Crisis and Reflection on the Banking Sector Based on the Collapse of Credit Suisse and Silicon Valley Bank

Dongyang Lan *

Reading Academy, Nanjing University of Information Science and Technology, Nanjing, China

* Corresponding Author Email: dr809025@student.reading.ac.uk

Abstract. In March 2023, global financial markets were in the spotlight due to the failure of Credit Suisse and Silicon Valley Bank. This paper provides an analysis of two high-profile events, the takeover of Credit Suisse and the bankruptcy of Silicon Valley Bank. These two banks suffered from financial crises resulting from liquidity crunches and inadequate risk management systems, and the negative effects on their reputations began to spread to the outside world, this triggered widespread volatility in the financial markets and ultimately led to their downfall. Through research and data analysis, this article reveals the reasons behind the collapses of Credit Suisse and Silicon Valley Bank, this article discusses the reasons for the collapse of Credit Suisse and Silicon Valley Bank and discusses their far-reaching impact on the global financial market, especially the investment market. The article proposes feasible solution strategies, offering insights for the financial market and investment industry.

Keywords: Credit Suisse; Silicon Valley Bank; Financial market; Investment industry.

1. Introduction

The month of March 2023 has been the center of attention in the global financial markets due to the failures of Silicon Valley Bank and Credit Suisse. On March 10, 2023, Silicon Valley Bank collapsed, the second largest since the 2008 financial crisis, in the United States [1]. Following years of mismanagement and multiple scandals, Credit Suisse suffered billions of dollars in losses, prompting intervention by the Swiss government. These two bank collapses signal a potential ripple effect on the entire financial system. Furthermore, the collapse of Silicon Valley Bank and Credit Suisse could have a significant impact on the global stock market, causing some shocks and disruptions to the financial system and affecting the confidence and choices of depositors and investors [2]. This study will focus on exploring the internal structure and operational system of these two large banks by integrating multiple perspectives such as fluctuations in stock prices, analysis of financial statement data, and commentary on financial news. The goal is to analyze in depth the root causes of these bank failures and incorporate the ripple effects of the failures in order to gain insights into their far-reaching effects on the financial industry and investment market and to extract relevant insights.

2. Literature review

2.1. Financial Contagion

The increasing interconnectedness of financial markets, driven by the globalization of the world economy and technological advances, has led to more connected markets and increased cross-border investments, thereby increasing the potential for financial contagion [3]. Shocks originating in one market can quickly spread to other markets, potentially creating a domino effect and leading to market disruption and financial fragility [4]. The impact of events like the two major bank collapses can spread quickly across borders and may even affect the entire global financial system [5]. And the interconnectedness of financial markets makes it difficult to isolate the impact of such events. The study therefore suggests that the potential for contagion to other financial markets cannot be underestimated [3, 6].

2.2. Investment Diversification, Hedging Options, and Investment Balance

Aharon et al. said there are multiple implications for investors and policymakers, and while international equity markets provide diversification and hedging opportunities for investors, research suggests that the benefits of diversification strategies may not materialize as expected in advance when there are periods of significant negative events [7]. In addition, there is literature that says the results emphasize that investors should engage in dynamic portfolio management to achieve higher risk-adjusted returns or minimize portfolio risks [8]. Investors and financial institutions must diversify their portfolios across asset classes to help reduce the impact of such negative events. The results emphasize that investors should engage in dynamic portfolio management to achieve higher risk-adjusted returns or minimize portfolio risk. It is also important for investors and financial institutions to diversify their portfolios across asset classes to help reduce the impact of such negative events [9].

2.3. Reputational Contagion

Experts often use the term "reputational contagion" to describe this phenomenon, which refers to the propagation of shocks in the market that are difficult to explain based on macroeconomic fundamentals alone [10,11] Reputational contagion can seriously affect financial institutions because of their dependence on public trust and confidence. Financial institutions, especially banks, rely on their reputation to attract deposits and investments, and negative perceptions of their operations can lead to serious financial consequences [9]. Several studies have shown that negative news about a financial institution can spread quickly and affect the reputation of other institutions in the same industry [10-14]. The impact of reputational contagion on financial institutions is particularly severe given the crucial role they play in the global economy. Loss of confidence in one bank may lead to a loss of confidence in the entire banking system, which could trigger a wider financial crisis [3, 15, and 16].

3. Case study

Credit Suisse, Switzerland's second-largest bank and one of the world's systemically important banks, has significant influence in international financial markets. Silicon Valley Bank, which was the sixteenth-largest bank in the country, was continuously recognized by Forbes as one of the best banks in the United States before its collapse. Silicon Valley Bank focuses on technology companies and venture capital organizations, and according to its fourth-quarter 2022 earnings report, its clients include nearly half of all U.S. technology and life science startups.

Silicon Valley Bank and Credit Suisse share some similar characteristics in their asset-liability structure and business models, such as a severe mismatch in asset-liability structure and maturity, poor deposit stability, over-concentration of asset investment, and inexperience in responding to public opinion risk, but the cascading effect of Credit Suisse's own negative events further accelerated its collapse amidst a loss of market confidence.

3.1. Customer Deposits

First, focusing on customer deposits of the two largest banks. 2021 customer deposits, both Silicon Valley Bank and Credit Suisse saw growth in deposits, with Silicon Valley Bank's growth rate exceeding 85%, nearly tripling from 2019 (Fig.1). Beginning in 2019, the Federal Reserve entered a rate-cutting path and began an unprecedented easing cycle that lasted 2 years, during which time U.S. inflation soared from 1.5% in March 2020 to 7.9% in February 2022. On March 16, 2022, under the pressure of persistent hyperinflation, the Federal Reserve's monetary policy shifted abruptly from an easing cycle to monetary Tightening, turning to open the channel of interest rate hikes, 10 consecutive rate hikes accumulated 475 basis points. The Federal Reserve is like a "roller coaster" type of monetary policy, so the bank's asset side in the short-term reconfiguration and repricing of the difficulty has increased greatly, a large number of short-term funds were configured as a large number of long-term bonds, continuous interest rate hikes in the currency, the price of bonds fell sharply,

resulting in the majority of the banks began to appear loss phenomenon, and even serious losses, insolvency, and the majority of the banks have started. Even serious losses, and insolvency. With the massive loss of deposits for a short period, the market's further panic exacerbated the wave of runs, which ultimately resulted in bank failures.

In the Fed's aggressive interest rate hike cycle, the significant increase in market interest rates has tightened financing for technology and innovation-based enterprises, and customer demand for deposits has risen, leading to a serious short-term loss of demand deposits at Silicon Valley Bank. For this reason, Silicon Valley Bank adopted a short-term absorption of large-scale time deposits to make up for the funding gap of many short-term deposits, while selling bonds to recycle their own funds, this operation has made the maturity mismatch of Silicon Valley Bank's liabilities even more serious under the interest rate hiking cycle. Credit Suisse's customer deposits have performed better than expected, but in 2022, due to the cumulative effect of many risky events, deposits have experienced a significant loss, shrinking by about 40%. The deposit loss also further caused a passive contraction of Credit Suisse's balance sheet, which exacerbated Credit Suisse's asset maturity mismatch under the drastically adjusted monetary policy in the US.

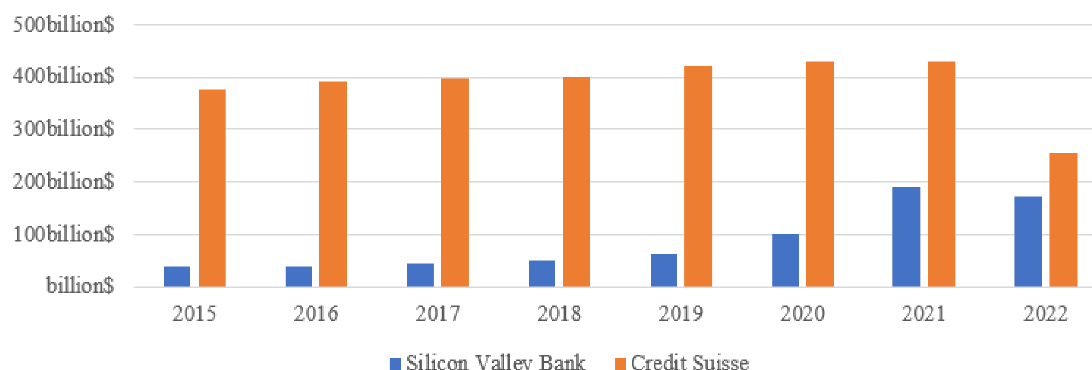

Fig. 1 Credit Suisse and Silicon Valley Bank customer deposits

3.2. Asset-liability Maturity Mismatch

Firstly, Silicon Valley Bank, at a time when the size of customer deposits has increased significantly, has adopted a strategy of targeting financial markets to take on large amounts of funds in the short term through standardized financial products in the financial markets. While Silicon Valley Bank's bond allocation was primarily to MBS, which accounted for 80% of its annual asset additions in 2021, prices fell substantially against the backdrop of the Fed's rate-hiking cycle and abundant liquidity. When Silicon Valley Bank announced the sale and disposal of its stock of bonds, the bond flotation was also included in its income statement, eroding the bank's capital, the book flotation of the preexisting allocation of bonds, and the maturity mismatch of assets exacerbated Silicon Valley Bank's liquidity crisis. Credit Suisse, from Table 1, it can be seen that Credit Suisse's on-demand assets totaled $200.1 billion at the end of 2022, which is lower than its on-demand liabilities of $238.4 billion. Credit Suisse is also experiencing liquidity difficulties in the face of continued deposit outflows, and with market interest rates continuing to rise, there is a risk that financial assets held by Credit Suisse could become impaired, exposing it to higher interest rate risk losses.

Table 1. Contractual maturity of Credit Suisse assets and liabilities ($ billion).

Deadlines	Pay as you need	0-12 months	1-5 years	Add up the total
Total assets	2001	1712	1178	4891
Total debts	2384	1303	859	4546

3.3. Asset Investment

As shown in Fig.2, Silicon Valley Bank's bond balance of $127.959 billion in 2021, a year-on-year growth rate of 159.5%, the asset investment has shifted from a concentration in the loan industry

to a concentration in the type of bond investment. As the Federal Reserve continued to raise interest rates, the market value of Silicon Valley Bank's available-for-sale financial assets (AFS) and held-to-maturity investments (HTM) fell continuously, resulting in investment losses. Credit Suisse's investment banking business is biased towards conducting asset-heavy business. However, the asset-heavy business will form a large risk exposure in the investment banking segment. The leveraged exposure of Credit Suisse's investment banking segment was as high as 785.8 billion Swiss francs in 2014, and even if it subsequently drops to 211.6 billion Swiss francs in 2022, it is still 1.4 times the asset size of its investment banking segment. This has turned investment banking into a highly capital-intensive, high-risk business with fragile revenue quality.

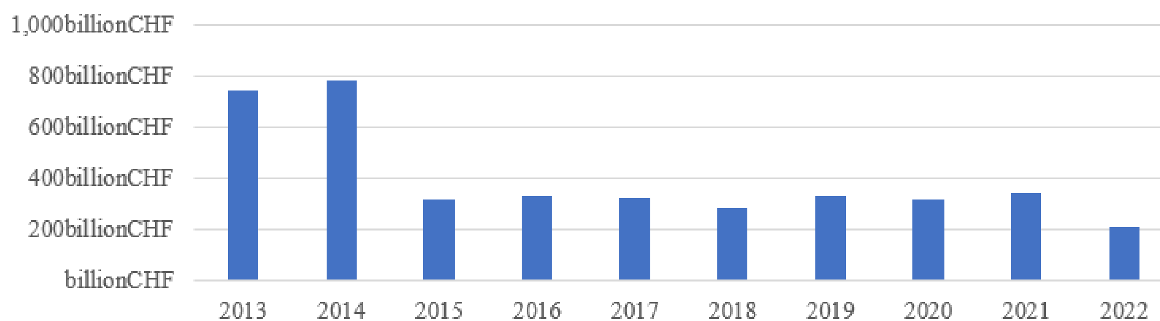

Fig. 2 Size of leveraged exposures in Credit Suisse's investment banking segment.

3.4. The Overlapping of Negative Events and the Loss of Market Confidence

On the other hand, Credit Suisse's acquisition was also different from Silicon Valley Bank. After the collapse of Silicon Valley Bank in the U.S., the risk spillover spread in the European banking industry, and the market's pessimism continued to contagion, also impacting Credit Suisse's business environment. Since 2012, Credit Suisse's long history of internal control non-compliance and repeated high fines have not only put pressure on the loss of funds but also dealt a great blow to its reputation and market image (Table 2).

Table 2. Negative operating events.

Particular year	Negative events
2012	Suspected manipulation of the London Interbank Offered Rate (LIBOR) investigated
2013	Under investigation by the U.S. Department of Justice for the sale of mortgage-backed bonds (MBS)
2014	Helping U.S. clients evade taxes penalized about $2.6 billion
2015	Facing litigation for allegedly restricting competition in the interest rate swap market
2017	Mis-selling of MBS penalized $5.3 billion
March 2021	Losses of about $5.5 billion on Archegos fund blowout
March 2021	Loss of approximately $2.6 billion due to Greensill bankruptcy
October 2021	Paid $475 million in fines to Britain and the U.S. for taking bribes to irregularly grant loans to Mozambique's banking syndicate
June 2022	Convicted of money laundering after laundering money for a Bulgarian drug smuggling ring

Negative events such as these have occurred frequently in Credit Suisse, making the market's lack of confidence in Credit Suisse and even downside expectations, which magnifies the possibility of a crisis in Credit Suisse when the market fluctuates. And since 2012, S&P, Moody's, and Fitch's three major rating agencies for Credit Suisse's main credit rating as a whole showed a clear downward trend, and even repeatedly negative rating outlook. As a globally recognized large financial group, the long-standing problem of unqualified internal control has not been able to improve and has repeatedly suffered from legal penalties, which is also a major internal cause of the collapse of Credit Suisse different from the bankruptcy of Silicon Valley Bank.

4. Global Impact and Inspiration

4.1. Global Impact

After the collapse of Silicon Valley Bank and Credit Suisse, the mood of depositors and investors in the market became extraordinarily tense, and their reaction to the events in the market became excessive. The credit system of the banking industry was questioned, and the confidence of investors was also affected, and they were unwilling to invest in risky products, but instead pursued stable and value-protecting investment portfolios to earn a return. Most of the small and medium-sized banks' share prices began to fall because of the impact, and the volume of bank deposits decreased due to the tightening of liquidity. Most of the banks began to formulate new risk management strategies to regain the confidence of their depositors and investors and to avoid suffering more serious losses.

4.2. Inspiration

4.2.1. Operational culture should be more robust and compliant

Through the frequent occurrence of negative events of Credit Suisse, it has become the focus of regulation by many parties, and the public and customers' confidence in it is insufficient. Once the financial market fluctuates and the banking system suffers from the impact, the banks with non-compliant operations will surely be the first ones to bear the repercussions. It is necessary to vigorously advocate the concept of creating value through compliance, promote the culture of compliance, establish a good public image and increase social credibility. Problem-oriented, in-depth analysis of the causes of risk, risk management and control strategies and methods, to provide support and protection for the development of the banking industry.

4.2.2. Establish a risk management mechanism matching business development

Build a new risk management mechanism according to the risk characteristics of investment banking and financial market business. Clearly define the obligations and responsibilities of the management in each risk, so that resources can be more fully mobilized and responded to when a risk event occurs. Comprehensively cover the Group with a risk control system and establish a risk management mechanism as a support and guarantee. Ensure the independence of the risk management system, assume first-line responsibility, independently review risks and reduce losses when risks occur.

4.2.3. Asset-liability management should be more forward-looking

Credit Suisse and Silicon Valley Bank are in Europe and the United States the major countries in the monetary policy adjustment process is not comprehensive, timely judgment and adjustment, resulting in changes in interest rates suffering huge economic losses; At the same time, in the case of continuous loss of deposits, because of the lack of effective countermeasures, resulting in continued increase in liquidity risk. At present, the trend of the global financial market is relatively uncertain, pay timely attention to the direction of the monetary policy of each country, the trend of interest rates at home and abroad, carry out dynamic supervision of the risk of asset-liability mismatch, timely adjust the liability institutions of assets, and take a diversified approach to maintain the balance between risk and return.

5. Conclusion

The purpose of this paper is to analyze the collapse of Credit Suisse and the bankruptcy of Silicon Valley Bank. It aims to understand the crisis facing the banking industry in Europe and the United States, providing relevant reflections and insights. This paper lists the customer deposits of Credit Suisse and Silicon Valley Bank in recent years. It analyzes how liquidity constraints and maturity mismatch issues, combined with changes in the Federal Reserve's interest rates, affect the banks. It also concludes that the problematic situation of the two banks stems from their asset investments, compounded by Credit Suisse's negative events. After analysis, the stability of the banking industry

is closely related to the global monetary and economic policies, not only about the management of the banks themselves but also affected by the global capital market and government policies. This paper hopes to provide some inspiration to help banks improve their own system structure and provide experience for investors to get more profit. However, potential events and reputational contagion still exist in the financial market and need to be studied in the future.

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