Research on Liquidity Risk Management of Commercial banks under the impact of Fed rate hike

Xiaolong Duan
University of Southampton, University Road, Southampton, England.

Abstract: Liquidity risk refers to the risk of insolvency, credit decline, market value decline and other consequences that commercial banks cannot obtain enough working capital when paying debts or maintaining business operations. In the information society, liquidity risk has become a huge obstacle to the development of commercial banks and even to their survival. And in the most aggressive Fed rate hike cycle since March 2022, liquidity risk management should be a top concern for regulators and commercial banks. This paper studies the course of interest rate hike of the Federal Reserve, its impact on commercial banks, the current situation and difficulties of liquidity risk management of American commercial banks, and puts forward countermeasures and suggestions accordingly: commercial banks should strengthen the liquidity risk management ability, adjust and optimize the deposit and loan structure, strengthen the liquidity risk management awareness of managers, and so on.

1. Introduction

Commercial banks follow the three principles of profitability, security and liquidity. In today's world with the increasing popularity of the Internet, once the insolvency and huge losses of commercial banks occur, they will spread rapidly, manifested as liquidity problems. It can be said that liquidity management is the core of the current management of commercial banks and a key symbol of the management level of commercial banks. Recent events such as the bankruptcy of Silicon Valley Bank, the closure of Signature Bank and the acquisition of Credit Suisse Group by Swiss Bank show that once liquidity risk breaks out, it will become a critical turning point for commercial banks[1]. The interest rate hike of the Federal Reserve will greatly increase the risk of various financial crises[2]. That the interest rate hike of the Federal Reserve would have a negative impact on China's short-term capital flow, RMB exchange rate and inflation[3]. In order to tame inflation, the Federal Reserve began to raise interest rates aggressively in March 2022. By March 2023, it had raised interest rates by 475 basis points for 9 times in just one year, including raising interest rates by 75 basis points for four consecutive times, increasing interest rates from 0~0.25% to 4.75%~5.00%[4]. The Fed's sharp interest rate hike has changed market liquidity, raised the yield curve, expanded risk premium, and accelerated the accumulation of risks in the financial system. At the same time, price indices and debt pricing in some emerging or developing economies are likely to come under significant pressure.

2. The Fed's rate hike cycle since March 2022

In 2020, the outbreak of COVID-19 led to the economic recession, and the Federal Reserve implemented aggressive monetary policies and started a new round of Quantitative Easing (QE). In March 2020, the interest rate was sharply lowered to zero, resulting in the flood of liquidity in the financial market, and the asset scale of the Federal Reserve soared from 4 trillion dollars to 9 trillion dollars[5]. At the same time, a large amount of liquidity flowed into the real estate industry and high-tech industry, leading to a sharp rise in the price of financial assets. These industries put their deposits into banks. The total deposit balance of the United States increased from 13,321.7 billion dollars on February 5, 2020 to 18,141.616 billion dollars on April 6, 2022, an increase of 36.18% in two years[6]. The massive liquidity has led to the most serious inflation since the 1980s. According to the federal statistics, in June 2022, the consumer price index (CPI) rose by 9.1% year-on-year, which became a new record since November 1981. Except for December, the CP of other years in 2022 has remained at around 7%[6].

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3. The impact of the Federal Reserve’s interest rate hike on US commercial banks

This cycle has been one of the most aggressive in history, with the frequency and steepness of the increases leading to a liquidity crisis in US commercial banks. On March 10, 2023, Silicon Valley Bank, the 16th largest Bank in the United States, suspended its shares and was shut down by the California Department of Financial Protection and Innovation, and on March 12, the New York Department of Financial Services shut down Signature Bank.[8] Moody's downgraded the credit rating of America's First bank to "junk" after its share price plummeted. Nearly 190 small and medium-sized US banks are at risk of a run.

(1) Continuous loss of deposits
Aggressive rate hikes have severely hit primary market funding for US tech startups and real estate companies, which have been forced to burn through deposits at a rapid rate. According to jpmorgan Chase's latest liquidity report, about $1bn has been lost in deposit balances at small and medium-sized US banks since 2022, with about $55bn of that loss occurring in just one week after Silicon Valley Bank was taken over[9]. In addition, savers will reduce their allocation to deposits and put their money where it can earn more. At present, according to the personal financial management consulting website Bankrate, according to data from money market mutual funds rate close to 4.5%, but the average interest rate of savings deposits is still less than the money market mutual funds rate close to 4.5%, but the savings will be completely depleted by the end of 2023[13]. At the same time, according to the data of the Federal Reserve Bank of St. Louis, the total amount of debt carried by Americans has soared. With high inflation in the United States and the increasing risk of economic recession, the American people are in financial difficulties and are constantly reducing consumption. In turn, the revenue of American companies has fallen, the balance sheet structure has deteriorated, which in turn leads to the delay of bank loans and the economic downturn in the United States. Non-performing loan ratios will continue to climb.

(2) The value of bonds has fallen sharply
By the end of 2022, according to the Federal Deposit Insurance Corporation, US banks have more than $600bn of unrealised losses on their available for sale (AFS) and hold-to-maturity (HTM) portfolios, and the unrealised losses are likely to be more severe at smaller banks. Silicon Valley Bank, for example, lost $1.8 billion by selling a $21 billion portfolio of securities to raise enough liquidity to cope with a deposit run[11].

More seriously, the crisis of confidence caused by the closure of Silicon Valley Bank and Signature Bank led to more banks selling assets in the event of a run, which could lead to even more losses than the $100bn deposit insurance fund would have been able to cope with.

(3) High non-performing loan ratio
Liquidity pressures from falling bond values and deposit losses could lead regional banks to be more conservative in lending to ensure they can meet depositors' demands in a timely manner, resulting in stricter lending markets, additional margin requirements or higher capital requirements, which could hinder commercial and industrial activities. According to a report released by Goldman Sachs Group, small and medium-sized banks (assets less than $250 billion) in the United States provide about 50 percent of industrial and commercial loans, 60 percent of housing loans and 80 percent of commercial real estate loans[12]. Small and medium-sized banks began to tighten their lending after the closure and bankruptcy of many banks.

In addition, a recession caused by higher interest rates will also increase the non-performing loan ratio of small and medium-sized banks. Goldman Sachs estimates that as of mid-January 2023, Americans had already spent 35 percent of their savings during the coronavirus pandemic, and that savings will be completely depleted by the end of 2023[13]. At the same time, according to the data of the Federal Reserve Bank of St. Louis, the total amount of debt carried by Americans has soared. With high inflation in the United States and the increasing risk of economic recession, the American people are in financial difficulties and are constantly reducing consumption. In turn, the revenue of American companies has fallen, the balance sheet structure has deteriorated, which in turn leads to the delay of bank loans and the economic downturn in the United States. Non-performing loan ratios will continue to climb.

(4) Lack of public confidence
Faced with a liquidity squeeze, US banks borrowed record amounts from the Fed. Banks borrowed a whopping $152.85 billion from the Fed between March 8 and 15, well above the previous week's $4.58 billion and the $111 billion they borrowed from the central bank during the 2008 financial crisis, Fed data showed. Meanwhile, eligible depository institutions borrowed about $11.9 billion from the Fed in the three days after the Fed announced the Bank Term Funding Program on Wednesday.

A string of three bank outbursts fueled recession fears, and the VIX rose to its highest level since October 2022. The international spot gold price rose sharply to a high of $2,009.5[14]. Many stock markets around the world plunged, reflecting the lack of investor confidence in consumption, which may trigger a chain reaction in the event of bank bankruptcy, which will lead to a systemic financial crisis.

4. Conclusion
By February 2023, the UK, Canada, Australia, New Zealand and the European Central Bank had raised interest rates by 390 basis points, 425, 325, 450 and 300 basis points respectively. The continuous tightening of global liquidity has had an impact on our financial system, and we need to attach importance to liquidity risk management ability.

First, optimize liquidity support tools. There is also a problem of mismatch between the term structure of assets and liabilities in the asset structure of small and medium-sized banks. The People's Bank of China should introduce policy tools to allow commercial banks to exchange their national bonds, policy-based financial bonds and other long-term bonds at par value, and make comprehensive use of the standing lending facility and open market operations to continuously and steadily release liquidity into the market. At the same time, we will strengthen cooperation with the central banks of the Belt and Road countries and regions to jointly cope with the negative effects of the Fed's interest rate hike. Take the United States as an example. In order to solve the
maturity mismatch problem between long-term Treasury bonds held by banks such as Silicon Valley Bank and short-term deposits, the Federal Reserve issued an additional term funding plan for banks on March 12, which stipulates that Banks, savings societies, credit unions and other depository institutions would be able to borrow money from the Fed for up to a year against their holdings of Treasurys, agency bonds and mortgage-backed securities or other conforming assets at par, avoiding the risk that banks would be forced to sell the assets at a discount if they faced liquidity risks. Thus insolvency or even insufficient capital. On March 19, the Federal Reserve, together with the central banks of Canada, the United Kingdom, Japan, the European Union and Switzerland, launched the US Dollar liquidity swap facility. The frequency of US dollar swap operation was upgraded from weekly to daily.

Second, we will improve the classification oversight mechanism. For example, only banks with assets of more than $50 billion need to conduct stress tests, and banks with assets of less than $3 billion will extend the on-site inspection cycle. China can learn from the strict classification supervision system of the United States, develop practical, scientific and effective classification supervision, and adhere to the principle of "focusing on the key and comprehensive". The liquidity management ability of large banks should be more strictly required, but liquidity risks similar to those caused by the incident of rural banks in Henan should also be prevented. It is necessary to improve the efficiency of supervision and ensure the orderly and stable financial market.

Third, strengthen the liquidity management capacity of commercial banks. The managers of commercial banks should take liquidity risk management as the primary consideration in their work, enhance their own sensitivity to liquidity risk, make liquidity risk disposal plans in advance, and deal with the risks in time when they are exposed. Commercial banks should also actively adjust their asset structure, avoid "putting eggs in one basket", take the road of diversification, actively innovate, expand off-balance sheet business and intermediate business. At the same time, commercial banks should also expand financing channels, sign liquidity supplementary agreements with shareholders, apply to the central bank for the use of deposit reserves and so on.

Fourth, establish a more complete liquidity monitoring mechanism and stress tests. Real-time monitoring of cash flow, focusing on large depositors, deposit year-on-year changes, and timely detection of abnormal withdrawals. Through the collection of real data of commercial banks, increase the scope of application of stress test, focus on the test of inter-bank business, the liquidity risk of bonds in the event of liquidity risk, evaluation of concentration risk, etc. At the same time, to promote the transformation and application of stress test results, regulatory authorities and commercial banks to launch targeted measures.

Fifth, focus on real estate financial risks. In the wake of the COVID-19 pandemic, a large number of people are making early payments due to low mortgage interest rates and lower income expectations. In China, individual mortgage loan business accounts for more than 50% of some banks, and commercial banks may face liquidity problems if real estate enterprises default on bonds and delivery defaults. Therefore, Chinese regulatory authorities should focus on real estate financial risks and communicate and cooperate with commercial banks in a timely manner.

References
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