a bank from its solvency risk and consider their connections. Solvency risk refers to the risk of a bank that has lost the ability to make repayments, which means the present value of its assets cannot be used to repay all its liabilities. It bears some resemblance to liquidity risks. When liquidity risks bring a bank to liquidity crisis that finally leads to its bankruptcy, the bank would become unable to afford repayment of all its liabilities and would go bankrupt. But the two have significant differences. According to the Basel Committee, liquidity risk means “(a bank is) unable to raise enough funds at reasonable prices to meet its obligation and funding demands of customers.” In other words, a bank may be overcharged when raising funds, but it's likely to survive the crisis that would not necessarily result in bankruptcy and liquidation. And even if it does, the liquidity shortage would only exist for a while. But once it's lost solvency, it would be lost forever.



Generally, a solvent bank can lose liquidity too, but inadequate liquidity may not necessarily deprive it of solvency. Under certain circumstances, however, insufficient control over liquidity risks would make a temporary difficult payment problem a perpetual one, which means liquidity risks may eventually be translated into solvency risks. As the origins of liquidity and solvency risks indicate, the former is mostly attributed to problematic management of banks, but the latter may very well originate

from failed management, and possibly from external events, such as rumor-mongering and credit downgrade.

## **2. Causes of Liquidity Risks in China's Banking Sector**

The complexity of bank liquidity lies in not only the difficulty in its definition but its broad range that makes it vulnerable to many factors. From a practical perspective, the factors influencing bank liquidity can be by and large categorized into internal, monetary policy and macroeconomic ones.

Internal factors are seen from a relatively micro perspective as they are more focused on the development and management of the business operations of a bank. Hence, the liquidity of a bank is largely determined by its assets, liability structure, off-balance-sheet development, and liability management, etc. In general, the patterns of liquidity risks of a bank can be very different under different business models. Also, the transformation of other risks should also be taken into account when bank liquidity is viewed from a micro angle. In practice, most liquidity crises are caused by other risks (such as credit risk, operational risk, or reputational risk), a reflection of the failure of a bank's comprehensive management.

Monetary policy factors are seen from a relatively macro perspective as they are more about the monetary base supply system and the impact of monetary policy operations on bank liquidity. In terms of interbank transactions, the funding that can be used for liquidation and use is not the kind of currency that we used to know (such as the M1 or M2), but is limited to the liability of a central bank (i.e. currency base). In this sense, the most important and immediate factor influencing the liquidity conditions of the banking sector as a whole would undoubtedly be the monetary base supply system of the central bank and its monetary policy operations.

Macroeconomic conditions are the factors that also need to be considered on top of the aforementioned factors. For example, economic growth rate would have a direct impact on the demand for credit funds from banks, and inflation expectation may affect the source and stability of savings in a bank, both of which are likely to exert indirect impact upon bank liquidity.

The liquidity risks of China's banking sector have become increasingly pronounced since 2013, a result of the aforementioned factors jointly at play.

## **2.1 Internal Factors**

From the perspective of internal management of the banking sector, heightened liquidity risks can be explained in the following aspects.

First, disorderly development of the shadow banking business. After the outbreak of the US subprime mortgage crisis, China's shadow banking sector was rapidly expanding as a result of the liquidity release and the room for financial regulation arbitrage in the context of a loose monetary policy. China's shadow banking system is run by a basic logic: Commercial banks circumvent traditional depository and lending business and make business innovations with other on-balance-sheet and off-balance-sheet items, and cooperate with nonbank financial institutions to expand credit. Shadow banking business can skirt regulatory constraints such as that of the capital adequacy ratio and increase profit margin which helps make up for profit squeeze as a result of narrowed spread between lending and deposit rates, which means profit-driven tendency and regulation evasion are the major driving forces for the evolution of China's shadow banking system.

In terms of business models, the shadow banking system was just sprouting from 2008 to 2013, with the "wealth management products - channel business - nonstandard assets" as its major business model. With the release of the Notice on Issues Concerning Standardizing Investment Operations of Wealth Management Business of Commercial Banks (CBRC Document No.8), the business of using WMP funds to invest in nonstandard assets was strictly regulated, and China's shadow banking system changed its major business model from channel to interbank model. As the shadow banking system continued to develop from 2013 to 2016, "interbank business - outsourcing investment - bonds and other standard assets" became its dominant business model. As business innovations such as interbank deposit receipts and interbank wealth management emerged, nonstandard assets are expanded to include purchases for resale and accounts receivable investment. In the meantime, both the scope and structure of the balance sheet of commercial banks underwent significant changes.

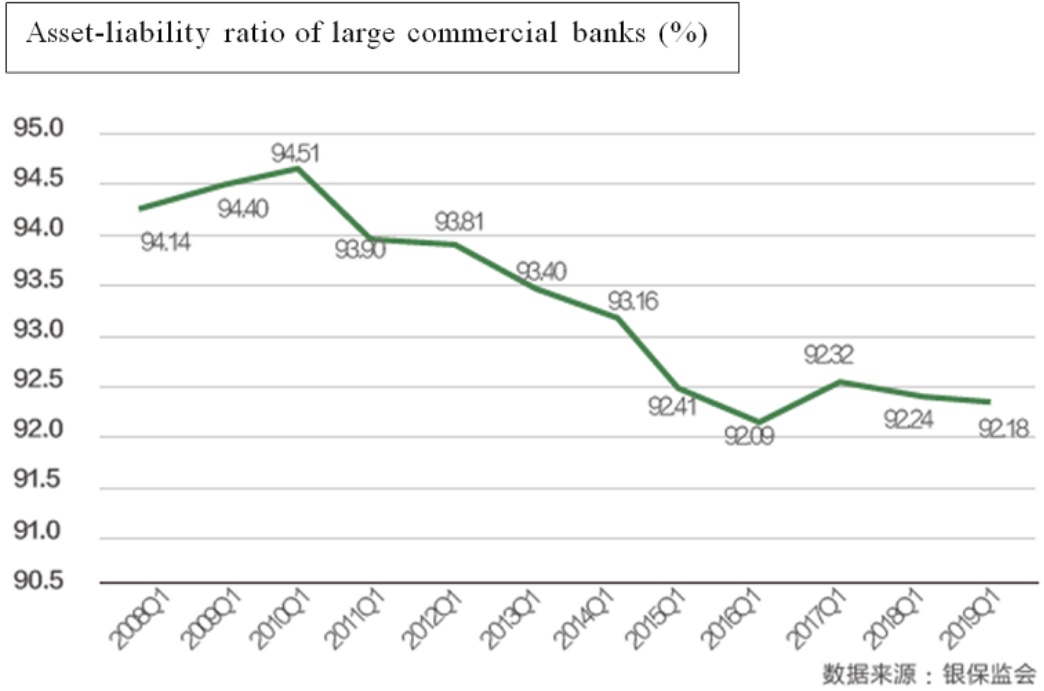


Figure 2: Asset-Liability Ratio of Large Commercial Banks (%)  
 Source: China Banking and Insurance Regulatory Commission

The assets of commercial banks are mostly those with longer durations and higher risks, such as nonstandard assets and bonds, while their liabilities are largely WMPs and interbank liabilities with shorter durations, which requires constant rollover to make up for maturity mismatch. Once there is a liquidity squeeze in the short term, it's easy to trigger liquidity risks. And as the shadow banking system is highly interconnected in terms of business and markets and closely related to traditional commercial banks and the financial market, the risks of the shadow banking system can be transferred among different financial players, entailing market overreaction.

Second, conversion of other management risks. In reality, many liquidity risks are caused by other risk events (such as credit risks, operational risks, or reputational risks). Events of institutional liquidity risks as a result of operational and reputational risks did occur in China's banking sector, but were not universal. Most liquidity risks are the reflection of credit risks in banks' liquidity. With the impact on the reputation of a bank put aside, credit risk means the loss of a bank's asset liquidity. The higher the credit risk, the worse the liquidity of assets. Under these circumstances, liquidity risks would still occur if the total liability quantity cannot maintain sustained growth to meet the demand of original debtors, even if the liability structure of a bank is

relatively rational. To institutions with higher credit risks, sustaining the growth of deposits is the key to alleviating liquidity risks. Once it's not sustained, other types of funding (such as interbank funding) would be required.

It can be seen from the practice that higher interbank liability of some small and medium-sized banks may not be the result of proactive endeavors for scale expansion but a passive tactic employed due to higher credit risks. Of course, heightened credit risks are not completely attributed to the management of the banking sector, but hinge more upon the cycle of macroeconomic operations.

## **2.2 Monetary Policy and Regulation Factors**

In the modern financial system, monetary policy is the most important factor in determining the liquidity of the financial market. The liquidity of banks has been influenced by monetary policy in two aspects since the subprime mortgage crisis: the adjustment of the monetary base supply system, and macro control and enhanced regulation.

From the perspective of the monetary base supply system, funds outstanding for foreign exchange play the most important role in affecting the overall liquidity of China's banking system. The reason is that the continued inflow of foreign capital led to substantial supply of monetary base under the compulsory foreign exchange settlement and sales system and overall liquidity still saw significant increase in spite of multiple measures (e.g. issuing Central Bank Bills, and raising the statutory deposit reserve ratio) employed by the central bank to hedge, paving the way for the rapid expansion of banks since the start of this century. Foreign capital has started to flow in other directions since 2015, with the foreign exchange reserve continually slipping from the peak. Although the central bank responded by lowering the statutory deposit reserve ratio, the policy was not strong enough to contain the fall of the foreign exchange reserve, resulting in a gradual squeeze of liquidity in the banking sector. But maybe the central bank did it just to use such partial hedging efforts to squeeze the liquidity of the banking sector, with the aim of constraining its credit expansion.

In general, the monetary base supply system dominated by funds outstanding for foreign exchange, and its adjustments made in recent years, have far-reaching impact upon the liquidity of the entire banking system. As the monetary base supply system adjusted itself, funds outstanding for foreign exchange exerted gradually diminished



influences on the liquidity of the banking system, and various instruments created by the central bank to regulate liquidity started to play an increasingly bigger role.

From the perspective of macro control and enhanced regulation, with rapid development of the financial market, macro regulation policies and enhanced regulation have had increasingly greater impact on the liquidity of the banking system. The cash crunch in 2013, the bond market fluctuations in 2016, and higher cost of interbank liability in 2017, were all largely related to the policies of the central bank to implement macro control and squeeze market liquidity, which attained expected results. Also, regulatory rules would affect the liquidity of the banking system. For example, indicator-based regulatory evaluation can easily cause liquidity volatility at the end of a season or a year, while the introduction of new regulatory rules, such as new regulations on asset management, macro prudential assessment, and liquidity regulation, would also affect the liquidity of individual institutions and even the entire banking system.

### **2.3 Macroeconomic Factors**

China's economy has started to be increasingly subject to decreasing labor supply and rising costs of environmental governance since 2012 with economic growth slowing down from the average growth rate of 10% in the previous more than 30 years, which would inevitably affect the trend of the changes to the balance sheet of banks. On the part of liability, with economic restructuring and deeper reductions of overcapacity, the business sector would have less demand for funding, resulting in subdued impetus to deposit derivatives that would lead to slow bank liability growth. On the part of asset, solvency of businesses would decrease significantly as a result of falling earnings, leading to sustained exacerbation of banking assets quality. Rising non-performing loan ratio would reduce the overall liquidity of banking assets, and particularly, would put new burdens of liquidity on banks in the context of non-performing assets not exposed or disposed of in time, as banks may have to input more incremental funding to prevent risk exposure.

### **3. Improving the System for Managing Liquidity Risks of the Banking Sector**

With the financial reform going deeper and the macroeconomy undergoing adjustments, the liquidity risks of China's banking sector have started to emerge and

become the new and important source of risks, which must be followed with greater concern and effectively managed. As liquidity risks are affected by various internal and external factors and are often intertwined with other operational risks, it's not enough to effectively manage them and prevent their spill-over only by bank management. Hence, it's imperative to build a better-functioning system of managing liquidity risks.

First, optimize combination of instruments for liquidity control. Managing the liquidity of the financial system is not only an important responsibility of the central bank, but a significant approach to implementing monetary policy and maintaining stability of the financial market. Based on long-term practice, especially after the outbreak of the subprime mortgage crisis, to adapt to the development of the financial market and financial innovations, central banks around the world have developed sophisticated systems of instruments for liquidity management that include the Standing Lending Facility (SLF), the Term Auction Facility (TAF), the Term Securities Lending Facility (TSLF), and the Primary Dealer Credit Facility (PDCF) by building on traditional policy instruments.

The People's Bank of China has also made explorations in creating instruments to control liquidity. In early 2013, it presented the Short-Term Liquidity Operations (SLO) and the SLF. In 2014, it developed the Medium-Term Lending Facility (MLF) and the Pledged Supplementary Lending (PSL). In 2018, the Targeted Medium-Term Lending Facility (TMLF) and the Credit Risk Mitigation Warrant (CRMW) were introduced to support financing for private small and micro businesses and to optimize their lending structure. The CRMW was aimed at offering credit support for private businesses to issue bonds, which was used to provide credit enhancement for Bank of Jinzhou to issue interbank deposits in 2019 as an instrument to control and improve liquidity of banks.

The past few years have seen a sophisticated system of instruments for liquidity control put in place by the People's Bank of China with different durations, subjects, and uses and with an equal focus on both total quantity and structure, which has met the demand for financial development, increased the effectiveness of monetary policy, and maintained stable operations of the financial system. New targeted instruments will be added based on the trend of liquidity risks and differentiations among

institutions, with a view to moderately releasing risks, improving the efficiency of allocation of financial resources, and forestalling spreading and spillover of liquidity risks of individual institutions.

Second, seek for new monetary base supply systems and optimize liquidity supply structure. With China's economic restructuring going deeper, current account surplus gradually shrinking, and capital inflow slightly slowing down, the old monetary base supply system dominated by funds outstanding for foreign exchange is now confronted with fundamental changes. Under such circumstances, it's necessary to explore a new system that fits in with China's economic and financial conditions, in order to meet the need for economic and financial development in the long term. The various range of liquidity instruments introduced by the central bank, coupled with targeted cuts to required reserve ratios, has provided liquidity in the short term. But in the long run, this pattern needs further improvement.

On one hand, although these liquidity control instruments can inject capital into the market, they play only a limited role in easing the problem of maturity mismatch in the banking sector and improving medium- and long-term liquidity due to their short durations. On the other, liquidity instruments are often costly, unfavorable for banks to reduce financing costs of the real economy. In terms of optimizing the liquidity structure, it's imperative to further lower the statutory deposit reserve ratio to a reasonable level, which can essentially improve the liquidity of the banking system and reduce financing costs of the real economy. At the same time, efforts need to be made to seek for a new system of monetary base supply in the long term to replace the old one. In this sense, it can be considered in conjunction with attempts to resolve problems of local implicit debt, which would not only increase the liquidity of bank assets but create channels to inject monetary base.

Third, improve the system of regulating liquidity risks. First of all, the shadow banking system should be checked to prevent it from overdevelopment. Specifically, liquidity risks of individual institutions should be put under control and risks be prevented from transferring across institutions and markets. Then, the system of liquidity regulation should be improved to incorporate management of liquidity risks into the overall framework of risk management based on previous remediation, lessons from international regulations, and the conditions of China's banking sector.

Liquidity risk management has always been one of the central elements of banking regulation. In 2006, the CBRC issued the Core Indicators for the Risk Management of Commercial Banks, in which liquidity-related regulatory indicators that included the liquidity ratio, the core liability ratio, and the liquidity gap ratio were regarded as the highlight of banking liquidity management. Among them, as the ratio of liquid asset balance to liquid liability balance, the liability ratio measures the overall liquidity of commercial banks, which shall be no less than 25%; the core liability ratio is the ratio of core liability to total liabilities, which shall be no less than 60%; and the liquidity gap ratio is the ratio of on-and-off balance sheet liquidity gap within 90 days to on-and-off balance sheet liquid assets maturing within 90 days, which shall be no less than -10%.

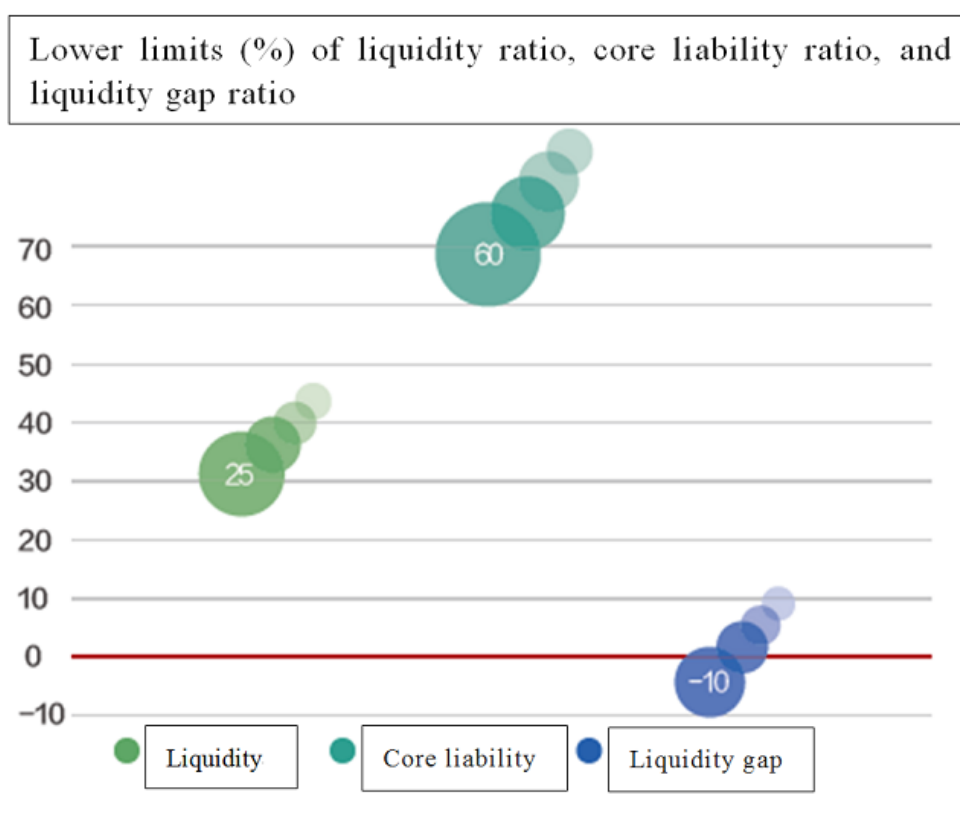


Figure 3: Lower Limits (%) of Liquidity Ratio, Core Liability Ratio, and Liquidity Gap Ratio

The Guideline on Liquidity Risk Management of Commercial Banks (for Trial Implementation) was released in 2014 and revised in 2015 and 2018 by China's regulatory departments, a result of building on the Basel III Accord with brand new liquidity regulatory indicators incorporated following the subprime mortgage crisis

and integrating it with China's liquidity regulatory indicators. The liquidity regulatory indicators of China's commercial banks now include the liquidity ratio, the liquidity coverage, the net stable funding ratio, the high-quality liquidity asset adequacy ratio, and the liquidity match ratio, and banks of varying scale have been required to differentiate their regulatory indicators. Also, a sophisticated framework of regulating liquidity risks has been built to lay a solid institutional foundation for regulation of liquidity risks.

Fourth, change business philosophy, and enhance ability to manage liquidity risks. Banks have to manage their liquidity risks by starting from changing their business philosophies, as they reflect their operational and management risks. As the real economy has been in sustained downturn since 2012, financial institutions were pursuing for short-term interests by using such shadow banking business as interbank transactions and wealth management to evade regulation and expand their scale, resulting in more funding slipping into the financial system instead of the real economy, which were potentially dangerous. The frequent exposure of liquidity risks is the result of excessive pursuit by some institutions of scale expansion and profit increase that detached themselves from external environment and went beyond what they could essentially afford. In the context of returning to main business and supporting the real economy, to achieve sustainable development, banks have to follow the economic and financial trend, shift from scale first to quality first, improve the mechanism for capital constraint, prevent risky assets from expanding too fast, optimize the asset-liability structure, and explore a sustainable model that fits their own conditions.

On top of that, banks should also further improve their management of liquidity risks, pay great attention to changing patterns of liquidity risks as a result of business restructuring, and optimize their risk management systems and methods. Specifically, they should incorporate the risk exposure created by off-balance-sheet business and other innovations into the comprehensive risk management framework; improve the method of estimating liquidity risks, and especially pay greater attention to events involving extreme pressures and develop contingency plans; and implement specialized management in regards to innovative business with special risks, and separate innovative from traditional business in devising organizational structure,

thereby increasing business efficiency and making liquidity risk management more specialized.