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"RESCUING FINANCIAL INSTITUTIONS: CASE STUDY ANALYSIS OF BANK M&As DURING THE 2023 U.S. BANKING CRISIS"

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INTRODUCTION

The financial landscape is inherently volatile, often punctuated by periods of instability that trigger significant structural changes within the banking sector. The 2023 US banking crisis serves as a recent and poignant example of such turmoil, characterized by the collapse of several prominent financial institutions. In response to these failures, mergers and acquisitions (M&As) emerged as a critical mechanism for mitigating systemic risk and restructuring the distressed banks. This thesis delves into the strategic, financial and economic dimensions of these transactions. By examining specific case studies, this research aims to elucidate the factors driving M&A activities during the crisis, assess the outcomes of these acquisitions, and provide insights into the way a bank can rescue another financial institution, stem the turbulence and stabilize the banking sector again, restoring confidence, and promoting economic resilience in the face of financial adversity. Through a meticulous analysis, this study contributes to a deeper understanding of how M&As function as both a reactionary measure and a strategic opportunity in times of financial distress. The thesis is thus divided.

In Chapter One, an overview of the primary topics that will guide the entire discussion is presented. This includes a comprehensive look at the current US banking sector and ongoing developments. The fundamentals of bank M&A operations and the specifics of bailout takeovers (a unique form of M&A where one bank intervenes to rescue another through acquisition) are explained. Additionally, the background and onset of the U.S. banking crisis of 2023 are introduced.

Chapter Two comprises the literature review relevant to the case studies. While each case has its own unique aspects, they share common points that merit deeper exploration. This chapter addresses the contagion effect, or domino effect, that arises when a crisis in one bank can spread to others; the accelerated spread of panic through social media during bank runs, a new and significant risk to watch out for; and the role that ineffective risk management and supervision plays within banks.

Chapter Three presents an analysis of the case studies. It focuses on the most notable instances of bank failures and subsequent rescues through M&A in 2023, constituting a true banking crisis. Several key aspects will be analyzed in this study. Initially, the reasons behind the bank failures will be examined. This will be followed by a detailed analysis of the acquisitions, focusing on their structure, strategic choices, and assets acquired. Additionally, the post-merger performance will be evaluated to assess whether the acquiring banks successfully resolved the crises and achieved profitability.

CHAPTER ONE

1.1 METHODOLOGY AND RESEARCH OBJECTIVES

The framework used to analyze the case studies will be the one developed by Amir and Ghitti in the book "*Financial Analysis of Mergers and Acquisitions: Understanding Financial Statements and Accounting Rules with Case Studies*", in which they delve into the M&A topic, focusing on the financial point of view (Amir & Ghitti, 2021). The thesis will face the cases in a similar way, trying to understand the impact of the acquisition on the balance sheets and income statements of the acquiring companies. Each case will be subdivided in several sections, to make the discussion more fluent and clearer:

- Companies: a description of the two banks involved in the M&A will be given, to understand their market position, clients served, geographic presence and so on.
- Reasons of failure: this section focused on the failed and then acquired bank. It will be studied the historical events and the causes that led the financial institution to close and then be rescued by another bank. This section does not want to be an exhaustive dissertation explaining all the particulars of the reasons why the institution failed, as it will be out of the scope of the thesis. However, it will present a concrete and crystal-clear vision of the episode, focusing on the most relevant aspects.
- The deal: this part focuses on how the deal was structured, the consideration paid and other relevant characteristics of the transaction. It will analyze if there were any sort of guarantees, financing, or help, in particular by the FDIC. In addition, it will be explained the strategic reason behind the acquisition, why the bidder decided to acquire that specific failed bank, how the target would have contributed to the company, that is the premises beyond the rescue.
- Post-merger consolidated financial statement: scope of this part is to draft the consolidated financial statement of the combined entity. All the acquisitions happened in 2023, so it will be drafted the consolidated balance sheet for the year 2022. It must be noted that the transactions happened quickly, then due diligence process was fast and the information about the final prospectus drafted by the bank was not disclosed. Aim of this section is trying to put together the information available to have a plausible financial statement. That is to say, that there could be possible disagreements from other studies who may have to do (or have already done) the same work, but that are not going to invalidate this one. Moreover, it will be detailed the characteristics of the most important components of the target's balance sheet, to have a complete view of the

acquired assets and liabilities composition, its attributes and how they were valued by the bidder.

- Post-merger: this section focused on the post-merger performance of the bidder. It will be shown the contribution of the acquired bank in the performance of the group, how the situation was handled and the aftermaths of the M&A. Because the M&As took place in different point in time during 2023, it was decided to focus on the short-term performance of only 2023 (as this thesis was written during 2024), analyzing the quarter results and the consolidated annual ones. This will help to comprehend if the acquiring bank was able to intervene quickly in a critical situation and re-establish a normal trend by containing the negative effects of the failure.

To gather the information and data necessary to develop the cases, several sources will be used: bank annual reports (10-Ks), quarterly reports (10-Qs), scholar papers, newspapers and databases (Eikon-LSEG Workspace, ex Refinitiv).

After presenting all the cases, comparative analytics among these will be offered, trying to compare the different deals and performances, which bank handled better the acquisition, possible common point or differences among them, and so on. In this section ratio analysis will be used to make a better comparison.

1.2 US BANKING SECTOR: OVERVIEW, NEW TRENDS AND CHALLENGES

The banking industry plays a pivotal role in the development of every country in the world, supporting financial stability and economic growth by mobilizing resources for investments, worldwide payments and as the main conduit for the implementation of the monetary policy established by the national Central Bank. The sector operates under a strict regulatory framework designed to ensure safety and stability of the entire system overseen by regulatory bodies, e.g. FED or FDIC in the US. As it is deeply connected to the macroeconomic factors, banks are always evolving, pushing innovation but also channels the FED decisions when it adjusts the federal funds rate in response to economic development. This made banks, whose main income comes from interest margin, subject to interest rate volatility. This industry works similarly in every country in the world, but the focus now on will be on US banks.

After the global financial crisis of 2008, US Government has implemented several reforms to safeguard and improve the banking sector, focusing on securing the deposits in case of bank failures, improving risk-management procedures, enhance liquidity management and foster corporate governance to enable banks to sustain the development of the real sector, as well as modelling a working surveillance framework to guarantee the soundness of the sector (Nyasha

& Nicholas M., 2013). Example of legal reforms are the Dodd-Frank Wall Street Reform and Consumer Protection Act in 2010 and the Economic Growth, Regulatory Relief, and Consumer Protection Act (2018) that places strict regulations on banks to protect consumers. Some provisions introduced by Dodd-Frank Act included programmed plans in case of bankruptcy, stress test after a certain threshold, and stricter investment rules to avoid excess risk-taking (Lessambo, 2020; Vo & Le, 2023).

The US bank system is made of both big commercial bank and smaller ones, all classified as either commercial (whose primary activity consist in customer deposits and commercial loans) or investment banks (that underwrite securities, provide brokerage service, corporate financing, M&A services and so on). Moreover, the industry can be classified by size and type of organization in global systemically important banks (G-SIBs), regional banks, mid-sized banks, community banks and credit union (Lessambo, 2020).

FED works under a dual mandate target, keeping prices stable and maximizing employment; in order to achieve those ones, it raises interest rates when inflation start to rise and cuts rates when economy slow down taking into consideration several factors. For example, in light of the COVID-19 pandemic in 2020, that caused worldwide economic recession, US central bank cut federal funds rate close to 0 for almost two years, while at the same time buying billions of government bond to stimulate an economic reprise and keeping long-term interest rates low (Adams, 2024). This measures helped the economy, that recovered in the following years, with GDP growing and unemployment rate decreasing, but also brought negative consequences, such as the rose of the public debt and rise of inflation (Vo & Le, 2023). Towards the second quarter of 2022, to contrast inflation, rates were risen again, and bond-buying reduced.

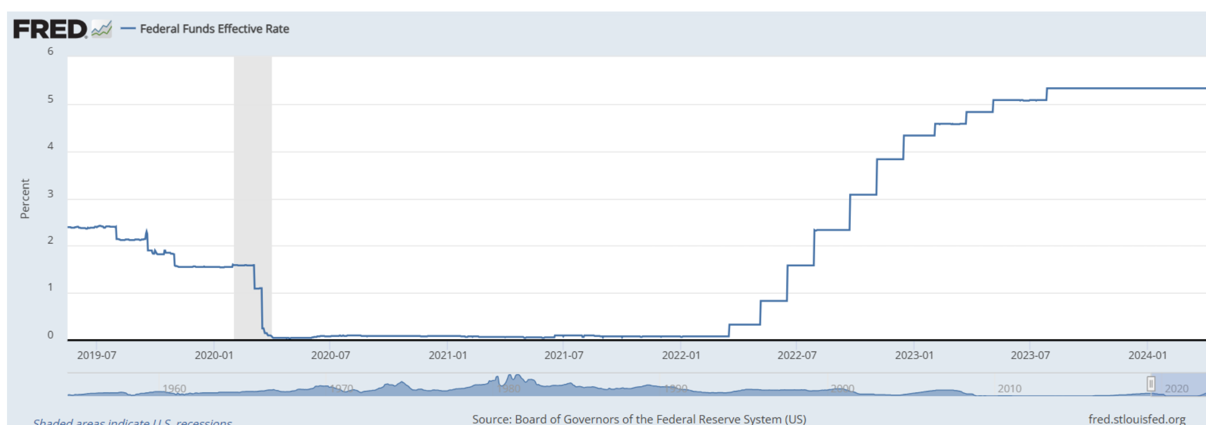


Figure 1 Federal Funds Effective Rate, from 2019 to 2024, available at https://fred.stlouisfed.org/series/DFF#0

At the end of 2023, as stated by FDIC Chairman Martin Gruenberg, the banking industry performance was satisfying, with earning surpassing the pre-pandemic level ($257 billion), interest margin reaching 3.3% for the first time since 2019; at the same time net income fell to $256b (-2.3% from 2022), due to higher noninterest expenses, provisions, losses, but remaining at level above the ones prior the pandemic (FDIC, 2024b). Going in more details, it could be noted the link between banks performances and interest rates during these last years. The surge in interest rates in 2022 has pushed sector net interest margin by $280b and lifted ROE to 12%, the best return in a decade. However, elevated rates bring also higher deposits costs, that can deteriorate bank performance. In contrast, Deloitte suggest prioritizing noninterest income, deriving from advisory services, instrument underwriting and fees (Wade et al., 2023). One unchanged aspect is price-to-book-ratio, that stayed flat at 0.9% since 2008 (McKinsey & Company, 2023).

According to McKinsey's Global Banking Annual Review of 2023, the main factors that are contributing to the change of the banking system are: the technology progress, that is shifting customers demand into more technology-driven experiences, in which AI could become a game changer to boost productivity and talent; need to adapt to the risk environment that is changing, considering both regulations, frauds, inflation, third sector dynamics and so on; embedded finance, defined as "the seamless integration of financial products and services into nonbanking products and business models" that is taking place. McKinsey also highlights the main challenges that banks should prioritize to survive the competition. These includes exploit technology and AI opportunities, in terms of automation, platforms, scalability and capabilities to spot new risks; distribute risk to a broad set of investors, with different time and risk horizon, to optimize the capital and portfolio mix; scale or exit transaction business, institutions can find a niche market or penetrate new and/or existing market through M&A to exploit economies of scale; level up the distribution, by rethink client interactions with the development of new software, online platforms, etc.; adapt to a changed risk environment while also building a strong reputation, trust and confidence in the clients' eyes to win the marketplace (McKinsey & Company, 2023) .

These trends are confirmed even in Deloitte 2024 "Banking market outlook", where it points out that digital banking are becoming more competitive, thanks to higher deposits yield and digital wallets becoming the main payment options; banks and fintech are converging incentivizing new partnerships in the attempt to exploit AI technology; personalization of the service will be a key element to retain clients and increase customer lifetime value; scale, cost

reduction, talent acquisition and diversification will drive further M&A deals; regulation could become stricter and demand more oversight (Wade et al., 2023). For example, US proposed a new set of regulations, so called “US Basel III Endgame”, which aims to strengthen the resiliency of US bank system by an expected increase in CET1 and RWA, while also improving transparency and consistency, by eliminating internal risk models and requiring investments in risk management, compliance and controls (Randall S. & Norman R., 2024). Finally, even the “World Retail Banking Report 2024” by Capgemini confirms what stated above. Due to the macroeconomic turbulence if the recent years, bank must manage cost, while spotting new areas to create value and gain competitive advantage. Then, relevant challenges will be to deepen engagement with customers and integrate and balance new technologies to automate operations, increase efficiency and mitigate risk (Capgemini Research Institute, 2024).

1.3 M&A IN THE BANKING SECTOR

Mergers and Acquisitions (M&A) in the banking sector represent a strategic choice for financial institutions to grow, create value, enhance their competitive advantage, increase efficiency, adapt to the rapid technological development and expand their markets, both in terms of products/services and geographic presence. Banks engaging in M&A activities expect to improve their economic, financial and operating performance, while gaining a predominant position in the market, weakening competitors and add value for shareholders (Darayseh & Alsharari, 2023).

A bank that acquires or merge with another company is called acquiring bank, acquirer or bidder. The company acquired is called target. A merger is a combination of two or more companies in which all but one cease to exist, while an acquisition involves a firm taking control of another one, that continue to exist, by acquiring all or parts of target’s stock (DePamphilis, 2018). In all types of transactions, the bidder can offer both cash and/or securities to the target as mean of payment (“consideration”). Moreover, a business combination can be friendly, when target’s managers accept the deal and seek for shareholder approval, or hostile, when target’s management do not want the company to be acquired and usually will try specific defensive tactics to prevent the sale (Iannotta, 2010).

M&As tend to cluster in waves, usually when stock prices are rising and managers are optimistic about the economy, marked by high rates of economic growth; low interest rates stimulate acquisitions, especially if they are paid in cash, which will lever debt; finally, there is also a domino effect, that means that one large acquisition will motivate other firms in doing the same (Wessels et al., 2020). Every wave, however, usually present similarities, in the type

of expansion (vertical, horizontal, conglomerate) or in terms of the goal to be achieved, like cost efficiency, economies of scale, reduce bank risk, gaining new expertise (know how) or invigorate the new banks after the merger (Hasan, 2022). M&A transactions in the US were highly influenced by the several crises happened in its history. The number of combinations reached its peak during the 80s and 90s, while it slowed down with the consecutive crisis, first the dotcom bubble in 2002 and then the financial crisis of 2007-08, where transactions plummeted. A slight recovery took place in the following years, regain importance after the pandemic, in part thanks to the low interest rates and changing regulation, and it is expected to have a positive trend in the future (Hasan, 2022)(Chiaramonte et al., 2023).

The main objective in a combination, whatever the strategic choices behind were, is to create value and synergies. The value created for an acquirer equals the difference between the value received, computed as the stand-alone value of the target plus the performance improvements, and the price paid, consisting in the market value of the target plus the acquisition premium (Wessels et al., 2020). In other terms, there is value creation if synergies manifest, i.e. if the equity value of the combined firm exceeds the pre-acquisition value of the individual bidder and target (Iannotta, 2010). Synergies can be classified in two main categories. Operating synergies consists of economies of scale and scope (cost reduction), technical skills and expertise, also known as "know-how", that lead innovation to increase revenues and tax synergies. Financial synergies, on the other hand, refers to the reduction in the cost of capital, better rating, decrease in risk, better investment opportunities and cash flow diversification (DePamphilis, 2018). It must be noted it takes time for synergies to manifest, and, especially for the banking sector, a change in the industry can increase the likelihood that they will never be achieved; a fast and functioning integrating process could be the key to the post-acquisition success.

As the takeover market is highly competitive, a bank should pay large attention in selecting the right target (the "best fit") and not pay an excessive high premium, that erode the value created and could make the acquisition unsuccessful. Banks should also be aware of Antitrust policies that protect market competition, that could block the positive result of a transaction and become a difficult obstacle to overcome (Mehta et al., 2020). It is also fundamental for banks to take into consideration that M&A activities are scrutinized by both public and government bodies that analyze their impacts in terms of competitiveness, reputation, as well as internal control and briefing to check the entire merger phase (Warter & Warter, 2015). According to Kolaric and Schiereck (2014), banking M&A success depends on three factors. The first one is the

acquirers and targets characteristics, indeed high target growth rate, measured in term of asset growth and better performance than average, lead to a superior performance; other characteristics to consider are if the bidder has prior acquisition experience, strategic affinity and overlapping operation. The second factor is the transaction specific characteristics, such as the geographic position of the parties, the products/services at the base of the deal, type of consideration, number of potential targets and if it was a friendly or hostile takeover. The last key factor is the environmental characteristics, primarily (de)regulations, even if it has mixed effects on the performance of the merge (Kolaric & Schiereck, 2014).

When a bank decides to acquire another institution, it should analytically assess if the target has the right attributes, depending on its ability to manage its assets and from the advantages and disadvantages that could arise after the combination. In a study made by Hannan and Pilloff (2009), they observed a large sample of banks, analyzing what were the determinants in the choice of the target. First, they found significant evidence of the “efficiency hypothesis”, that states that mergers are used to transfer assets from owners who are using them less efficiently, to owners who can be more efficient, either because they are better in managing them, or because they can be combined with bidder’s assets to create synergies (Hannan & Pilloff, 2009). This leads to another conclusion: less profitable institutions are more likely to be acquired. Instead, bank with high capital-asset ratios are less likely to be acquired, because acquirers prefer high leverage to augment the post-merger performance. They also found a positive relationship with local deposits in the acquired portfolio and large banks, that’s because there are possibility of cross selling the existing products to the acquired bank’s depositors, while also using the target local knowledge to assess the risk of lending to new borrowers of that area; also, there is higher probability to be acquired if the bank equity is publicly listed, because it facilitates the purchase of stocks and the gathering of information. Moreover, greater market share is linked with higher probability to be acquired by large-size banks, while, as one could easily predict, a bank is less likely to be acquired by a smaller one. It also seems that banks that are near default are perceived as better targets, because that would lead to public intervention to finance and sustain the acquisition (Hannan & Pilloff, 2009).

These results are also confirmed in other research, e.g. Caiazza et al. (2012) found that target banks have typically low efficiency and are acquired to reorganize their activities. Other factors contributing to make a bank more appetible are the profitability, riskiness (in particular, in the case of cross-border M&A, banks look for increase the inherent risk, while in the case of domestic deal the opposite is valid), target price, regulatory environment, economic forecasts

where target is located, and integration costs (Caiazza et al., 2012). Furthermore, bank cross-border M&A are less likely to occur because of their complexities.

When evaluating a strategic target, banks look for potential synergies, financial capacity (balance sheet strength and risk appetite), cultural fit, M&A track record, management and stakeholders' relationships (Warter & Warter, 2015).

The M&A process for a bank is like any other. We can separate the process in two stages: the planning stage, in which the bank develops the business and acquisition plan, and the implementation stage, that includes search, screening, contacting, negotiation, closing (DePamphilis, 2018). In the first stage, the company draft a possible strategy and determines the characteristics of the target, market and feasibility. During this phase various tools are used to check the profitability of the strategy, such as SWOT analysis, 5 forces of Porter, matrixes etc. It is very important to justify the reason of the acquisition to understand the logic behind and find the best fit. The best fit should address under a strategic point of view, by classifying the types of acquisition (horizontal, vertical, product or market extension), or an organizational one (organization compatibility, type of assets, financial fit, cultural aspects etc.) (Risberg, 2003). In the second stage, the plan is put into action starting with preliminary confidential interviews to understand the target's business model and assess possible alternatives, define strategic paths and criteria. During this phase up to the announcement, to avoid information leakages, the acquiring company will require the potential target to sign Non-Disclosure Agreements (NDA) or Confidential Information Memorandum. This is essential, because during this phase a lot of sensitive information are disclosed by both parties (e.g. teasers). Then, a list of potential candidates is assembled to perform due diligence, which is the investigation process of the target to assess all possible risks and liabilities from different perspectives. This is executed through the (virtual) data room, which contains detailed information about the acquiring firm's contracts, clients, management, operations, financing etc. (DePamphilis, 2018)(Iannotta, 2010). Afterwards, different valuation techniques are applied, negotiation closing terms and conditions are agreed with the best fitting target. After the deal is closed, an important phase opens: integration. Banks must address several key managerial issues to ensure the success. These includes the extent of required integration, potential conflicts in the human resources and leadership, cultural differences, and decision-making. Not addressing these challenges, could lead to low coordination and cooperation, affecting the result of the operation. Effective integration capabilities are crucial for enhancing the performance of the merged bank,

although they come with significant costs and efforts during the post-merger integration phase (Warter & Warter, 2015).

Although every deal has its own peculiarities, the strategic reasons at the base of the agreement can be categorized in various ways. For instance, Zait et al. (2014) classified seven determinants considered by companies when expanding through M&A: Economic (previous deals performance, GDP, inflation, taxes, labor costs), Social, Cultural (uncertainty, language distance, acculturation, familiarity), Institutional (control, corruption, politics, infrastructure), Technological, Organizational and Commercial (Zait et al., 2014). Warter L. and Warter I. (2015) on the other sides focused more on a macroeconomic perspective, pointing out that both economic conditions and US M&A intensity activities could influence the overall landscape (Warter & Warter, 2015). They proceed in finding three drivers: geographic expansion into emerging markets, consolidation in mature markets or restructuring, all driven by the exploration of cost efficiency and revenue effects. To achieve these objectives banks can use four different techniques: new business acquisition (i.e. a new segment), small bank acquisition (volume expansion), full bank acquisition (involves both volume and business line expansion) or M&A among equals (Warter & Warter, 2015). What is common in every type of bank combination is the core objective is to improve the operational efficiency or increase the market power, by offering new financial services or opening to new markets. Scholars also agree that there are some drivers that are specific to the banking sector, which are CEO utility, “too-big-to-fail (TBTF)” argument, diversification and synergies (De Young et al., 2009).

CEO utility. Managers, in particular CEOs, tend to maximize their own utility function, even at the expense of the shareholders, primarily to improve their own remuneration by building an empire. Indeed, remuneration are usually connected to the company size (measured usually as bank assets) and since pursuing M&A strategies increases it, managers are willing to expand the business through these actions (De Young et al., 2009). Considering that CEOs, Board of Directors and top management exert a significant influence on company decisions, they could push to sign a merger not for maximizing shareholder’s value, but their own. In this way, they not only improve their remuneration, but also their reputation and satisfy their need for achievement (Kolaric & Schiereck, 2014). Naturally, there are also positive aspects to it: in case of future strategic uncertainty, the decision to merge or acquire can unlock new opportunities, gain a competitive advantage by doing the first move in the sector and then enhance shareholders’ wealth. Also, the type of remuneration plays a role. Cornett et al. (2003) showed that M&A are more successful if the CEO has an equity portion in the company (shares or stock

options) (Cornett et al., 2003), while Hughes et al. (2003) pointed out that in this case the top managers could unconditionally prevent their own bank takeover, even if that would be the best choice in some circumstances (Hughes et al., 2003). Overall, equity compensation is connected with positive effect on M&As, because it aligns managers and shareholders' interests, but the remuneration should be well designed to prevent opportunistic behaviors (Kolaric & Schiereck, 2014). Furthermore, it is found that CEO from larger and more profitable banks are more inclined in pursuing business combinations, because of their stronger bargaining power that made the deal easier; the market usually reacts positively when experienced CEOs make acquisitions because they are supposed to have learned from their errors: as long as CEOs make more acquisitions, they will gain more experience and get better future deals (Ji & Jiang, 2022).

TBTF. A bank could pursue business combinations to achieve the state of TBTF to exploit public subsidies (De Young et al., 2009). Indeed, banks that exceed a certain size may be considered TBTF by Government, that is seen as a guarantee in case of the bank turbulence. This view has increased its appealing after the global financial crisis, during which US government largely intervened to protect the banks' crisis. Banks understood that becoming larger would bring benefits even in ordinary times. In an acquisition perspective, a bank may pay a premium for merging with a target that allow it to become TBTF (Carletti et al., 2021). It is not clear what are the threshold for a bank to be considered TBTF and thus how much premium a bank is willing to pay to achieve such status. Brewer and Jagtiani (2007) came up with three definitions to classify a bank as too-big-to-fail: total assets are at least $100 billion; the bank ranked in the top 10 largest bank (relative to assets) in a year; the market capitalization exceeds $20 billion (Brewer et al., 2007). From this point of view, bondholders may look at bank mergers as an event that decreases the default risk of the bank; in addition, mergers that lead to TBTF status are associated with higher positive returns, even looking at the stock and bond market (Kolaric & Schiereck, 2014). This may create a competitive advantage of large banks over smaller ones, that may try to enlarge too. The main concern about this strategy is that it could incentivize banks in taking too much risk, underestimating the default risk and its consequences, knowing that the government institution will intervene as a safety net. Indeed, the failure of a TBTF bank could lead to repercussions to the entire economic systems; the only way to avoid such disaster is through Government intervention, but that can create moral hazard problems in banks and inadequate acquisition.

Diversification. Another driver is the opportunity to diversify the business, expanding their geographical presence and product/service offerings. Acquisitions are, in fact, a fast way to

grow in new areas, especially if bank has never operated, thanks to the acquiring firm's experience, human capital and reputation (De Young et al., 2009). In this way there is the potential of a risk and earning diversification, by collecting uncorrelated cash flows. As previously highlighted, banks activities are highly influenced by the technological development and advancements in information and communication; therefore, banks consider even these factors when deciding what companies to acquire. Innovation can bring efficiency, revenue enhancements and a better performance (Chiaramonte et al., 2023).

Synergies. As already mentioned, synergies are one of the core motivations in every M&A deal. The combination of two companies is considered successful if their merged value is higher than their individual ones, in other words they generate greater value working together than apart. This can only be achieved by a clear strategy, focus on the objectives to be accomplished and an effective integration phase. If the two banks can synergistically operate, they can bolster each other core strengths, share know-how, tangible and intangible resources, negotiation power, coordinated strategies and new business creation opportunities (Calipha et al., 2010).

1.3.1 BAILOUT TAKEOVERS

A bailout takeover refers to a situation where the government or another financially stable company takes over the control of a failing or failed company (e.g. a bank) with the goal of recovering the distressed scenario. Usually under a bailout, the first to intervene is the government who wants to prevent the collapse by injecting public money in exchange for full or partial ownership (Lambrecht & Tse, 2023), and then can resell the failed institution to another company. The banks saved through the bailout are usually considered too important for the industry to fail; indeed, in this scenario, the bankruptcy would have detrimental consequences for the industry and the economy. In 2023, the US banking crisis, started with the failure of Silvergate and Silicon Valley Bank, made it necessary for the government to intervene; the Federal Reserve and the FDIC immediately announced their willingness to protect all deposits (even the ones above the $250.000 threshold, who are always guaranteed) in the failed banks in order to prevent a bank run and to instill confidence for the other banks. In this case, the money did not come from taxpayers, as was the case during the 2008 financial crisis bailouts, but FDIC used the Deposit Insurance Fund (DIF), that is mainly funded by other banks, and the Bank Term Funding Program (Ordonez, 2023).

When a banking institution becomes critically undercapitalized or is going through critical situation, the regulator will initiate its resolution by sending a failing bank letter to the FDIC. The FDIC will then contact the management to assess the liquidation value of the bank and to

choose the resolution structure. During the period between the receivership and until the final acquisition, the FDIC will manage the deposits and all other claims. The following step is starting the marketing of the failed company to a pool of potential bidders who showed interest in the acquisition. To participate in the bidding auction, banks have to satisfy some eligible criteria which are set by the FDIC (some examples of criteria to satisfy are rating, total assets must be twice the failed bank, etc.). It is up to FDIC to provide all information about the failed institution, for example loan reviews, balance sheet items value and other relevant information. The main difference with an ordinary M&A process is that in this case the due diligence process lasts four to six days, in contrast to the (at least) six months of the normal process. Finally, the FDIC evaluates the submitted bids and select the best one, which is the acquisition that will minimize the cost for the DIF and the resolution. Indeed, even after the merge, the FDIC might be forced to intervene again, finance some aspects of the combination or sustain other costs, due to the importance and urgency of the situation (Granja et al., 2017). The FDIC generally provides a credit line to expand the coverage of the combination. In this specific case, taxpayers will suffer losses only if draws from the credit lines are not fully repaid (Lucas, 2019).

If it is established the government entities intervene to protect the economy, it is interesting to consider the same scenario from the bidder perspective, asking why and what are the aspects an acquiring bank consider when buying a failed one. Granja et al. (2017) answer this question by studying the allocation of failed bank during the financial crisis. They identified three main characteristics that motivate the combination and drive the willingness to pay:

1. Geographic proximity, in the sense that local banks that already have branches in the same state are most likely to acquire failed local banks. Potential acquirers may be willing to pay more because they possess soft information about that area.
2. Bank specialization, that means failed banks are more likely to be acquired by banks that offer similar services and lines of business, have similar loan portfolio composition (real estates, commercial and/or consumer loans). The acquiring bank, having specialized assets and human capital, may be the best choice in managing a distressed bank and lift the position.
3. Market concentration, in this case the possibility to increase its presence and concentration may lead to higher bidding. Increasing the bank size makes the financial institution more competitive, widespread and helps in achieving the TBTF status (Granja et al., 2017). Allowing another bank to take over the failed one ends up by increasing the concentration in the market and in higher profits for the existing ones.

Whatever the reasons are, it is also established that low capitalization decreases the ability for a bidder to acquire a failed bank, and may lead to a different acquirer, even if it has lower willingness to pay; this because poor capitalization has been associated with higher costs during the resolution phase.

The takeover of a failed bank has also two contradictory effects: it may boost financial stability by incentivizing other banks to remain solvent in order to gain from future competitors' failures ("surviving effect") while at the same time may threaten financial stability by creating systemically important financial institutions, that are usually saved in negative scenarios and so eliminate the incentive to remain solvent (moral hazard) (Gómez, 2015). Industry consolidation could, then, bring to a more fragile landscape, where insolvency risk rises, and where mergers are seen as a way to achieve the TBTF status to increase the probability of bailout in case of failure.

Fortunately, bailout intervention was not often deemed necessary in recent times. The main studies who analyze the phenomenon concentrate during the Great Recession, where public intervention through this tool were used. Indeed, government intervention is inevitable in case systemic risk rises and bank considered "too big to fail" are going through distressed situations. After the burst of the housing bubble, the crisis spread to the financial market, leading to some of the biggest bank failures in history, Bearn Stearns, Lehman Brothers and Northern Rock. To mitigate the crisis, governments intervened by injecting liquidity, issuing guarantees and relief mechanisms, such as bailout (Grossman & Woll, 2014). The bank bailouts in the US manifested mostly via the Troubled Asset Relief Program (TARP), established in October 2008 to directly inject equity in troubled banks. This mechanism created the right incentive to rescue the situation, also actively involving the public authority in the governance process to monitor the helped banks, while not participating in the day-to-day management, but sanctioning in case of dissatisfaction (e.g. CEO firing). During that period, almost $200 billion dollar were invested in 707 institutions, (Hryckiewicz et al., 2023). The US experience revealed successful, in fact aim of the program was not only to invest, but also to dispose of those investments as early as possible, charging interest for the money lent and sell assets (especially those toxic) acquired. In December 2018, US Treasury collected back $226 billion, against the 205 invested, and kept stakes only in three institutions.

Bailouts come with some costs, both direct and indirect. Direct costs are the one coming from government subsidies, guarantees and administrative rulemaking, usually borne by taxpayers.. Indirect costs are ex ante excessive managerial risk taking, regulatory responses and possible

citizens negative reactions, distortions in choosing which bank to save and which not (Lucas, 2019). Regarding this last point, it was found that when deciding which bank to rescue, several characteristics looked determinant; larger size, volatile sources of funds, high loan growth rate, higher asset quality, higher capital adequacy, higher liquidity needs, being systematically important or part of a muti-bank holding structure or a new bank are all factors associated with an increased likelihood of being subject to bailout (Lu & Whidbee, 2016). Moreover, it has both fiscal and social costs: financial support may divert the distribution of resources on society, that could not feel compensated for the risk the government takes or the funds that the bank will not repay, and can be unpopular, because it can lead to sovereign debt problem (Mare et al., 2023). The fiscal authority should take also this factor into consideration when deciding for a saving or not, as it might put public debt sustainability in trouble and derange taxpayers' money from other important (and probably more felt) expenditures, such as education, health, culture, infrastructure, etc.

Bailout may lead to positive outcome by starting the restructuring of bank, also influencing a change in the governance and management processes (Hryckiewicz et al., 2023). It also brings benefits to the shareholders (preserving capital), debtholders, customer and employees (maintaining jobs) of the rescued bank, while also indirect benefits, such as avoid panic and damage to the real economy (Lucas, 2019). It must be noted however that the largest beneficiaries of a bailout are the unsecured and uninsured debtholders of the rescued bank, not its equity holders, that are left with little value. Indeed, they could find their final position diluted and subordinated to new claims made with the government in exchange of help (Lucas, 2019).

Bailout brings also controversial aspects in the bank activity, as it may lead to moral hazard and higher risk appetite. Banks maximize their profits by creating portfolios that can have different risk-return profiles. The tradeoff is the classic notion: the higher the risk, the higher the expected return, but at the same time the higher is the probability of the bank to become insolvent. If bailout is introduced, it creates moral hazard, as in the worst-case scenario the bank knows there is a safety net and it will not incur in all the losses, that will be partially offset by the public intervention (Cordella & Yeyati, 2003). With moral hazard, banks can offer attractive payoff to their depositors, with high short-term returns, knowing they will be bailed out. Banks are therefore most likely to default under bailout regime (Lambrecht & Tse, 2023).

Although the bailout measures are considered fundamental, and it would be not optimal to commit to a strict no-bailout policy (Keister & Mitkov, 2023), especially when a contagion

effect could arise, one way to mitigate this problem is using discretion in the bailout decision, that means not assuring that the bank will be saved whatever the case is. Others suggest that it can be eliminated if the fiscal authority makes a credible commitment on the bailout policy, along with policy tools adequately constructed to control short-term interest rates (Sim, 2024). Government should support surviving banks conditional to their liquid asset and capital; indeed, the higher the anticipated probability of bailout or if a bank underestimates the risk of failure, the lower the ex-ante capital a bank maintain, leading to higher bailout's resources. Policies that aim at increasing bank's capital, like Basel III and IV with its buffers, could increase bank resilience and reduce moral hazard (Tian et al., 2013).

Furthermore, when comparing bail-in, bailout or liquidation of the bank, it is found that the net value created by a bank is the highest under the bailout. As a matter of fact, if part of bank dividends is put into a pre-bailout fund through a dividend tax in good times, it is possible to cover all expected bailout costs without using public money, would not alter shareholders' incentives and would resolve insolvency in a fast way, considering that the bank will be able to remain active and recover (Lambrecht & Tse, 2023).

1.4 START OF 2023 U.S. BANKING CRISIS: THE SILVERGATE BANK CASE

The year 2023 will be remembered as a dramatic year for the US banking, as it was characterized by several failings of prominent banks. If one would like to sign the beginning of this series of events, it will be the downfall and subsequent liquidation of Silvergate Capital Corporation, holding of Silvergate Bank (from here on "Silvergate"). On March 8, 2023, Silvergate announced the wind down operations and put itself voluntarily under liquidation regime, with full repayment of all deposits (Silvergate, 2023). To understand what led the bank to make such a decision, it must take a step back.

Silvergate began its operations in 1988 in La Jolla, California as a commercial bank. In 2013, it started a strategy transition, shifting its core operations towards the crypto-currency business. When in November 2019, Silvergate listed on the New York Stock Exchange, its business had completed the transformation becoming specialized in crypto-banking, who was aiming to become one of the key players in the sector, having the advantage to be the first-mover; it even opened an inter-client payment system to facilitate payments between crypto-firms in 2017, the Silvergate Exchange Network ("SEN"). In 2020, the bank started also to offer loan collateralized by Bitcoin, that customers need to carefully pay attention as the price volatility of Bitcoin could trigger unwanted consequences. However, the deposits liabilities were not

matched by specific assets but only to maintain substantial liquidity in case of deposits withdrawal. Even though the business model was not sustainable, it actually worked in guaranteeing all deposits when the bank failed (Warren, 2024).

Things started a downward spiral in the beginning of 2022. The bank bought intellectual property and other technology assets from Diem, a Facebook project on cryptocurrency, for $200 million, whose objective was to launch a type of cryptocurrency designed to be stable. The launch was delayed multiple times and was eventually cancelled, resulting in a loss of $196 million (Manda & Khaliq, 2023). On November 11, 2022, FTX, the world's second-largest cryptocurrency exchange and Silvergate's client filed for bankruptcy (Reuters, 2022), leaving Silvergate in shambles. As panic in the crypto industry arose, depositors started to withdraw their funds from the sector; Silvergate depositors withdrew $8 billion. The bank also faced scrutiny from the US Congress, regarding its relationship with FTX, sued for misappropriation of FTX client funds (fraud) and money laundering (Warren, 2024).The irreversible decision to focus the entire business in cryptocurrency proved fatal, as the sector continued to be in turmoil even in the following months. Beyond the concentration risk, other factors menaced the firm's surviving: reliance on uninsured non-interest bearing deposits (97% of total liabilities), that means that Silvergate could receive funding basically at zero costs, but depositors could withdraw at any time; ineffective risk management and governance (that did not keep up pace with its rapid growth and complexity) along with nepotism (for example Pearson, the Chief Risk Officer was the son-in-law of the CEO Lane), who caused an unbalanced portfolio, wrong strategic choices and unrealized losses (Board of Governors of the Federal Reserve System, 2023b).

In 2023, as interest rates continued to increase, the value of the assets held "available for sale", bought during low interest rates environment, decreased. This, along with liquidity needs caused by the crypto crisis, obliged the bank to sell those assets, realizing the losses. On March 1, 2023, Silvergate delayed filing its annual report, after reporting a loss of $1 billion in Q4. As this is seen as clear sign of crisis, stock market reacted. The stocks collapsed 29% the following day (Reuters, 2023a).

The situation become unsustainable, as the bank was burning all its assets and liquidity sources, and on March 8 voluntarily winded down. In November 2023, Silvergate announced that it was able to repay all its depositors in full, which contrast the frequent results in case of bank runs, that lead to losses for bank's debtholders (Warren, 2024).

A couple of days later, Silicon Valley Bank attempt to rescue the banks failed and on March 10 it collapsed. Unlike Silvergate, SVB was not liquidated but FDIC took control and then sold it to First Citizens. The share prices of other banks were influenced, including Signature and First Republic. Signature shut down on March 12 and sold to NY Community Bancorp. In the meantime, even First Republic suffered high deposits outflow. On May 1, it closed and was acquired by JPMorgan Chase (Acharya et al., 2023). In the same period, between March and May, even PacWest reported losses of deposits and stock price plummeted. Even though it was a slower burning, the situation deteriorated and in November 2023, Banc of California acquired the bank (Pound, 2023) (Mercado, 2023).

These case studies will be deeply analyzed in Chapter 3.

CHAPTER TWO

2.1 CONTAGION EFFECT

The failure of SVB and the following bank failures shed the light on the implications of bank runs and contagion on the financial system. The bankruptcy of a single bank, especially a large one, may cause the loss of public confidence in the whole banking system and thus, may lead to contagion effect and domino effect, triggering bank runs (which will be explored in Section 2.2).

Contagion effect refers to spillover of the effects of shocks from the failure of one or more bank that can spread to other banks, firms and even beyond the financial system. The risk of widespread contagion is often referred as systemic risk (Kaufman, 1994). Similarly, a contagion can cause a domino effect, that means that the failure of one bank causes the failure of another institutions. Contagion can be divided into two types, broad contagion and restrictive contagion. Broad contagion refers to a financial shock or crisis in one market that spreads and affects several other markets, sector or countries. It can be caused by a high degree of interconnectedness and vulnerability in the financial system, where problems in one area quickly spill over into others. In contrast, restrictive contagion refers to a financial shock whose impact is contained and does not spread widely to other sectors. In this case, the systems are less connected. The term reputational contagion is frequently used by scholars to describe the spread of shocks across markets that cannot be fully explained by macroeconomic fundamentals alone. This form of contagion can have a profound impact on financial institutions, which heavily depend on public trust and confidence. Banks, in particular, rely on their reputation to attract deposits and investments, and any negative perception can lead to substantial financial repercussions. Research has shown that bad news about one institution can rapidly spread and

damage the reputation of others within the same sector but can also affect the broader economy (Naveed et al., 2023).

Financial contagion can propagate through various channels, that includes direct exposure through interbank linkages, information spillovers (i.e. difficulties of one bank can become a negative sign for others) and liquidation of illiquid assets. To identify companies effected by contagion, usually analysts look at the market response, measured by changes in stock prices. This metric helps identify how far the contagion impacted the system and which bank suffered the most (Beom Choi et al., 2023). To determine if there is contagion effect, one must first detect the dates preceding the critical events. Indeed, in efficient markets, a failing bank will sustain a drop in the stock price, because investors observe a deterioration in its position; if other (apparently) solvent bank are affected by this information and so experienced a similar decline, there is contagion effect (Aharony & Swary, 1983). Thus, this negative movement can be indicative of which bank will fall next.

The causes of contagion can be various and may be specific to the type of crisis is in place. In fact, even if after the Global Financial Crisis, the U.S. implemented tools to avoid another kind of situation, specific factors could not stop the crisis to spread in 2023. On the contrary, studying different bank failures, Aharony and Swary (1983) discover a relevant common finding. The failure of a dishonest bank, caused for example by fraud, should not trigger panic and loss of public confidence in the system, while failure of a bank due to financial or economic factors could have different consequences, leading to negative spillovers even to other solvent banks (Aharony & Swary, 1983).

The literature on this theme delves into the causes and effect of contagion from different perspective. For example, Tian et al. (2013) underlines how low capital ratios play a key role in promoting contagion and forcing liquidation. Under this perspective, interbank contagion can be minimized if banks are well capitalized and capable of making optimal choices in response to potential external shocks. This means holding capital conservation buffer (as already stated in Basel III) in normal times, that could increase the bank's resilience in time of stress and avoid contagion when the crisis occurs. These results provide support on the Basel effort to require a minimum level of capital, constant supervision of some indicators and regulation (Tian et al., 2013). Other more recent studies approach the phenomenon based on the latest events, the SVB failure that caused spillover effect on the U.S. system. Choi et al. (2023) examined the stock price reaction of banks during the March period and found out which specific characteristics played a role in driving spillovers.

One factor was the concern over unrealized losses in highly liquid securities. This time, having more liquid securities did not mitigate contagion; on the contrary, when interest rates rose to face inflation, held-to-maturity securities started booking unrealized losses. Although this were considered potential at the beginning, they materialized when banks were forced to sell them to contrast the huge liquidity demand coming from deposit withdrawals (Beom Choi et al., 2023).

Another factor that induced contagion was the (over-)reliance on uninsured deposits (Beom Choi et al., 2023). In fact, this was a characteristic common to all the distressed banks here analyze. Although they offer a reliable source of funding, as they are considered more stable, and at lower cost, they become very dangerous in stress times as they are the first to be withdraw (Caglio et al., 2023). This, coupled with unrealized losses, created the perfect mix for a crisis to happen.

The correlation between bank size and spillover effect was also meaningful. Mid-sized, regional banks, with assets between \$50 to \$250 billion, were the most stressed ones (Beom Choi et al., 2023). In contrast, largest bank with assets greater than \$1 trillion outperformed the system. This can be explained by the TBTF guarantees. During panics, deposits generally shift to the bank perceived as safest. The safety of a bank may derive from bank strengths or the expected government support, but generally depends on the economic context. In weeks when banks failed in March and May, deposits at large bank grew more than other smaller institutions (Caglio et al., 2023). Caglio et al. (2023) found that this deposit movements were not caused by higher offered deposit rates, but because they were considered safer. Their safety is explained by three reasons: (i) larger banks may be truly safer in terms of financial health, (ii) they are subject to stricter regulation and supervision, (iii) they may be too-big-to-fail, implying that in case of negative scenario, government support will more likely protect deposits.

Whereas market agents had already considered in the past these factors, what apparently changed was the perception of their risk. As a matter of fact, if depositors do not perceive unrealized losses, uninsured deposits or bank size as problematic, they will not worry about them, hence no bank run. However, during the 2023 failures these perceptions changed, and a bank run occurred. This seems to confirm the information view of Gorton (1988) and Dang et al. (2020) that states that panics are systematically related to the occurrence of other events which change perceptions of risk (Gorton, 1988). A new information, such as the failure of an institution or negative news on bank fundamentals, bring a realization of risks in bank assets that can degenerate into panic (Vi Dang et al., 2020).

The bank failures produced impacts on different financial markets. The banking sector declined by 20%; among the bank hit the most there were Signature Bank, First Republic and PacWest (Beom Choi et al., 2023). JPMorgan Chase, Bank of America, Wells Fargo and Citigroup lost overall $52 billion in market value on March 9. The crisis also spread to Europe, where Credit Suisse was taken over by UBS (Erer & Erer, 2024). Indeed, Erer E. and Erer D. (2024) investigated whether the crisis spread globally, looking at the impact in the MSCI Bank Index. They found a significant degree of dependence, hence contagion, between bank returns. However, the effect was not uniform, as more robust banking systems showed fewer negative impacts.

There are several researches that try to find which sector and countries where most affected by the U.S. banking crisis. Many works focus on the impact of SVB, as it was the pivotal point in the crisis. The reason is that financial markets have become heavily interconnected, thanks to globalization and technology innovation. Hence, since global markets are more linked, it may be expected that the case of financial contagion is more likely. Naveed et al. (2023) found that most metals and fiat currencies had positive abnormal return on both the event day and after, while energy assets, except for natural gas, experienced negative abnormal returns. Cryptocurrencies displayed negative returns on the event day, and positive on the post-events. Ali et al. (2024) identified analogous results. US and European bank were negative affected, while Chinese banks not. The contagion spread outside the banking system: cryptocurrencies and gold had a positive reaction, maybe because they are perceived as safe assets or as part of a diversification strategy; oil market showed a negative response; the high-tech sector was unaffected, as reputational contagion may be limited thanks to government protection of deposits and alternative source of fundings for these companies (Ali et al., 2024). Akhtaruzzaman et al. (2023) investigated contagion in the G7 countries, as well as Brazil, China, India and South Africa. They found analogous results, as contagion was spread internationally and hit several industries. However, they noticed that contagion was short-lived, being most prevalent during the week when SVB failed and diminishing after the US authorities intervened, with significant correlation in US, French, German, Italy and UK (Akhtaruzzaman et al., 2023). Similarly Aharon et al. (2023) explored if there was contagion in global equity markets. They detected negative abnormal returns, both on the day and the event and after, in capital markets of in Europe, Latin America, the Middle East, and Africa (Aharon et al., 2023). This finding suggested that SVB collapse had more effect on developed markets due to their higher degree of integration and interdependence. As support of this theory, developing

economies experienced less spillovers, probably because of their less connection with the developed financial systems (Aharon et al., 2023) (Akhtaruzzaman et al., 2023). Of course, not all countries were affected in the same way. The ones that implemented stronger regulation and manage risks adequately were hit less.

2.2 SOCIAL MEDIA THREATS IN BANK RUNS

A bank run occurs when a large number of a bank's customers, prompted by panic and loss of confidence in the institution, simultaneously withdraw their deposits, creating liquidity pressure on the bank. This process can happen in a matter of hour, build up for days or months (Dosumu et al., 2023). When a ban run occurs, the institution may be forced to sell some assets to face liquidity needs, generating possible losses that cause the bank to fail. The expectation of failure, with a run, tends to become self-confirming. The danger of runs is that can cause the failure of healthy banks too, due to contagion (Spitler, 2024). Bank runs often triggered a financial crisis and created economic turmoil. Historically, there has been several bank runs, the most infamous and serious ones took place during the Great Depression in 1929 and in 2008, sparking the Global Financial Crisis. Although this is not a new phenomenon, the bank runs of 2023 had some peculiar characteristics that reflects today's times. Indeed, social media (especially Twitter/X) played a crucial role in spreading the panic. These channels can coordinate depositor's decision to withdraw their money from a bank, even if it has not fundamental problems, but just because they think other depositors will do the same. As the observation of others' movement is not always possible, information of potential withdrawals may lead to bank runs, making the bank fragile (in a sort of self-fulfilling prophecy) (Kiss et al., 2014).

In the present social media age, more and more people use social networks every day. Among the users, some of them are investors and depositors. As social media posts and exchanges has the power to catalyze the attention, they can also amplify the transmission of financial information, like a mass fear of losing deposits, reaching a broad audience. Social media has three characteristics that make it a powerful communication mechanism. First, it has a more rapid speed of communication than other tools, such as radio, TV or personal connections. Second, information posted to X (formerly Twitter) is public, everyone can see it and can reach a wide audience thank to retweets and suggestions. Lastly, social media gather information from many sources, even though sometimes it is difficult to understand if the content is reliable or not. These features together might lead to coordination of depositor's ideas and actions that can accelerate bank runs, as proved by the recent crisis (Cookson et al., 2023). From an economic perspective, Twitter delivers information at low cost and efficient, enabling direct

communication of politician, businesspeople, CEOs without the distortions of media bias or delays in reporting. As a result, individuals can quickly share and coordinate their views (Bales & Burghof, 2024). The recent crisis has demonstrated the critical role of social media in financial stability, that should be address via supervision, like early-warning systems that account for social media to solve issue before they become systemic (Bales & Burghof, 2024).

Researchers have already covered the connection between social media and financial decisions. For example, Li and Li (2016) run a simulation analysis and found that the probability of bank run is higher in random networks than in small-world networks; also, the degree of depositor networks has a role on bank runs and it is influenced by the level of impatience and confidence. The study underlines the importance of information transparency for banks to enhance the confidence level and avoid bank runs, and the need to pay attention to the information channels to understand depositor's sentiments (Li & Li, 2016). The study of Bianchi et al. (2023) points out the power of social media on economic decisions if posts are written by influential people. They wondered if tweets by the President (in that case Donald Trump) had any impact on the conduct of monetary policy. In theory, the Fed should be immune from political pressure, hence those presidential tweets should not have any correlation on market expectations about the future monetary policy. The analysis, however, showed different results: Trump's tweets had an impact on medium- and long-term bonds. As he criticized the work of Fed, there were downward revisions in the short-term rate expectations. Consequently, there was a positive impact on the stock market, caused by the rate cut (Bianchi et al., 2023). These results are relevant as they show how one person, or even a group of people renowned in the industry (Venture Capitalists in the 2023 crisis), can change market expectations and move the market towards a different direction. A series of tweets may have a material impact on stock markets (as in the GameStop case), policy decisions and macroeconomy. Baker et al. (2021) built a Twitter Economic Uncertainty indicator, using a 10-year dataset of economic tweets. Their index demonstrates how Twitter users and journalists have similar perceptions about economic uncertainty. Their findings suggest that Twitter messages contain informative indicators that moves in the same direction of newspapers and financial markets' beliefs (Baker et al., 2021).

The SVB bank run will be remembered as "The first Twitter-fueled bank run", as called by Patrick McHenry, chairman of the US House Financial Services Committee. Anxious Twitter posts and WhatsApp exchanges, coupled with the ease of access that online banking provides, became a serious problem during the crisis, as the behavior behind a bank run may be amplified and go viral quicker (Yerushalmy, 2023).

One of the main studies to develop into the argument and discussing the role of social networks in the SVB case is the one of Cookson et al. (2023). They detected a wave of tweets by apparent depositors that fueled a run to SVB deposits and led to contagion to other banks. They found that the most hit banks had a high exposure to uninsured deposits and mark-to-market losses on their balance sheets, the main factors that unite all the failures. Moreover, the banks that faced the greatest distress were also the ones that had already raised concern on Twitter prior the crisis, in January and February. To have a scale of the events, from March 8 through March 13, users posted 6.528 tweets with the word "run" about SVB, which is five times the number of First Republic Bank run discussion. There was also similar pattern with posts that mentioned contagion (9.662 tweets). One element that contributed to the spike and reliance in these posts was the fact that the conversation was sustained by investors and venture capitalists, that advice to withdraw deposits feeding the panic. As run discussion started by investment professionals on March 9, it quickly spilled over to the general public. Summing it all up, Cookson et al. found that banks already in the center of Twitter conversation were the ones to lose more stock value (or fail). Social media amplified bank run risk pointing out the problem of uninsured deposit reliance, which were the center of the withdrawals. During the run period, every bank that was in the eye of Twitter negative sentiment, experienced stock market losses (Cookson et al., 2023). The events provide evidence of a new source of danger. Traditionally, panic and information were spread during bank runs through conventional media, like newspapers, radio or television. For the first time, social media played a central role, accelerating the propagation of information and mass fear (Yerushalmy, 2023). These results are also confirmed by Bales and Burghos (2024), who studied the role of media attention in the SVB failure. They found that Twitter attention increases at a much faster pace than Google searches after SVB announced its difficulties, and even though media did not cause SVB to collapse, they certainly reinforced opinions and accelerated the runs (Bales & Burghof, 2024).

SVB's depositors were highly concentrated in the tech start-up community, that is a highly networked one, was supported by venture capital firms and use to exchange information via Twitter. This is important because as startup community tweet's volume spike, its interconnection fasten the coordination of the bank run. In addition, tweets by this community were considered more reliable than the general ones, as proved by the ten times stronger negative impact those tweets had on the banks involved. Already on January 18th, an account called "Raging Capital Ventures" posted a thread about the SVB issues with its assets, deposits and VC concentration. Although initially it did not make so much noise, it became viral with

more than 1000 retweets in early March because it was explaining the reason behind the run and the fragility of the bank, convincing depositors to withdraw (Cookson et al., 2023). This seems to confirm Bianchi et al. findings: posts by relevant subjects can drive stakeholders' decisions and have large consequences.

The combination of social communication with technology innovation, such as digital banking, and the nature of the depositor base played a crucial role in the failure. Online banking is available everywhere through smartphones or laptops and allows to move money online instantly. Depositors at Silvergate, Signature and SVB were heavily concentrated in specific and connected industries. Hence, they were likely to behave in similar ways. For example, Silvergate and Signature were connected by their payment networks used by crypto-asset customers. These clients were used to move funds quickly and with digital platforms. Moreover, they had some awareness of other clients' actions, as they used to do business with them. Consequently, when loss of confidence arose, depositors at these banks received advice to withdraw funds and communicated to each other during the run. The fact they could withdraw online at any time accelerated the outflow (Rose, 2023).

The implication that social media matters for banking stability is potentially troubling because social platforms can propagate inaccurate information, rumors or misinformation. He and Manela (2016) highlight that the likelihood of a bank run is closely tied to the speed at which rumors spread. With platforms like Twitter accelerating information dissemination, this poses a significant risk to financial stability, as concern of a bank liquidity may expose even safe banks to runs (He & Manela, 2016). In social media, users share information usually without checking its reliability or accuracy, because they are rewarded with engagement. Individual can create information playing on people's fear and anger to manipulate opinions and encourage them to act in a certain manner. The spread of misinformation and disinformation, then, might result in harmful consequences for the banking system. At the same time, it is difficult to impose restrictions on misinformation as it can crash with the "free speech" rights, it is hard to detect those rumors and social media platform seems to have no intention to address this problem (Spitler, 2024). Therefore, bank should consider even this risk. The danger of fake news could become even more alarming with the advent of artificial intelligence (AI), that is becoming always more advanced in generating fake images or videos that are hard to distinguish from reality and could have an impact on uniformed users.

The events just mentioned highlight how communication via social media may pose a risk to banks and amplify bank run risk. It should be also taken into consideration the conversation on

social media circulating around one institution. If there is negative sentiment towards a bank, it should be better to intervene with strong announcements to calm it down, as it may be the first signal of a possible panic-induced bank run. Moreover, this crisis demonstrates the speed of coordination and contagion social media can generate, especially if depositors are concentrated in a networked and influential community. As social communication is becoming always more pervasive and persuasive, one could expect this risk to remain.

One thing worth noticing is that not all bank runs have caused banks to fail. Strategies to face runs tend to be focus on regain public confidence. Banks typically use two strategies: (i) enhanced transparency strategies, that attempt to stop the run by delivering transparent information about the bank's health, e.g. by publishing their statements on newspapers. The focus on the information should be on the liquidity capacity and the assurance that depositors will be protected. (ii) The other one is the respected validator strategy, in this case banks used individuals that are trusted by the community to restore confidence (Spitler, 2024). This later one was actually the one used during the 2023 crisis, as Government institutions intervened to reassure depositors. For example, the Federal Reserve announced the Bank Term Funding Program, to provide liquidity to banks that were facing similar conditions as SVB (FSB, 2023), a consortium of banks led by JPMorgan Chase deposited $30 billion in First Republic Bank, and the FDIC announced that all depositors of SVB, Signature and FRB would be insured.

2.3 RISK MIS-MANAGEMENT AND SUPERVISION

Banks are exposed to a wide range of risks, including credit, market, operational, and liquidity risk, all severely affect their financial stability. To prevent systemic failures, regulators enforce strict policies and conduct intensive supervision. Internally, banks must identify, assess, and manage risks effectively through sound risk policies. Effective risk management is crucial for sustainable banking operations, as it helps to mitigate the negative impacts that could harm a bank's overall health (Solikhawati et al., 2024). The 2023 banking failures exposed weaknesses in the bank organizations, in particular, inappropriate governance, unsustainable business models, inadequate liquidity and interest rate risk management. Many affected banks experienced rapid growth that was not backed by an effective management and governance that could adequately monitor and address risks and deficiencies flagged by supervisors (Fagetan, 2024). Lack of asset diversification, over-reliance on uninsured deposits, increase exposure to interest-rate risk and loss on securities determined the collapses.

While credit risk did not play a role, interest-rate and liquidity risk were the main concerns. Indeed, each failure shared two things, a very important percentage of uninsured deposits and

unrealized losses on assets. While these elements taken individually do not condemn a bank to failure, their combination has proven to be a dangerous mix (Hanson et al., 2024).

The combustible mechanism works like this. If depositors believe the bank is at risk of failure, they withdraw their funds, particularly in high-interest periods. In these periods, banks, which hold long-term assets that lose value as rates rise, are more vulnerable. As long as depositors stay, stability is maintained. However, if depositors withdraw, this balance is disrupted, leaving the bank with asset losses and leading to potential failure (Haddad et al., 2023). In the cases in question, a significant portion of the uninsured deposits came from business depositors. When these depositors grew concerned about the banks' financial health, they quickly withdrew their uninsured funds, fearing they might be unable to cover their expenses if the bank collapsed. Since so many deposits were uninsured, the deposit insurance system offered no guarantee that their funds would be protected (Spitler, 2024). At the same time, when interest rates went up in 2022, hold-to-maturity asset value decreased, mark-to-market unrealized losses accumulated (Hauf & Posth, 2023). As the banks' position deteriorated, and uncertainty raised, depositors wondered to leave. When this happened, the first to panic were uninsured depositors, which have an incentive to run if their deposits are not backed (Drechsler et al., 2023). To face liquidity needs, banks (like SVB, Signature, FCB and PacWest) had to sell securities, recording the losses previously unrealized. This only deteriorated the position even more, fueling panic (as depositors run from banks with similar combination) and leading the banks to bankruptcy (Haddad et al., 2023). Therefore, there is a relationship between the two. As interest rates goes up, mark-to-market assets deteriorated, and this information is usually available in company's public filings. As most deposits can be withdrawn at any time, a loss of confidence in the bank will cause shift of deposits to safer place (Metrick, 2024). By selling securities to meet liquidity needs, losses are realized. Confidence in the system was only restored, and the risk of contagion to other banks was halted, after the FDIC and FED invoked the systemic risk exception and announced that the government would insure all deposits at those institutions (Spitler, 2024).

Bank's management, hence, built a balance sheet position that was highly sensitive to economic cycles and interest rate hikes, with a portfolio concentrated in long-duration, bond-like securities, both of which increased its exposure to interest rate risk. Failures in sound risk management, particularly in interest rate and liquidity risk, left the bank vulnerable, and once trust in its solvency and liquidity evaporated, collapse was imminent. Managing these risks is crucial for any bank to prevent failure (Hauf & Posth, 2023).

As Drechsler et al. (2023) stated, banks face a risk management dilemma: they cannot hedge interest rate risk and liquidity risk simultaneously. If it hedges to interest rates, it becomes exposed to a run if interest rates rise, because it will hedge it with long-duration assets that are problematic with high rates. If it hedges to liquidity risk, it becomes exposed to insolvency if rates fall, as interest income shrink and it may not be able to cover operating costs, while at the same time the value of the deposit franchise is small relative to the value of the bank's assets, hence there is no incentive to run. The dilemma disappears only if uninsured deposits do not contribute to the bank's deposit franchise, because they are the only one that has an incentive to run. The bank could face this dilemma by buying option features, such as rate floors, swaptions or puttable bonds, whose payoffs will ensure the bank to be protected in both high- and low-interest scenarios. Another way would be to raise additional capital as interest rates rise, to use as a buffer in case of runs. The weak point of these strategies is their costs (premium and issuance costs) (Drechsler et al., 2023). One problematic aspect of the suggested solution is researchers has found a limited use of hedging. Jiang et al. (2022) found that that interest rates swaps are used mainly by larger banks, and only a small percentage of assets is hedged (E. Jiang et al., 2023) (E. X. Jiang et al., 2024). On the contrary, they found that banks with high uninsured deposits, including SVB, reduced their hedging activity in 2022; as interest rates went up, hedge values increased too, and banks sold them to make profit. However, this exposed banks to more interest rate risk (E. Jiang et al., 2023).

Bank oversight by the government consists of two main components: regulation and supervision. Regulation consists of the specific rules, banks must follow. Supervision is the day-to-day enforcement of these rules. Most regulations provide capital or liquidity requirements. However, these requirements are not meant to satisfy a full run of all depositors, as no bank will have enough resources to cope with. To enforce these rules, supervisors perform regular examinations.

In the cases discussed, supervisors identified the weaknesses in their business models, but did not intervene promptly and did not insist on timely corrections. Supervisors, thus, identified the mismanagement but were not able to provide clear guidance to solve it (Metrick, 2024). The main concerns involved the little effort to diversify bank's deposit base or attract more stable insured deposits, the lack of basic risk controls to hedge risk in a time of rapid expansion (Bair et al., 2023), while stress test performed did not include specific tests for interest-rate risk (Metrick, 2024).

While profit maximization likely contributed to risk mismanagement, as managers may have prioritized short-term gains tied to their compensation, the primary responsibility rests with ineffective supervision (Fagetan, 2024). Internal supervisory leaders must ensure that examiners are properly trained and equipped to take timely, decisive actions (Bair et al., 2023). In this case, supervisors underestimated the banks' risk profiles, and the proposed corrective actions were either not implemented or delayed. Moreover, they failed to alert the banks to the risks of rapid expansion and were unable to enforce necessary changes to implement preventive measures (Fagetan, 2024).

Granja (2023) found a controversial series of decision during 2021 and 2022 that was common among less stable banks, with lower capital ratios, high share of uninsured deposits and long-term securities. These banks (under which SVB, Signature, FRB an PW fall) were more likely to reclassify securities from AFS (available-for-sale) to HTM just as their value starting to decline (Granja, 2023), probably with the attempt to lower their interest rate risk exposition and avoiding recognizing losses. Another possible reason behind this, is unrealized market losses on HTM securities do not need to be deducted from banks' regulatory capital (Bair et al., 2023). This behavior raises questions about what the true intentions were and why supervision did not block these actions. These finding suggest that supervisors should pay more attention on the intent and ability of banks to hold securities until maturity, and make sure the decision is not driven by other secondary factors. Indeed, if the banks would have kept securities as AFS, they would have been required to maintain higher capital, that would have not prevented the failures but limited the aftermath's costs.

The primary external regulator were the Federal Reserve and the FDIC. The supervisory process has showed insufficient focus on risks tied to rising interest rates. Examiners did not act with enough urgency to address related vulnerabilities. This highlights a need for more agility in supervision. If problems are not resolved promptly, examiners must have the authority to quickly enforce necessary remedies (Bair et al., 2023) (Kupiec, 2023).

Furthermore, regulations are usually in response of some events, while it would be better if they anticipate new issues. To this end, the crisis shed the light on some reforms and need of intervention by new regulations. There is concern that bank supervision has become a bureaucratic mansion, that do not dig into the real problems. Supervisors should be empowered and encouraged to focus on material financial risks and secure quick remediation (Bair et al., 2023). Liquidity coverage ratio (LCR) should be expanded to more banks and should become more sophisticated in determining the real liquidity position. The LCR requires that banks hold

enough “high quality liquid assets” (“HQLA”) to manage net cash outflows over a 30-day stress scenario. Currently in the US, it does not apply to banks with less than $250 billion in assets. Application of the LCR to all banks would likely have improved the failed ones’ liquidity position (Bair et al., 2023). Hanson et al. (2024) suggest to subject uninsured deposits to tougher liquidity requirements so that the risk of runs poses a smaller threat to financial stability (Hanson et al., 2024). However, it is unrealistic to think that all banks could back their high level of uninsured deposits with securities and reserve alone. A solution could be to require large and mid-sized banks with more than $100 billion in assets to back their uninsured deposits by pre-positioning collateral at the Federal Reserve (Hanson et al., 2024). Also, FDIC should expand its insurance coverage of business transaction account and reconsider the stability of uninsured deposits. All the banks that failed were over-reliant on uninsured deposits that are the first to runs towards larger, safer, institutions (“flight to safety” (Caglio et al., 2023)). Supervisors should then focus on depositor diversification, as a risk management tool. As proved by facts, heavy reliance on uninsured depositors concentrated in particular industry sectors increase run risk. These dynamics rise discussion if universal deposit insurance regulation is necessary. As it is true that a universal deposit insurance would solve the problem of runs, it would also rise moral hazard problems and eliminate any incentive for depositors to check the bank soundness (Spitler, 2024). Additionally, it would expose taxpayers to greater losses in case of bankruptcy, because moral hazard would distort banks’ ex ante risk-taking decisions in normal times (Hanson et al., 2024). A more prudential approach would be to increase coverage only for the business segment accounts so they would continue to have access to the money they need for their operations even during turmoil events and so limiting disruptions to the real economy. It would also help prevent migration of this business to the TBTF banks, that already saw a surge in deposits after the bank failures, thus mitigating concentrations (Bair et al., 2023).

In the US, the application of supervision is based on the size of the bank; this led to less supervision to the mid-sized banks, like the ones involved in the crisis. Nevertheless, the crisis proved how even regional banks can spark contagion and distress the entire system. This regime is different from the EU one, where there is not this differentiation and has proved to be more resilient. For this reason, the elimination of this relaxation would be optimal, and would align the US banking system to international standards (Fagetan, 2024). Other regulatory interventions proposed by scholars are: new standardized risk requirements for all banks (Fagetan, 2024) (Spitler, 2024); considering unrealized gains and losses when computing

regulatory capital to better reflect loss-absorbing position (Fagetan, 2024) (Spitler, 2024); reserving attention to sector and activities that shows rapid expansion, like the digital market and, in response, make specific risk reviews, also considering their specific business models to better capture risks (Hauf & Posth, 2023); implement more sophisticated interest rate and liquidity risk supervision, for all banks. For example, this could involve stress tests that simulate financial risk contagion and consider several potential crisis scenarios, evaluation of liquidity buffers and financing needs. At the same time, risk managers and the board of directors should create a good risk management system and promote the construction of risk management culture in the bank, even with employees' constant training, education (Fagetan, 2024) (Spitler, 2024). Finally, make supervision more reactive, quick and efficient (Fagetan, 2024), to be sure risks are managed in a sustainable manner.

CHAPTER THREE

3.1 SILICON VALLEY BANK AND FIRST CITIZEN BANK

Companies

SVB Financial Group (hereafter "SVB" or "Silicon Valley Bank") was established in 1983 in California and has become one of the focal points for start-ups, venture capital firms and private equity. It specializes in providing a wide range of banking and financial services across the United States, with a particular focus on innovative markets such as technology, life sciences/healthcare, private equity/venture capital, and premium wine industries, supporting entrepreneurs in these sectors. SVB offers a comprehensive suite of commercial and private banking products and services, including secured and unsecured lending, credit facilities, credit card programs, treasury management, foreign exchange services, and more. Over the years, its offerings have expanded to include asset management, private wealth management, investment banking, funds management, and M&A advisory services (Silicon Valley Bank, 2022). The key to its success was the ability to adapt to the technology industry, the recognition of the importance of Internet for banks already during the 90s, the specific knowledge and expertise of its employees and its commitment to innovation that build a strong reputation and were optimal characteristics for the Silicon Valley area, famous for its entrepreneurial spirit (Saif. S. S. Al-Sowaidi & M. W. Faour, 2023).

At year-end 2022, SVB group boasted impressive financial figures, with total assets reaching $211.8 billion, total investment securities of $120.1 billion, total net loans of $73.6 billion, total deposits of $173.1 billion and total SVB stockholders' equity of $16.0 billion. The bank reported net interest income of $4.5 billion, noninterest income (derived from fee-based services,

investment banking revenues and gain on investments) of $1.7 billion, resulting in a net income of $1.5 billion (Silicon Valley Bank, 2022).

First Citizens BancShares ("FCB"), opened in 1898 in North Carolina, provides financial services for consumer and commercial clients, which included mortgage banking, wealth management, factoring and leasing, with a focus on the manufacturing and import sector. The bank operates in diverse industries that range from apparel, home products to electronics. Moreover, it has a rail segment that includes railcars and locomotives that are leased to railroads and shippers. With 600 branches spread across the US, First Citizens Bank has established a significant presence in the market (First Citizens BancShares, 2023e).

By December 2023, the company had total assets of $213.8 billion ($109.3 in 2022), total investment total investment securities of $29.9 billion ($19.3 in 2022), total net loans of $131.56 billion ($69.9 billion at year-end 2022), total deposits of $145.9 billion ($89.4) and total stockholders' equity of $21.26 billion ($9.6). Net interest income amounted to $6.7 and $2.9 billion in 2023 and 2022 respectively, noninterest income to $12.08 and $2.1 billion, with a net income of $11.4 billion in 2023 and 1.0 billion in 2022. It can already be noted that SVB acquisition had an impact on all the main line items of the financial statements, which will be discussed later (First Citizens BancShares, 2023e).

On March 27th, 2023, FCB announced the acquisition of all loans and certain assets and assumed all customer deposits and certain other liabilities of Silicon Valley Bridge Bank[1] from the Federal Deposit Insurance Corporation ("FDIC"), after the failure on March 10th. As stated by First Citizens BancShares, the acquisition of Silicon Valley Bank expanded their client base to serve private and venture capital clients, complemented the wealth management business by implementing innovative digital capabilities and diversified their loan portfolio (through the technology and life sciences and healthcare industries and wealthy individuals).

Reasons of failure

On March 10th, SVB was closed by the California Department of Financial Protection and Innovation and FDIC was appointed as receiver. To understand the escalation of event, a step forward must be taken. SVB showed strong growth during the Covid-19 pandemic, reaching its peak in 2022 with assets value of $218 billion. It also developed a strong reputation, thanks to its commitment in building relationship with venture/private equity firms, providing strategic

[1] A bridge bank is a temporary institution established by a publicly deposit insurance organization (like the FDIC) to operate an insolvent bank until a buyer is found or the bank is liquidated. The original bank is closed and placed in receivership, while a new one is created for a limited amount of time to "bridge" the gap between the failure and the acquisition from a third party. It can last at most two years (Lessambo, 2020).

advice and reliable connections to third parties. During the Corona virus pandemic, favorable conditions, particularly the simultaneous low interest rates along with liquidity injection by the Government, led the bank to rise its assets. Moreover, in 2021 there was a surge in M&As, IPOs and other types of investment and fundraising activities, granting the bank huge returns because of its concentration in venture capital and start-up activities (Vo & Le, 2023). At the end of 2022, SVB held a higher proportion of U.S. government securities (43% in 2022, while only 14% in 2020, which corresponded to growth in absolute value of +450%) and lower loans (34% in 2022, 38% in 2020) compared to its peers. At the same time, there was a surge in deposits, passing from $44 billion in 2017 to $173 billion in 2022 (mostly uninsured), that can be attributed to the market conditions of those years, when US stock market grew and interest rates were close to zero, directing investment to alternative ways, in particular to emerging companies, the core business of SVB, that benefitted from those years conditions (Saif. S. S. Al-Sowaidi & M. W. Faour, 2023).

This already shed the light to the major caused of its failure: the overreliance in debt securities during a period of low interest rates and the following surge led to unrealized losses, due to the vulnerability to rate fluctuations; the bank's deposit where concentrated among a small group of customers which increase the risk of a bank run (low deposit diversification); an inefficient risk management system that could grant safety and confidence to stakeholders (Board of Governors of the Federal Reserve System, 2023a).

Starting with the first point, the surge in investment in debt securities shows SVB rely on those as primary operating strategy. SVB had a large portion of its portfolio of assets invested in long-duration, held-to-maturity, government securities and MBS, with an average duration of 6 years at the end of 2022 (Board of Governors of the Federal Reserve System, 2023a). Most government bonds were bought during the crisis, when interest rates were low, considered as safe investments; in the subsequent years, when the FED rose the rates, these securities carried potential unrealized losses in case of sale, due to its lower value. As Van Vo and Le (2023) found, the bank became vulnerable to market fluctuations, determined by a positive correlation between the FED fund rate and SVB unrealized losses: i.e., every time the FED rose the interest rates in 2022, SVB experienced higher unrealized losses[2]. This derives from the inverse relationship between the price of a security and interest rate: the higher the interest rate, the

[2] "Unrealized gains or losses refers to the difference between the value of the security at the time of purchase and the price of the security today if it were sold on the market. Since HTM securities are meant to be held until maturity, any decline in the value from the purchase date is considered an unrealized loss. While unrealized losses must be disclosed in financial statements, they do not change the assets' value on the balance sheet itself." (Board of Governors of the Federal Reserve System, 2023a)

lower the bond price. Even though SVB did not sell them (this would have implied to sell those bonds, bought before the rise of interest rates, at a lower price, determining a realized loss), investors realized the issue and started selling their shares (Vo & Le, 2023)(Saif. S. S. Al-Sowaidi & M. W. Faour, 2023).

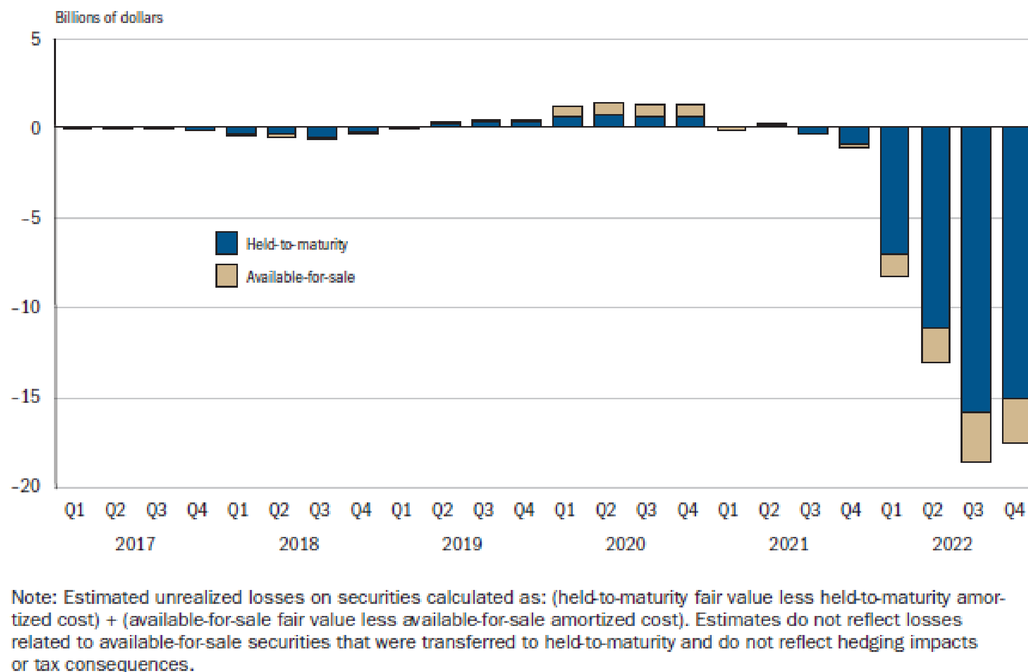


Figure 2 Estimated unrealized losses on SVB portfolio. From the "Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank", 2023. During 2022, the rise in interest rates by the FED led to the accumulation of unrealized losses in HTM securities.

Secondly, the bank lacked deposit diversification: most of them were concentrated in a small group of depositors correlated with the venture capital sector (considered as high-risk borrower), with deposits consisting of more of $250.000 each contributing to almost the 89% of the total deposits. Therefore, the risk of withdrawals increased due to the fact they were interconnected and would have act in the same manner. Even in this case Van and Le found a positive relationship between FED fund rate and deposit withdrawals (Vo & Le, 2023).

In 2021, the bank surpassed the $100 billion asset threshold, becoming subject to enhanced prudential standards (EPS), as stated by the Dodd-Frank Act, and consists of an internal liquidity stress, buildup and maintenance of a capital plan, and risk management requirements. The transition resulted to more strict supervision, highlighting the company's soundness as financial intermediary and its consequences in case of failure (systemic risk). During the examination, the management found weaknesses in its liquidity risk management, in its liquidity position and ability to control risk, failing to pass the stress test, while the Board of Directors did not receive adequate information about it (Board of Governors of the Federal

Reserve System, 2023a). In addition, the board of directors, management and internal audit did not have the necessary capabilities to handle the complexity of the firm expansion, which causes the implementation of an inefficient risk and control system, while supervisors did not fully identify vulnerabilities or took necessary actions to fix those problems.

Finally, SVB managed interest rate risk with a short-run focus on profit, underestimating the long-run risks. This event created a mismatch between short-term deposit and long-term securities, which the bank did not face but actually removed interest rate hedges (Board of Governors of the Federal Reserve System, 2023a).

These elements define a profile of a bank with a high-risk profile, lack of diversification and a weak governance and management structure: the instable equilibrium lasted until Friday, March 10th, when a series of unfortunate events led the bank to failure in only 36 hours; indeed, the bank was unable to meet depositors' request to withdraw money caused by a general panic among customers (Ciuriak, 2024).

Consequently, SVB was forced to sell government bonds at a lower price to face liquidity needs, realizing losses (Board of Governors of the Federal Reserve System, 2023a). The situation escalated when Moody's contacted SVB to inform of the future rating downgrade. Realizing the outcome of this event, on March 8th the CEO tried to find a solution to maintain the credit rating and not exacerbate investors' confidence, consisting in the sale of certain securities and raise capital (Saif. S. S. Al-Sowaidi & M. W. Faour, 2023)(Board of Governors of the Federal Reserve System, 2023a). Even though the plan solution was attempted, the news of a potential collapse leaked into the market, which causes a drop in share prices and fear among depositors. On March 9th a bank run began, withdrawal request reached $42 billion in just that day, and other $100 billion more were expected the day after; making it worse was the fact that most deposits were demand deposits, that can be withdraw at any time (Saif. S. S. Al-Sowaidi & M. W. Faour, 2023). The request could not be met and at the end of the day bank's cash holding were negative by $1 billion. In addition, social media increased the speed of bank run, spreading in real time the panic throughout all depositors, which combined with the possibility of immediate withdrawal thanks to technology and online banking and the network coordination of venture capital investors made the fall even faster (Board of Governors of the Federal Reserve System, 2023a). The day after, Silicon Valley Bank was closed because it did not have enough cash or collaterals to sustain the outflows, overtaking historical level for how quickly an institution can fail (FSB, 2023).

SVB and the following Signature failure on March 12th made the US Government intervention necessary to prevent the situation to spread and worsen even more. The FDIC provided full

protection and cover to depositors to both SVB and Signature banks (both insured and uninsured)[3]. This at least guaranteed containment of fear and the return of regular withdrawals (FSB, 2023)(Ciuriak, 2024).

On Sunday 12th March, FDIC created two bridge banks (one for SVB and one for Signature) to help in the resolution of the two institutions, with the power to manage their activities, appoint new managers and directors and handle the sale to third parties. In both failures, shareholders lost their investment, unsecured creditors (but not depositors) sustained losses, and investigation started against directors (FSB, 2023).

The Deal

On March 27th, 2023, First Citizens Bank announced the assumption of all customer deposits and certain other liabilities, all loans, and certain other assets of Silicon Valley Bridge Bank from the FDIC, entering in a whole bank purchase transaction and a loss share coverage agreement (First Citizens BancShares, 2023). The acquisition ca be defined then as an asset deal. The price consideration was $35 billion, while the acquisition expenses amounted to $28 million.

According to the purchase agreement, FCB acquired $106.6 billion assets, including $71 billion of loans, $2.8 billion of other assets, and $96 billion of liabilities, of which $55.9 billion were customer deposits (63% of them are non-interest bearing). The deposits were acquired without premium, while the assets were acquired at a discount of around $16.45 billion. From the deal were excluded liabilities against FDIC, cryptocurrency assets, financial institutional bonds, insurance policies, any interest right, action and claims, interest in tax receivables, loss reserves, leases, goodwill and other intangible assets (excluding intellectual property), real estates and investments in securities. The transaction resulted in a discount bid with a gain on acquisition of $9.824 billion net of tax (First Citizens BancShares, 2023b).

Along with the acquisition, FCB issued a five-year Purchase Money Note to the FDIC of $35 billion. A purchase money note, also known as owner financing, is an agreement between the seller and the buyer, in which a mortgage is issued by the seller (owner) to the borrower (buyer) (Odion-Esene, 2023). The purchase money note is secured by all loans and certain real estates acquired by FCB from FDIC, and certain other assets and future proceeds. The note will accrue interest on the principal amount at a fixed rate of 3.50% per annum, computed on a 360-day year. FCB has the possibility to repay the note at any time, without premium nor penalty (First

[3] This contrasts with the regular basis, where depositors are guaranteed up to $250.000 by the US government. Uninsured depositors must wait until bank liquidation to have their money back.

Citizens BancShares, 2023). The entire principal amount must be repaid before March 27, 2028, anyway.

The two parties also entered a five-year term sheet under which FDIC must provide a $70 billion line of credit to FCB, i.e. a credit facility. The reason behind this instrument is to provide liquidity support to FCB in case of deposit withdrawal or outflows and in case of unfunded commercial lending commitments related to the SVB segment. The FCB must then repay FDIC the used amount, while the facility will mature interest on the outstanding principal at a variable rate equal to the Secured Overnight Financing Rate plus 25 basis points, computed on a 365-day year and repayable on the first day of each quarter (First Citizens BancShares, 2023).

Finally, First Citizens Bank stipulated a Shared-Loss Agreement with the FDIC, to limit credit risk. According to the Federal Deposit Insurance Corporation a shared loss agreement (SLA) is an arrangement between the FDIC and the assuming institution, where "FDIC absorbs a portion of certain losses on specific assets sold with the resolution of the failing institution. The percentage of losses absorbed by the FDIC varies according to the terms of the SLA. The Assuming Institution absorbs the remaining losses. SLAs keep assets in the private sector, reducing borrower and market impact and minimizing resolution costs" (FDIC, 2024a). In this context, the shared loss agreement covers $60 billion of loans for five years: in case of losses up to $5 billion on the covered assets, FDIC will not reimburse FCB; if losses exceed $5 billion, it will reimburse FCB for a total amount of 50% of the losses occurred, while the bank will have to pay back 50% of recoveries related to those covered assets. In conclusion, if actual losses are not as significant as foresaw in the agreement, FCB will pay $1.5 billion after March 2031 (First Citizens BancShares, 2023).

It goes without saying that the main reason of the takeover of Silicon Valley Bank was its failure. However, the combination of the two banks lead to synergies and value creation, through the combination of capabilities and common platforms, clients and technology; so, behind the main reason there are also strategic aims to be considered.

First, the consolidation expanded FCB presence in the American territory, adding the 17 SVB branches who are located principally in the West Coast and Northeast, while FCB branches were mostly located in the East Coast and center-US, bringing a total of 567 offices in 23 states, granting also access to a larger talent pool and faster expansion.

It bolstered FCB presence in attractive market, unlocking new business opportunities and diversifying their portfolio with the SVB venture capital and private equity segment, and the tech startups sector.

The acquisition of $56 billion deposits provided the combined bank with a more diversify deposit base, both geographically and structurally. Indeed, the total deposit composition changed in this way:

- Non-interest-bearing deposit passed from 28% to 41% (of the overall deposit base);
- Time deposits from 12% to 8%;
- Money market and savings from 42% to 34%;
- Checking with interest from 19% to 17%.

In the same way, even the new loan portfolio composition limited concentration risk because of the different characteristics of SVB clients, who are active in different sectors than the FCB's traditional ones, such as life sciences/healthcare, technology and wealth.

It also sparked growth thanks to complementary skills and knowledge of the two banks. Specifically, the wealth management business was improved due to the digital capabilities and efficient solutions of SVB, while the commercial and private banking contributed due to SVB products that had always met innovation economy customers' need. The bank had also 40 years of proven expertise that together with its client-focused model and relationship services created a powerful network.

First Citizens contributed with its strong long-term relationships, stability, and expertise in enhancing SVB employee's talent and strengthen the offer of tailored solutions to serve customers specific needs. First Citizens also expected to benefit from SVB's historic leadership position in the tech-innovation sector; therefore, new business opportunities open that could drive top-line growth, expanding FCB's offer to Silicon Valley's clients (First Citizens BancShares, 2023d). In addition, there were cross-selling opportunities between the two banks client base.

Overall, the deal was structured in a way to preserve First Citizens' solid financial position, with the result of a group that offers a full array of financial services that support a broad customer base through the entire relationship life cycle, in a vaster territory, making it more competitive on a national level. Moreover, FCB's solid balance sheet position and risk management culture created a strong reality that could have helped SVB regaining affordability in the market (First Citizens BancShares, 2023). The new entity results even more secure and diversified, basing the success of the operation on the complementary expertise, resources and capabilities of the two banks.

<u>Consolidated Post-Merger Financial Statement</u>

In order to draft the consolidated financial statement of the fiscal year 2022, it is assumed that the acquisition was made January 1st, 2022.

In the following section it will be explained in detailed how the consolidation was made, each accounting component and further information about the transaction deal. Here below, the balance sheet of SVB and FCB on 31 December 2022.

Table 1 SVB Balance Sheet as 31/12/2022

(Dollars in millions)		December 31, 2022
Assets		
Cash and cash equivalents	$	13.803
Available-for-sale securities, at fair value		26.069
Held-to-maturity securities		91.321
Non-marketable and other equity securities		2.664
Total investment securities		**120.054**
Loans, amortized cost		74.250
Allowance for credit losses: loans		-636
Net loans		**73.614**
Premises and equipment, net of accumulated depreciation and amortization		394
Goodwill		375
Other intangible assets, net		136
Lease right-of-use assets		335
Accrued interest receivable and other assets		3.082
Total assets	**$**	**211.793**
Liabilities and total equity		
Liabilities:		
Noninterest-bearing demand deposits	$	80.753
Interest-bearing deposits		92.356
Total deposits		**173.109**
Short-term borrowings		13.565
Lease liabilities		413
Other liabilities		3.041
Long-term debt		5.370
Total liabilities		**195.498**
SVBFG stockholders' equity:		
Preferred stock		3.646
Common stock		-
Additional paid-in capital		5.318
Retained earnings		8.951
Accumulated other comprehensive income (loss)		-1.911
Total SVBFG stockholders' equity		**16.004**
Noncontrolling interests		291
Total equity		**16.295**
Total liabilities and total equity	**$**	**211.793**

Table 2 First Citizens BancShare Balance Sheet of December 2023 and 2022

	December 31,	
(Dollars in millions)	2023	2022
Assets		
Cash and cash equivalents	$ 1.465	$ 613
Interest-earning deposits at banks	33.609	5.025
Available-for-sale securities, at fair value	19.936	8.995
Held-to-maturity securities	9.979	10.279
Asset held for sale	76	60
Total investment securities	**29.991**	**19.334**
Loans, amortized cost	133.302	70.781
Allowance for credit losses: loans	-1.747	-922
Net loans	**131.555**	**69.859**
Operating lease equipment	8.746	8.156
Premises and equipment, net of accumulated depreciation and amortization	1.877	1.456
Goodwill	346	346
Other intangible assets, net	312	140
Accrued interest receivable and other assets	5.857	4.369
Total assets	**213.758**	**109.298**
Liabilities and total equity		
Liabilities:		
Noninterest-bearing demand deposits	$ 39.799	24.922
Interest-bearing deposits	106.055	64.486
Total deposits	**145.854**	**89.408**
Credit balances of factoring clients	1.089	995
Short-term borrowings	485	2.186
Other liabilities	7.906	2.588
Long-term debt	37.169	4.459
Total liabilities	**192.503**	**99.636**
FCB stockholders' equity:		
Preferred stock	881	881
Common stock	15	15
Additional paid-in capital	4.108	4.109
Retained earnings	16.742	5.392
Accumulated other comprehensive income (loss)	-491	-735
Total FCB stockholders' equity	**21.255**	**9.662**
Total equity	**21.255**	**9.662**
Total liabilities and total equity	**$ 213.758**	**109.298**

The second step is to analyze the assets, liabilities acquired, their value, composition, adjustments, and other elements that arose during the transaction. As stated in the 8-K of May 10, here are reported the key line items of the acquisition ("Purchase Accounting of SVB" table) (First Citizens BanchShares, 2023). The valuation was carried out by business expertise and internal specialists to validate data, using multiple methodologies. The assumptions beneath every consideration were determined by asset class and aligned with market expectations.

Table 3 Purchase Accounting of SVB

PURCHASE ACCOUNTING					
Acquired Balance Sheet		**Purchase Accounting Impacts**		**Acquired BS after Purchase Accounting**	
Assets		**Assets**		**Assets**	
Cash	35.279	Cash	0	Cash	35.279
Loans	71.271	Loans	-2.768	Loans	68.503
Earning assets	**106.550**	**Earning assets**	**-2.768**	**Earning assets**	**103.782**
Other assets	2.860	Other assets	-42	Other assets	2.818
Total assets	**109.410**	**Total assets**	**-2.810**	**Total assets**	**106.600**
Liabilities		**Liabilities**		**Liabilities**	
Deposits	55.959	Deposits	0	Deposits	55.959
Borrowings	35.380	Borrowings	-220	Borrowings	35.160
Other liabilities	1.621	Other liabilities	726	Other liabilities	2.347
Total liabilities	**92.960**	**Total liabilities**	**506**	**Total liabilities**	**93.466**
Discount bid on assets	**16.450**	**Net adjustments**	**-3.316**	**Net adjustments**	**13.134**

In the "Acquired Balance Sheet" column are reported the gross amount of the assets and liabilities acquired. The gross amount of assets was $109 billion, that compared to the $92 billion of liabilities, resulted in a gross discount on assets of $16 billion. The "Purchase Accounting Impacts" reports the adjustments made in evaluating the previous items, resulting in total net adjustments of -$3.3 billion, split in a loss in value of -$2.8 in assets, and an increase of liabilities of $506 million. At the end, the true value of the Balance Sheet acquired amount of:

- total assets of $106.6 billion (resulting in the difference between gross value and adjustments).
- total liabilities of $93.5 billion.
- net adjustments of $13.1 billion, consisting in the gross gain on acquisition, that net of deferred taxes of $3.3 billion, result in a net gain of $9.8 billion, which will be reported under retained earnings.

In details the assets deal consisted of the following items.

Purchase Money Note whose principal amount is the book value of assets acquired net of the asset discount, resulting in $35b. Its fair value was estimated using the income approach, which includes a projection of discounted cash flows over a discrete period.

Loans for a total of $71b, of which $68.7 were non-PCD loans (that stands for non-purchased credit deteriorated loans, that "do not reflect more than insignificant credit deterioration since origination at the date of acquisition (First Citizens BancShares, 2023d)) and $2.5b of PCD loans (purchased credit deteriorated, that reflect more than significant credit deterioration since origination at the date of acquisition). The loan portfolio is commercially centered, with particular attention to the venture capital and private equity market (55%), followed by technology and life science sector (24%), private banking (14%). The portfolio has also a low loss history, meaning that credit risk is low after all (First Citizens BancShares, 2023d). The fair value adjustments were estimated to be -$2.7b ($2.27 for non-PCD and $499m for PCD loans). Fair values were computed using a discounted cash flow model, that consider the type of loan, its collateral, interest rate, credit quality, remaining term and discount rate. FCB divides SVB loan class in Global Fund Banking (the largest class and consists of capital call lines of credit), Investor Dependent (loans made to technology and science companies, which typically have negative cash flows and profitable operations, subdivided in early stage and growth stage depending on their position of the business cycle, whose repayment depend on equity financing, or IPO), Cash Flow Dependent and Innovation Commercial and Industrial (C&I) (loans made primarily to technology and science sector, but their repayment does not depend on equity financing; they are typically loans granted to equity sponsor and/or to maintain current asset coverage for companies), Private Bank (mainly private equity/venture capital professionals and high net worth individuals), Commercial Real Estate ("CRE", granted for financing the acquisition of PPEs), and Other (grouping smaller portfolios, such as in the sector of wine, C&I fixed assets and equipment or improvements on existing buildings).

Premised and equipment for $286m, consisting of furniture, software and other equipment, whose fair values were determined using the cost approach.

Other assets for 2.3$ billion, adjusted for -$42m, mainly accrued interest receivable and fair value of derivative financial instruments (swaps), valued using comparable prices of similar instruments or the book value.

Intangible assets are composed by core deposit intangibles and customer relationships whose fair value is $230 million. Core deposit intangibles refer to intangible assets that arise from an acquisition and are defined as time and demand deposits based on stable customer relationships, less likely to be withdrawn, that the bank can rely on and use them for an extensive period of time, for example investing them in other income-producing activities, providing low-cost source of funds (Thornton, 1989). They basically represent the costs saved by the bank in place of looking for funds elsewhere. The value was calculated using the after-tax cost savings method under the income approach, by discounting the favorable funding spread, computed as the difference between the alternative cost of funds and net deposit cost, over their estimated life. They will be amortized over their estimated useful life, estimated to be 8 years, using the effective yield method. The amortization method applied is the effective yield. There was also no goodwill recognition because the fair value of net assets was higher than the purchase price.

Deposits for $56 billion, 63% are noninterest bearing-demand deposits, 21% are money market and savings, 16% checking with interest and 1%-time deposits: all granted access to a more geographically diverse deposit base. They are mostly concentrated in online banking and California.

Other liabilities of $1.6 billion, which included a value appreciation instrument issued by First Citizens to FDIC payable in cash (that was exercised in April), accrued interest payables and commitments to fund tax credit investments and derivative liabilities.

Deferred tax liabilities of $3.3b, related to the gain on acquisition of $13b, which net of taxes amounted to $9.8 and was recorded in retained earnings.

Long-term debt of 771m, adjusted of -220, plus FDIC borrowing deriving from the note.

With all this information, it is now possible to draft the consolidated balance sheet for fiscal year 2022.

CONSOLIDATED BALANCE SHEET AT 31/12/2022

	SVB	First Citizens	BV acquired	Purchase money note	FV adj	Other	Goodwill	FC Adjustment	Total	Pro-forma
Assets										
Cash and cash equivalents	13.803	613		1.347					1.347	1.960
Interest-earning deposits at banks	0	5.025		33.932					33.932	38.957
Available-for-sale securities, at fair value	26.069	8.995	0							8.995
Held-to-maturity securities, at amortized cost and net of a	91.321	10.279	0							10.279
Non-marketable and other equity securities	2.664	0	0							0
Asset held for sale	0	60	0							60
Total investment securities	**120.054**	**19.334**								**19.334**
Loans, amortized cost	74.250	70.781	71.271		-2.768				68.503	139.284
Allowance for credit losses: loans	-636	-922								-922
Net loans	**73.614**	**69.859**								**138.362**
Operating lease equipment	0	8.156	0							8.156
Premises and equipment, net of accumulated depreciatio	394	1.456	286						286	1.742
Goodwill	375	346	0				-		0	346
Other intangible assets, net	136	140	0			230			230	370
Lease right-of-use assets	335	0	0							0
Accrued interest receivable and other assets	3.082	4.369	2.344		-42				2.302	6.671
Total assets	**211.793**	**109.298**	**73.901**	**35.279**	**-2.810**	**230**			**106.600**	**215.898**
Liabilities and total equity										
Liabilities:										
Noninterest-bearing demand deposits	80.753	24.922	35.254						35.254	60.176
Interest-bearing deposits	92.356	64.486	20.705						20.705	85.191
Total deposits	**173.109**	**89.408**	**55.959**						**55.959**	**145.367**
Credit balances of factoring clients	0	995								995
Short-term borrowings	13.565	2.186								2.186
Lease liabilities	413	0								0
Other liabilities	3.041	2.588	1.621		726			3.310	5.657	8.245
Long-term debt	5.370	4.459	771	34.609	-220				35.160	39.619
Total liabilities	**195.498**	**99.636**	**58.351**	**34.609**	506			3.310	**96.776**	**196.412**
Stockholders' equity:										
Preferred stock	3.646	881								881
Common stock	0	15								15
Additional paid-in capital	5.318	4.109								4.109
Retained earnings	8.951	5.392						9.824	9.824	15.216
Accumulated other comprehensive income (loss)	-1.911	-735								-735
Total stockholders' equity	**16.004**	**9.662**								**19.486**
Noncontrolling interests	291	0								0
Total equity	16.295	9.662								19.486
Total liabilities and total equity	**211.793**	**109.298**	**58.351**	**34.609**	**506**			13.134		**215.898**

Figure 3 Consolidated Balance Sheet

The following table provides the purchase price allocation relative to the acquisition.

Table 4 Purchase Price Allocation

Purchase price consideration	
Purchase Money Note	35.150
Value Appreciation Instrument	500
Purchase price consideration	35.650
Assets	
Cash and due from banks	1.347
Interest-earning deposits at banks	33.932
Investment securities	122
Loans and leases	68.503
Affordable housing tax credit investments	1.134
Core deposit intangibles	230
Other assets	1.332
Total assets acquired	**106.600**
Liabilities	
Deposits	55.959
Borrowings	10
Deferred tax liabilities	3.310
Other liabilities	1.847
Total liabilities assumed	**61.126**
Fair value of net assets acquired	45.474
Preliminary gain on acquisition, after income taxes	**9.824**
Preliminary gain on acquisition, before income taxes	**13.134**
Deferred tax liabilities	3.310

<u>Post-merger</u>

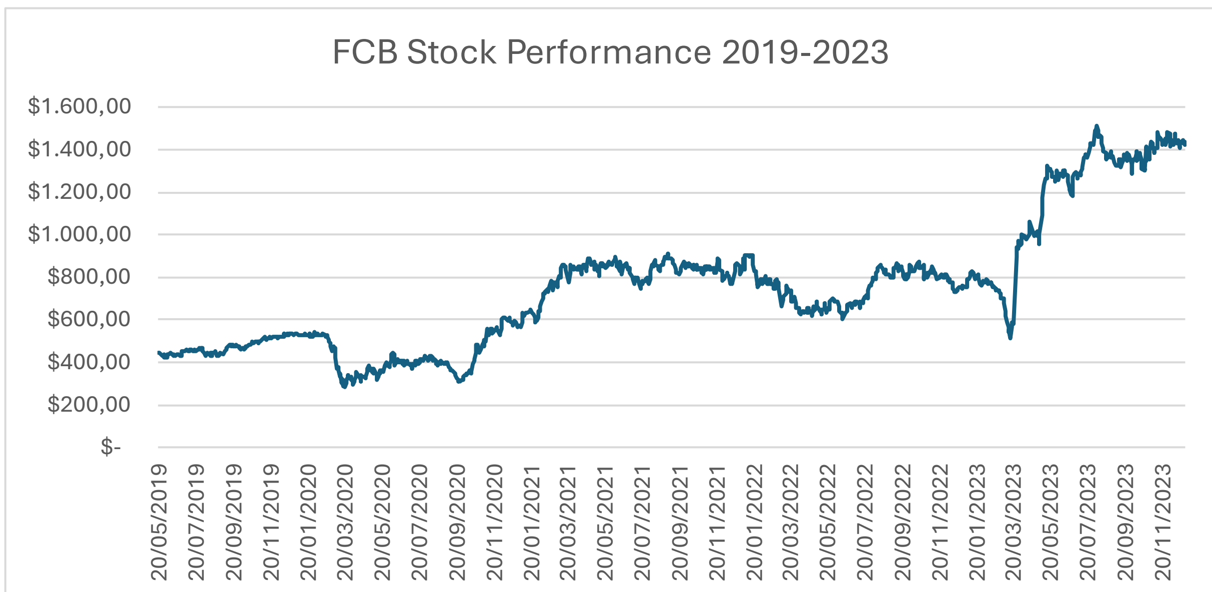


Figure 3 First Citizens Bank stock trend 2019/23, data from https://www.nasdaq.com/market-activity/stocks/fcnca

The first step to analyze if the deal was considered good or not for the market is to look at the reaction in acquiring stock price. Studies on mergers and acquisitions indicate that these transactions generally have a synergistic effect, primarily influencing the financial performance of the involved companies. The stock prices before an M&A announcement reflect the companies' values. After the announcement, the stock prices incorporate potential synergy effects and the distribution of gains and losses from the transaction. This market response represents the overall view of the M&A (Tilica et al., 2012). In the period leading up to the announcement, market reactions often suggest information leakage. Generally, the market accurately and promptly interprets new information, though sometimes it reacts prematurely or takes longer to fully integrate the information into stock prices. Whatever the case is, stock prices will tend to reflect the real value of the company (Assefa et al., 2021).

Looking at the table above, it can be noticed that First Citizens Bank stocks' market value was increasing even before the deal was announced. At the end of 2019, shares were valued at $532.21, decreased during COVID period, and then started to recover in 2021/22. At the beginning of March 2023, the value stood at $723.74, but when rumors of the banking crisis started to circulate, even FCB was impacted by the market fear, with a maximum loss of -$200 in its price. When news of a possible deal started to spread around the 19th and 20th of March (Lavanya, 2023), price started slowly to rise, reaching $895.61 on the day the deal was announced and kept rising over the next months: as it will be showed later on, the transaction added value on FCB, that was able to face the critical situation and stabilize the turmoil of Silicon Valley Bank. Indeed, stock prices at the end of 2023 reached $1418.97, +188% compared to the beginning of the year ($751.42). It can be interpreted as the market believed

the acquired bank had all the tools to solve the critical situation and creating synergies out of it; in addition, as Jansen and Stuart found, market reaction depends on three characteristics of the deal: size, if the company acquired is public or private and method of payment (Jansen & Stuart, 2014). Markets considered cash payments more positively because it signals that company do believe in the deal, as it will bear all the risks, and has financial stability and ability to invest in the future. The SVB case has all these characteristics, as FCB paid in cash, with a backup from the FDIC and the possibility of choosing which assets and liabilities to buy (asset deal), which overall could have reduced the Shareholder Value at Risk in the eyes of the analysts thanks to the Government institution intervention as safeguard in case of downturns.

Table 5 SVB Financial data at Year-End 2023

Silicon Valley Banking: Financial Data dollars in millions			
	SVB	Total FCB	%
Net interest income (expense)	$ 1.946	$ 6.712	28,99%
Provision for credit losses	71	1.375	5,16%
Net interest income after provision for credit losses	1.875	5.337	35,13%
Noninterest income	478	12.075	3,96%
Noninterest expense	1.642	5.335	30,78%
Income before income taxes	711	12.077	5,89%
Income tax expense (benefit)	181	611	29,62%
Net income	$ 530	$ 11.466	4,62%
Select Period End Balances:			
Total assets	$56.190	$ 213.758	26,29%
Loans and leases	55.013	133.302	41,27%
Deposits	38.477	145.854	26,38%

Net income in 2023 was $11.47 billion, an increase of $10.37 billion from the previous year. This increase was related to the gain on SVB acquisition of $9b, while the new subsidiary contributed for $530 million, equals to a 4.62% of the total and for $1.9 billion in net interest income, corresponding to a 29%. The increase in interest income amounted to +177% from 2022 (corresponding to +$6.9b) and was led by higher loans and interest-earning deposits acquired with SVB, higher interest rates and a larger investment portfolio.

However, the increase was partially offset by higher noninterest expenses, such as higher salaries from the new SVB employees, the provision for credit losses recorded for SVB loans following the day of acquisition ($716 million, split into 462 million for loans and leases and 254 million for unfunded commitments), the purchase of new software and digital technology to support internal growth, and acquisition-related expenses of $470m, that summed up to $1.6

billion (30.8%); in addition there were higher deposit costs, higher deposit balance due to SVB, associated with higher borrowing costs deriving both from the Purchase Money Note and from a strategic choice in maintaining competitive rates to customers to retain them. SVB noninterest income represented 4% and included fees from clients and service charges. SVB noninterest income contributed for 3.9% mainly derived from client investment and international fees, service charges, wealth management services and other items.
In the table above the SVB segment excludes, following the FCB reported accounting, the preliminary gain, the provision for credit losses accounted the day after the acquisition, interest expenses from the Note and acquisition expenses, which are all included in the "Total FCB" column. The provision of $71m consists of reserves for the investor dependent portfolio and changes in the macroeconomic scenario, that was partially offset by the decline in the acquired loan portfolio even after the acquisition, due to the uncertainty of the crisis (First Citizens BancShares, 2023e).

In the following section, it will be analyzed more in details the main components of First Citizens BancShares financial statements. In doing so, it will be used data coming from the database Eikon (Refinitiv), showing the quarter results of each item, in order to understand how the acquiring bank handled the situation in the short term after the acquisition, the analysts projected forecast for that period and the actual surprise (i.e. the difference between the average forecast and the actual result). This is useful to understand if the bank beat the projections made by professionals, to comprehend how the position was managed.

	Historical FY 2023					Estimated
	Q1	Q2	Q3	Q4	FY 23	FY 24
(Net) Loans						
Surprise %	92.119%	-2.368%	-0.255%	-0.843%	-0.843%	0,855%
Actual	136.777	131.378	131.529	131.555	131.555	
Mean	71.194	134.564	131.865	132.673	132.673	139.509
Assets						
Surprise %	95,051%	-0,851%	2,545%	0,162%	0,162%	0.731%
Actual	214.658	209.502	213.765	213.758	213.758	
Mean	110.052	211.300	208.459	213.413	213.413	222.207
Deposits						
Surprise %	54,502%	4,155%	4,685%	2,438%	2,438%	0.740%
Actual	140.050	141.164	146.233	145.854	145.854	-
Mean	90.646	135.533	139.689	142.383	142.383	153.906
Liabilities						

Surprise %	95,278%	-1,525%	2,815%	0,044%	0,044%	0.332%
Actual	195.442	189.731	193.376	192.503	192.503	-
Mean	100.084	192.670	188.082	192.419	192.419	201.400
Net Interest Margin						
Surprise %	7,149%	5,533%	6,817%	1,667%	0,468%	0.052%
Actual	850	1.961	1.990	1.911	6.712	-
Mean	793	1.858	1.863	1.880	6.681	7198
Loan Loss Provision						
Surprise %	-64,725%	59,006%	29,419%	25,042%	35,107%	-0.232%
Actual	63	152	192	249	1.375	-
Mean	179	96	148	199	1.018	557
Non-interest Expense						
Surprise %	10,783%	-7,322%	-9,874%	-5,146%	-6,309%	0.588%
Actual	677	1.202	1.132	1.135	4.146	-
Mean	611	1.297	1.256	1.197	4.425	5.058
Net Income						
Surprise %	3192,873%	55,762%	25,872%	-21,288%	-1,184%	0.286%
Actual	9.504	667	737	499	11.407	-
Mean	289	428	586	634	11.544	2.557
Net Interest Margin Ratio[4]						
Surprise %	1,287%	2,769%	5,277%	1,579%	2,039%	-
Actual	3,410%	3,860%	4,070%	3,860%	3,920%	-
Mean	3,367%	3,756%	3,866%	3,800%	3,842%	3.577%

In 2023, total (net) loans surged to $131b, an 88% more than the beginning of the year, driven by SVB loans acquired. After the deal, loans in the SVB portfolio kept decreasing, passing from $66b at the end of the first quarter, to $55b at the end of the fourth quarter (41% of the total). They started to stabilize from April 30th to June 30th, over one month after the acquisition. The reasons behind are imputed to the uncertainty in the banking industry, the subsequent downtrend of PE and VE, which were the main portion of Silicon Valley Bank loans (26% in Q1, declined to 19%), but also by maturity and paydowns (First Citizens BancShares, 2023e). This trend seems to be aligned with market forecasts with slight surprises.

Deposits on the SVB segment sum up to $49b in Q1, with an average size of $360k and 86% consisted of uninsured ones. These values are much higher than FCB, whose deposits have an average size of $55k and 50% uninsured: the explanation could be found on the type of depositors of SVB, that are PE and VE that usually have larger accounts than private people.

[4] Eikon computes Net Interest Margin as: (Net Interest Margin)/(average earning assets)

During the months later, even deposits showed a negative trend due to uncertainty in the banking industry and due to client repositioning their deposits to other banks (mostly from the Technology and Life Science Sector) (First Citizens BancShares, 2023f): by June there were an exit of $9b less, starting to stabilize in the following quarters with $1b outflow by September, coming to December with $38b, 71% of them uninsured and concentrated in online banking. Surprisingly, market was expecting even higher decreases: FCB move to keep competitive rates for depositors proved itself quite efficient.

Net interest margin surpasses analyst projections every quarter, especially in the ones after the acquisition, while noninterest expenses rose because of SVB impacts on mainly salaries and equipment.

Provision for credit losses for fiscal year 2023 totaled $1.38b, $730 more compared to the previous year due to the acquisition. Indeed, First Citizens recorded $716m provision related to SVB. Comparing this numbers with analyst predictions, they were expecting much lower provision, signaling a more conservative and prudent approach of the acquirer.

In the case of net income, the abnormal surprise in March is due to the gain on acquisition. Summing all together, FCB showed a strong performance beating all expectations, that could mean an effective and fast integration and a successful strategy of the new business acquired, but with a result close to what was forecasted.

The final evaluation of how the acquisition was handled, so far, is positive. FCB was able to contain the tremendous effects of SVB failures; in just a couple of months, First Citizens was able to stabilize the outflow of deposits and restart the operating activities, in which they were not very well experienced, gaining a positive margin. Although the new segment contributed for 5% of the net profit, one can expect that in the years after, when SVB will be fully integrated and turbulence will be completely ended, the acquired bank will have a bigger contribution and will help to expand the holding’s business, also through cross selling, infrastructure sharing and synergies.

(Dollars in millions, except per share amounts)	March	June	September	December	Year Ended
Interest income:					
Loans	$ 1.017	$ 2.353	$ 2.426	2.391	$ 8.187
Investment securities	107	120	180	241	648
Securities purchasedto resell	0	480	0		0
Deposits at banks	87	0	504	485	1.556
Total interest income	**$ 1.211**	**$ 2.953**	**$ 3.110**	**$ 3.117**	**$ 10.391**
Interest expense:					
Deposits	288	575	769	865	2.497
Borrowings	73	417	351	341	1.182
Total interest expense	**361**	**992**	**1.120**	**1.206**	**3.679**
Net interest income	**850**	**1.961**	**1.990**	**1.911**	**6.712**
Provision for credit losses	783	151	192	249	1.375
Net interest income after provision for credit losses	**67**	**1.810**	**1.798**	**1.662**	**5.337**
Noninterest income:					
Rental income on operating lease equipment	233	238	248	252	971
Fee income and other service charges	50	69	70	80	268
Gains (losses) on investment securities, net	-14	0	-12	0	-26
Client investment fees	0	52	52	51	157
Wealth management and trust fees	42	51	49	48	188
Foreign exchange and international fees	0	32	34	30	93
Credit card fees	21	41	41	36	139
Deposit service charges	24	44	44	44	156
Factorign commission	19	20	21	22	82
Merchant services	10	14	12	12	48
Insurance commission	13	14	13	14	54
Fair value adjustment on marketable securities	-9	-10	-1	9	-11
Bank owned life insurance	5	2	1	0	8
Gain on sale of leasing equipment	4	4	10	2	20
Gain on acquisition	9.824	55	12	-83	9.808
Other	37	32	21	26	120
Total noninterest income	**10.259**	**658**	**615**	**543**	**12.075**
Noninterest expense:					
Depreciation on operating lease equipment	89	91	95	96	371
Mainteinance and other operating lease expenses	56	56	51	59	222
Third-party processing fees	29	54	54	65	203
Marketing expenses	15	41	25	24	102
Compensation/salaries and benefits	420	775	727	714	2.636
Professional services	12	21	12	29	73
Premises and equipment	58	133	117	114	422
Net occupancy	50	64	65	65	244
FDIC and state assessments and insurance expense	18	22	36	82	158
Intangible asset amortization	5	18	17	17	57
Merger-related charges/ Aqcuisition fees	28	205	121	116	470
Other	75	92	96	111	377
Total noninterest expense	**855**	**1.572**	**1.416**	**1.492**	**5.335**
Income before income tax expense	**9.471**	**896**	**997**	**713**	**12.077**
Income tax expense	-47	214	245	199	611
Net income before noncontrolling interests and dividends	**9.518**	**682**	**752**	**514**	**11.466**
Preferred stock dividends	14	15	15	15	59
Net income available to common stockholders	**$ 9.504**	**$ 667**	**$ 737**	**$ 499**	**$ 11.407**
Earnings per common share-basic	654,22	45,9	50,71	34,36	784,14
Earnings per common share-diluted	653,64	45,87	50,67	34,33	784,51

Figure 4 FCB Income Statement, quarters and year end

In terms of integration, FCB has an history in M&A, so it can help the new bank segment in the transition for both clients and internal subjects. The main integration priorities were considered: to maintain and grow market position as partner for the innovation economy, build trust with

client and defend from competition, retain key talents and SVB legacy, spread sound risk management practices. By the end of 2023, the integration steps completed were the stabilization of deposits, workforce optimization, cultural integration, strategic and business assessment by establishing key activities to be performed, such as building engagement with clients, support and expand the wealth management sector to create synergies. The subsequent steps will be to finish integration, by developing a roadmap to follow, progressing on cost savings and completing monitoring and examination to conform with the regulatory requirements (First Citizens BancShares, 2023c). The success of the deal will also depend on the ability to manage complexity of operations the new segment added, both in terms of lines and geographic expansion, while building a strong reputation in those new areas, especially the venture capital and private equity stakeholders, and monitoring the connected costs to realize efficiencies.

3.2 SIGNATURE BANK AND NEW YORK BANCORP

Companies

Signature Bank, founded in 2001, is a New York-based full-service commercial bank catering primarily to privately-owned businesses, their owners, and senior managers, with offices located in Connecticut, California, Nevada and North Carolina. The bank is known for its relationship-based model, focusing on providing high-quality client service through private client offices and an experienced team. It provides a variety of financing and leasing products, brokerage, asset management and insurance services, as long as a range of municipal finance and tax-exempt lending and leasing products to government entities throughout the country. In 2019, the bank launched its proprietary block-chain based payment solution, Signet, to allow for real-time payments and help to connect participants in the ecosystem by offering real-time execution; it also expanded in the digital asset banking to build a digital asset ecosystem, including stablecoin issuers, exchanges, custodians, institutional traders, and more, which saw a surge in digital asset related deposits due to client's increasing adoption of and investments in cryptocurrencies, even though the bank does not lend to the cryptocurrency industry, nor it has any loans backed by cryptocurrency. Since 2001, Signature grew to $110.36 billion in assets, $88.59 billion in deposits, $73.8 billion in loans, $8.01 billion in equity capital with a net interest margin of $2.5 billion, and net income of $1.3 billion in 2022 (Signature Bank, 2022). New York Community Bancorp, Inc. (“NYCB”) is one of the largest regional banks in the United States, headquartered in Hicksville, New York, serving clients from twelve states, and from December 2022 the parent company of Flagstar Bank. Founded in 1859, it has grown to

become a significant player in the banking industry, particularly known for its focus on multi-family lending and a broad range of financial services, e.g. mortgage originations and servicing, and warehouse lending. The Company is the second largest multi-family portfolio lender in the country and the leading multi-family portfolio lender in the New York City market area, where it specializes in rent-regulated, non-luxury apartment buildings. In addition, NYCB offers commercial real estate loans, business loans, and various other lending products to support businesses and real estate investors, it provides a wide array of traditional banking products and services. The vast majority of multi-family loans are collateralized by rental apartment buildings in New York City, while the majority of the properties collateralizing Commercial Real Estates loans are located in the Northeast and Midwest. Finance loans and leases are generally made to large companies that participate in stable industries nationwide and warehouse loans are made to mortgage lenders across the country. On December 31, 2023, total assets were $114.1billion, up $23.9 billion compared to December31, 2022, loans $83.6 ($68.6 in 2022), total deposits were $81.5 billion ($58.7 in 2022). The increases were primarily due to the acquisition of Signature Bridge Bank from the FDIC on March 20, 2023. For the year ended December 31, 2023, NYCB recorded a net loss of $79million, while in 2022 there were a net income of $650 million, with a net interest margin of $2.4 billion ($696 million in 2022). The 2023 net loss is primarily caused by a goodwill impairment of $2.4 billion, recorder during the fourth quarter, that was partially offset by the Signature's acquisition gain of $2.1 billion (New York Community Bancorp, 2023e).

On March 20, 2023, NYCB announced the acquisition of certain assets and assumed certain liabilities of Signature Bank, following its failure on March 12 (New York Community Bancorp, 2023h).

Reasons of failure

On March 12, 2023, Signature Bank was closed by the New York Department of Financial Services and appointed the FDIC as its receiver. The decision was made after an escalation of events, that started with the liquidation of Silvergate Bank on March 8, followed by the SVB bank run and subsequent failure on March 10. Indeed, depositors panicked after the Silvergate and SVB cases, recognizing similar pattern in Signature, like high amounts of uninsured deposits and exposition in the crypto sector. Fearing a contagion's expansion, augmented by the online banking withdrawal possibilities and social media word of mouth, regulators decided to close Signature to contain the panic, transferring the assets of both SVB and Signature to FDIC bridge banks. On March 19, FDIC entered into a purchase agreement with Flagstar Bank,

subsidiary of NYCB, that would have assumed all deposits and certain loan. The following day, NYCB announced the acquisition (Acharya et al., 2023). Even though Signature was more diversified than SVB, the speed of deposit run, and the high concentration of uninsured deposits would have led the bank to be unable to keep its operations going. As in the SVB case, FDIC decided to guarantee the protection of all deposits, retain part of assets and liabilities to help the recovery, while the Federal Reserve launched the "Federal Reserve's Bank Term Funding Program", aiming to cool down the liquidity pressure in the system, by providing loans with maturities up to one year to banks against the par value of high-quality securities. FDIC estimated the cost resultant to the protection of Signature's deposits at $2.5 billion, which will be borne by the Deposits Insurance Fund (DIF) (FSB, 2023).

Although the primary reason of Signature's failure was illiquidity caused by contagion effects, in its supervision, the FDIC point out that at the base there was a problem of poor management. As a matter of fact, the path to the distress started earlier. In 2018, Signature began to expand, experiencing an abnormal growth, by starting to provide financial services to the private equity industry and to collect deposits to digital asset-related business. In the subsequent years, the bank saw a surge in uninsured deposits. However, since 2022, when interest rates began to rise and deposits contracted due to volatility in the digital asset market, the bank saw significant deposit outflows (FDIC, 2023b).

Signature's board and management: pursued unrestrained growth without developing an adequate risk management and control system; did not timely act in response to the FDIC's concerns. Management was found to be more reactive, prioritizing growth and deposits over internal control and good risk management practices. Moreover, even the governance structure was lacking transparency, as decision were made by individuals or small informal groups, without a clear coordination. It funded its growth with an overreliance on uninsured deposits (89.7% of the total amount were uninsured) (Signature Bank, 2022), without considering the liquidity risk associated with them, building a position where the bank could not face liquidity need under stress periods. In fact, uninsured deposits may be an unstable source of financing, especially in stress times, as depositors are more likely to withdraw them, trying to avoid losses before the money is gone. Despite both the volume and nature of deposits, Signature did not even develop adequate liquidity stress testing and contingency funding plans (FDIC, 2023b). Furthermore, it did not recognized the risk in relying on the cryptocurrency industry and its contagion after the turmoil in 2022 (FDIC, 2023b). The strategy of expanding into the digital asset markets exposed Signature to higher volatility and uncertainty. The concentration of digital asset companies revealed its weakness during the crypto industry's turmoil in November

2022, when FTX failed. The bank experienced deposit run related to that segment, while the stock price plummeted (Warren, 2024). Later, in February 2023, Signature was filed in a lawsuit that sued the bank in participating in the FTX fraud. Also, the fact that Signature was often associated with Silvergate surely did not help in its favor at the beginning of March (Frankel, 2023).

In short, this unstable position deteriorated after Silvergate and SVB failed. Panic spread through social media, and a bank run involved Signature too. The liquidity problems came to surface, with withdrawal requests reaching 20% of total deposits. The growing demand and the inability to meet it raised concern about the ability of surviving. That is why on March 12, New York Department of Financial Services closed Signature and appointed FDIC as receiver. Eight days later, the bank was acquired by New York Community Bancorp (Alonso et al., 2023).

The Deal

On March 20, 2023, NYCB entered into a Purchase and Assumption Agreement with the FDIC to acquire certain assets and assumed certain liabilities of Signature Bridge Bank. According to the terms of the agreement, the company was not required to make a cash payment to the FDIC. Instead, as consideration for the transaction, the bank granted the FDIC an equity appreciation instrument in the company's common stock. Under this term, the FDIC had the opportunity to participate in any increase in the share stock price before March 31, receiving a certain number of shares. On March 31, 2023, the Company issued 39.032.006 shares of its common stock to the FDIC under this instrument, that was exercised and completed with a secondary offering on May 19, 2023. NYCB is also expected to provide certain services to assist the FDIC in managing assets and liabilities that were not assumed by the bank and remained under the FDIC's control. The FDIC will reimburse NYCB for costs arising for these services, that is based on an agreed-upon fee, which approximates the cost of providing these services. In addition, NYCB did not enter into a loss-share agreement. However, it committed to comply to two conditions: (i) for two years following the combination, the bank will not pay any dividends, without permission from the Office of the Comptroller of the Currency (OCC)[5]; (ii) it will not declare nor pay dividends on retained earnings arising from the bargain purchase gain under a period imposed by the OCC (New York Community Bancorp, 2023e).

The company acquired $38.6 billion of assets, of which $12.2b are loans, and $36.5b of liabilities, of which $33.6 were deposits. The transaction did not include any target's digital

[5] The OCC is a federal U.S. agency within the Treasury that is responsible for regulating and supervising national banks, savings associations, etc., to ensure that the banks operate in a safe and fair manner, while complying with laws

assets, or crypto deposits or fund banking business. As a result, the bank recorded a net gain of $2.1b, which contributed to the non-interest income. The assets and liabilities acquired were initially recorded at fair value, based on the best estimates using available information obtained during the M&A process. At the end of 2023, NYCB accounted for $223 million in acquisition costs, mainly for legal, advisory and other professional services.

The deal added a considerable amount of low-cost deposits, increased Commercial and Industrial loans, added new vertical lending (healthcare and small business administration), and was supposed to accelerate the commercial performance of the bidder, by pushing the transformation into a diversified full-service commercial bank. As part of the combination, NYCB acquired Signature's deposit relationships, particularly the private team, as well as the wealth management and broker segment, and all Signatures' branches (40), retaining all the related employees (New York Community Bancorp, 2023a). The bank excluded from the deal all crypto-related deposits, certain Commercial and Real Estates or multifamily loans, Qualified Financial Contracts (e.g. derivatives) and the credit card segment.

From a strategic perspective, the acquisition enhances NYCB loan portfolio, by adding new types of loans (C&I, Healthcare Banking and SBA), experience and relationships from previous management, and helping the building of a commercial banking platform, one of the core transformations NYCB is aiming to. It also strengthens the total deposits and fund resources. After the combination total deposits rise to 78% of total liabilities (+6%), geographically expanding the business in both present and new areas. Moreover, as part of the deal, the FDIC granted $25 billion in cash to pay down a substantial amount of borrowings, leaving the balance sheet with a strong liquidity position, as confirmed by the loan to deposit ratio decreasing from 118% to 88%. Additionally, it annexed important teams who proved to be productive in generating new deposits and offering new solutions, that could become a source of future opportunities, such as the expansion to the wealth segment.

Consolidated Post-Merger Financial Statement

The process behind the design of the consolidated balance sheet is the same of the SVB case. The consolidated balance sheet is draft as December 31, 2022, starting from the single ones and combining the information about the deal and fair value adjustments. Here below the Signature's and NYCB's balance sheets.

Table 6 Signature's Balance Sheet as 31/12/2022

	December 31, 2022

(in millions, except per share data)	
ASSETS:	
Cash and cash equivalents	$ 5.955
Securities:	
Debt Securities available-for-sale	18.594
Securities held-to-maturity	7.780
Federal Home Loan Bank	560
Total securities	**26.934**
Loans held for sale	587
Loans and leases held for investment, net of deferred loan fees and costs	74.293
Less: Allowance for credit losses on loans and leases	-490
Total loans and leases held for investment, net	**73.803**
Premises and equipment, net	117
Operating lease right-of-use-assets	249
Core deposit and other intangibles	-
Goodwill	-
Accrued interest and dividends receivable	450,00
Other assets	2.269
Total assets	**$ 110.364**
LIABILITIES AND STOCKHOLDERS' EQUITY:	
Deposits:	
Interest-bearing checking and money market accounts	$ 57.077
Non-interest-bearing accounts	31.512
Total deposits	**88.589**
Borrowed funds:	
Federal Home Loan Bank and Federal Reserve Bank advances	11.284
Securities sold under agreements to repurchase	150
Operating lease liabilities	282
Subordinated notes	572
Total borrowed funds	**12.288**
Other liabilities	1.474
Total liabilities	**102.351**
Stockholders' equity:	
Preferred stock	-
Common stock	0,629
Paid-in capital in excess of par	4.551
Retained earnings	5.458
Total accumulated other comprehensive loss	**-1.997**
Total stockholders' equity	**8.013**
Total liabilities and stockholders' equity	**$ 110.364**

Table 7 NYCB Balance Sheet as 31/12/2022 and 31/12/2023

	December 31, 2023	December 31, 2022
(in millions, except per share data)		
ASSETS:		
Cash and cash equivalents	$ 11.475	$ 2.032
Securities:		

Debt Securities available-for-sale	9.145	9.060
Equity investments at fair value	14	14
Total securities	**9.159**	**9.074**
Loans held for sale	1.182	1.115
Loans and leases held for investment, net of deferred loan fees and costs	84.619	69.001
Less: Allowance for credit losses on loans and leases	-992	-393
Total loans and leases held for investment, net	**83.627**	**68.608**
Federal Home Loan Bank stock and Federal Reserve Bank stock, at cost	1.392	1.267
Premises and equipment, net	652	491
Core deposit and other intangibles	625	287
Goodwill	-	2.426
Mortgage servicing rights	1.111	1.033
Bank-owned life insurance	1.580	1.561
Other assets	3.254	2.250
Total assets	**$ 114.057**	**$ 90.144**
LIABILITIES AND STOCKHOLDERS' EQUITY:		
Deposits:		
Interest-bearing checking and money market accounts	$ 30.700	$ 22.511
Savings accounts	8.773	11.645
Certificates of deposit	21.554	12.510
Non-interest-bearing accounts	20.499	12.055
Total deposits	**81.526**	**58.721**
Borrowed funds:		
Federal Home Loan Bank and Federal Reserve Bank advances	20.250	20.325
Junior subordinated debentures	579	575
Subordinated notes	438	432
Total borrowed funds	**21.267**	**21.332**
Other liabilities	2.897	1.267
Total liabilities	**105.690**	**81.320**
Stockholders' equity:		
Preferred stock	503	503
Common stock	7	7
Paid-in capital in excess of par	8.231	8.130
Retained earnings	443	1.041
Treasury stock	-218	-237
Accumulated other comprehensive loss, net of tax:		
Net unrealized loss on securities available for sale	-581	-626
Net unrealized loss on pension and post-retirement obligations	-28	-46
Net unrealized gain on cash flow hedges	10	52
Total accumulated other comprehensive loss	**-599**	**-620**
Total stockholders' equity	**8.367**	**8.824**
Total liabilities and stockholders' equity	**$ 114.057**	**$ 90.144**

The table below shows the list of the acquired assets and liabilities assumed, with their respective fair value adjustments. The purchase price consideration consists of the equity appreciation instruments. The gross total assets acquired amounted at $38 billion, which net of adjustments amounts to $37.8 billion. Considering the net assets, the main parts come from the

cash and cash equivalents (65.79%), followed by loans held for investment (31%) of which the commercial and industrial are the biggest component (26.13%). The net liabilities assumed amount to $35.6b ($36.5b gross) and consists mainly of deposits (94%). Comparing the two sides of the balance sheet, it can be observed that the transaction led to a bargain purchase gain of $2.1 billion. Putting all together, the consolidated balance sheet is reported in the next page.

	Preliminary as Initially Reported	Measurement Period Adjustments	Preliminary as Adjusted
Purchase Price consideration	85	$	85
Fair value of assets acquired:			
Cash & cash equivalents	25.043	-142	24.901
Loans held for sale	232		232
Loans held for investment:			
Commercial and industrial	10.102	-214	9.888
Commercial real estate	1.942	-262	1.680
Consumer and other	174	-1	173
Total loans held for investment	**12.218**	**-477**	**11.741**
CDI and other intangible assets	464		464
Other assets	679	-169	510
Total assets acquired	**38.636**	**-788**	**37.848**
Fair value of liabilities assumed:			
Deposits	33.568	-61	33.507
Other liabilities	2.982	-857	2.125
Total liabilities assumed	**36.550**	**-918**	**35.632**
Fair value of net identifiable assets	2.086	130	2.216
Bargain purchase gain	**2.001**	**130**	**2.131**

CONSOLIDATED BALANCE SHEET AT 31/12/2022

	NYCB	Signature	BV acquired	Cash FDIC	FV adj	Other	Goodwill	NYCB gain	Total	Pro-forma
Assets										
Cash and cash equivalents	2.032	5.955	5.955	19.088	-142				24.901	26.933
Federal Home Loan Bank	-	560	0						0	0
Available-for-sale securities, at fair value	9.060	18.594	0						0	9.060
Held-to-maturity securities, at amortized cost and net of allowance for credit losses	-	7.780	0						0	0
Equity investments at fair value	14	-	-						0	14
Asset held for sale	-	-	-						0	0
Total investment securities	**9.074**	**26.934**	**0**						0	**9.074**
Loans held for sale	1.115	587	232						232	1.347
Loans, amortized cost	69.001	74.293	12.218						12.218	81.219
Allowance for credit losses: loans	-393	-490	0						0	-393
Net loans	**68.608**	**73.803**	**12.218**		-477				11.741	**80.826**
Federal Home Loan Bank stock and Federal Reserve Bank stock, at cost	1.267	-	-						0	1.267
Premises and equipment, net	491	117	0						0	491
Operating lease right-of-use-assets	-	249	0						0	0
Core deposit and other intangibles	287	-	464						464	751
Goodwill	2.426	-	-				0		0	2.426
Mortgage servicing rights	1.033	-	-						0	1.033
Accrued interest and dividends receivable	-	450	0						0	0
Bank-owned life insurance	1.561	-	0						0	1.561
Other assets	2.250	2.269	679		-169				510	2.760
Total assets	**90.144**	**110.364**	**19.548**	**19.088**	**-788**	**0**	**0**		**37.848**	**127.992**
Liabilities and total equity										
Liabilities:										
Noninterest-bearing demand deposits	12.055	31.512	13.427		-24				13.403	25.458
Interest-bearing deposits	46.666	57.077	20.141		-37				20.104	66.770
Total deposits	**58.721**	**88.589**	**33.568**		-61				**33.507**	**92.228**
Federal Home Loan Bank and Federal Reserve Bank advances	20.325	11.284	0						0	20.325
Junior subordinated debentures	575	-	-						0	575
Securities sold under agreements to repurchase	-	150	0						0	0
Operating lease liabilities	-	282	0						0	0
Subordinated notes	432	572	0						0	432
Other liabilities	1.267	1.474	2.982		-857	85			2.210	3.477
Total liabilities	**81.320**	**102.351**	**36.550**	**0**	**-918**	**85**		0	**35.717**	**117.037**
Stockholders' equity:										
Preferred stock	503	-								503
Common stock	7	1								7
Additional paid-in capital	8.130	4.551								8.130
Retained earnings	1.041	5.458						2.131	2.131	3.172
Treasury Stock	-237									-237
Accumulated other comprehensive income (loss)	-620	-1.997								-620
Total stockholders' equity	**8.824**	**8.013**								**10.955**
Noncontrolling interests	-									0
Total equity	8.824	8.013								10.955
Total liabilities and total equity	**90.144**	**110.364**	**36.550**	**0**	**-918**	**0**		**2.131**		**127.992**

Figure 5 Consolidated Balance Sheet

The combined balance sheet comprehends several items.

Cash and cash equivalents: their book value approximate their fair value. The total cash includes also money received from the FDIC for NYCB to use this excess liquidity to pay down a substantial amount of its borrowings, leaving the balance sheet with a stronger liquidity position and facilitate the ongoing operations and the rescue of the institution.

Loans: NYCB calculated loans' fair value based on a discounted cash flow methodology, that considers several factors, such as credit loss expectations, market interest rates and other market factors. They can be split into groups based to similar characteristics. The main group is composed of (i) Commercial and Industrial loans (82.7% of the total), subdivided in the traditional C&I (29%, that includes private banking, lines of credit to accounting and law firms, entertainment companies, manufacturers and retailers, most located in NY) and financial (53.7%, provides specialty equipment finance and leasing as well as transportation, franchise and vendor and marine finance); (ii) commercial and RE (15.9%), that includes healthcare banking (focused on companies providing a range of healthcare services, like hospitals, ambulatory centers, etc.), mortgage warehouse (delivers customized cash management services and products to residential and commercial mortgage servicers and originators, PE firms and hedge funds asset managers) and SBA assets (small business loans); consumer and other types (1.4%). Certain types of loans were excluded from the deal: fund banking (provides financing and banking services to PE industry), some multifamily (commercial RE lending, multifamily residential, office and retail properties), some CRE (the NY and West Coast ones), venture banking (VC in the technology sector, life sciences companies and their investors). Summing all up, total loans increased from 68.6 to 80.8 billion, bringing a more diversified portfolio, with clients dislocated in different places, with different need and from different sectors. These different typologies served the bank when evaluating their fair value, by applying different techniques, probability of default and prepayment assumptions, using internal data on experience and forecast expectations (New York Community Bancorp, 2023e).

Core deposit intangibles: they reflect the value of acquired checking, savings, and money market accounts in a business combination. Its fair value was determined through a discounted cash flow approach, incorporating discount rates, customer attrition, and market assumptions. This value represents the cost savings from core deposit funding versus alternative funding options. The CDI from the Signature transaction will be amortized over 10 years using the sum-of-years-digits method[6] and will be assessed for impairment when needed.

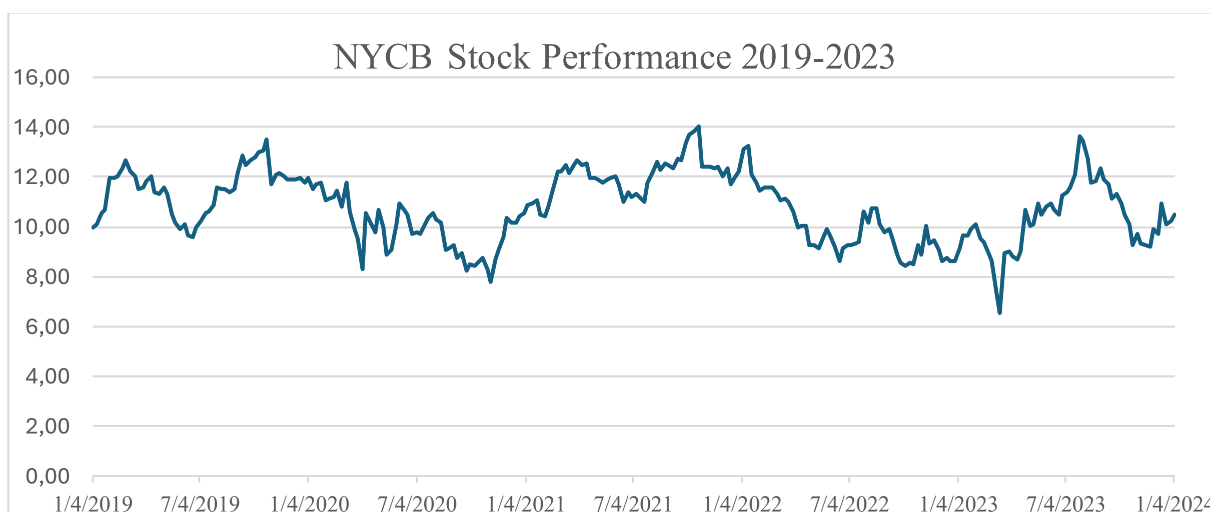
[6] The sum-of-years' digits depreciation method is an accelerated depreciation/amortization technique, acceptable under both U.S. and IASB standard. Under this method, a company records large amounts of depreciation in the

Deposits: NYCB assumed all deposits except for crypto currencies one. Of the $33.6 billion, 40%, $13.4, are non-interest bearing. The new deposits decreased the loan to deposit ratio from 118% to 88%, but has brought a little increase in deposits cost, from 1.65%, prior to the transaction, to 1.81%, because of Signature higher deposit costs that were 2.09%. NYCB considers their fair value equal to the carrying amount payable on demand if they do not have maturity, or discounted cash flow for the remaining maturities otherwise.

Equity appreciation instruments: under the terms of the Purchase Agreement, NYCB was not required to make a cash payment, but granted the FDIC equity appreciation rights in common stocks. The company issued 39.032.006 shares to the FDIC, that were bought on May 16, 2023; however, it did not receive any proceeds from it. The FDIC agreed to sell those stocks in a 40-day period, after which it will not hold other bank's shares (New York Community Bancorp, 2023d).

Post-merger

Figure 7 NYCB Stock Performance 2019-2023. Data from Eikon



NYCB's stock price was $9.94 at the beginning of 2019, and it experience growth during 2021, coinciding with the announcement of its intention to acquire Flagstar. This acquisition was well-received by the market, with investors viewing the merger as potentially accretive to NYCB's financials. This optimism was reflected in the stock's performance, which stabilized around $12 for much of the year, peaking at $14 per share on October 22, 2021. The market's positive assessment proved to be accurate, as Flagstar became a key segment for NYCB, contributing

early years, and smaller amounts later in the asset's life. For some assets, it is considered to better represent the decline in the asset's value (especially intangibles) (Noland, 2011).

to a strategic realignment of the bank's operations. However, in 2022, the stock experienced volatility, mirroring the broader financial sector's challenges and uncertainties. As interest rates rose to counter inflation, a development typically favorable for banks due to increased interest margins, it simultaneously sparked concerns about a potential recession (McKinsey&Company, 2022). Higher interest rates, while boosting profitability through wider margins, also raised the risk of loan defaults, as borrowers faced greater financial strain. This dual effect created a challenging environment, balancing the benefits of higher margins against the increased likelihood of credit issues. The downward trend in NYCB's stock may also be attributed to its significant exposure to multi-family residential loans, a key component of its balance sheet. During periods of economic uncertainty, this concentration can heighten fears of potential loan defaults. Even the finalization of the Flagstar acquisition did little to alleviate investor concerns, with the stock closing at $9.05 on the day the deal was completed. In March 2023, NYCB's stock suffered further. On March 10, the day Silicon Valley Bank collapsed, NYCB's stock fell to $7.37. Just before the Signature Bank transaction, the stock hit a low of $6.54 on March 17. The initial market reaction to the Signature acquisition was cautious, as analysts questioned the strategic fit, given that Signature operated in areas where NYCB had limited experience. Expanding into new territories by taking over a failed bank was seen as a risky move. However, the market's sentiment improved post-acquisition. Excluding the most toxic assets (particularly those related to crypto), NYCB reported strong earnings in the first three quarters of 2023. The stock price rebounded, fluctuating between $10 and $12, signaling renewed investor confidence. Toward the end of the year, performance was dampened by a $552 million provision for credit losses that caused a net loss and a reduction in the common dividends; additionally, a complete goodwill write-off was recorded. As the NYCB CEO commented, this choice was taken to build capital, reinforce the balance sheet, strengthen the risk management processes, and better align with the bank peers (New York Community Bancorp, 2023b).

	Historical FY 2023					Estimated
	Q1	Q2	Q3	Q4	FY 23	FY 24
(Net) Loans						
Surprise %	-0,374%	-0,461%	1,441%	0,026%	0,012%	-1,835%
Actual	81.997	82.684	85.302	84.809	84.809	
Mean	82.305	83.066	84.090	84.787	84.799	77.340
Assets						
Surprise %	6,834%	-2,486%	-3,568%	5,709%	5,709%	0.337%
Actual	123.754 €	118.796 €	111.230 €	116.322 €	116.322 €	

Mean	115.838 €	121.825 €	115.345 €	110.040 €	110.040 €	110.044
Deposits						
Surprise %	-4,961%	5,118%	-3,750%	-0,585%	-0,585%	0.221%
Actual	84.800	88.497	82.675	81.365	81.365	-
Mean	89.226	84.188	85.896	81.844	81.844	73.8807
Liabilities						
Surprise %	22,390%	7,680%	-2,384%	6.86%	7.05%	0.370%
Actual	112.972	107.736	100.237	105.502	105.690	-
Mean	92.305	100.052	102.685	98.728	98.728	101.001
Net Interest Income						
Surprise %	5,659%	17,336%	8,882%	-6,521%	-1,650%	-0.044%
Actual	555	900	882	740	3077	-
Mean	525	767	810	792	3129	2.382
Loan Loss Provision						
Surprise %	137,099%	146,699%	101,882%	1230,289%	172,106%	-0.074%
Actual	170	49	62	552	833	-
Mean	72	20	31	41	306	785
Non-interest Expense						
Surprise %	17,981%	20,071%	23,534%	14,259%	9,883%	0.304%
Actual	476	661	712	695	2.544	-
Mean	403	551	576	608	2.315	2.577
Net Income						
Surprise %	2097,153%	94,978%	-18,551%	-232,122%	-104,250%	1.113%
Actual	1.998	405	199	-260	-117	-
Mean	91	208	244	197	2.753	-607
Net Interest Margin Ratio						
Surprise %	4,341%	15,694%	9,091%	-7,994%	-2,048%	-
Actual	2,600%	3,210%	3,270%	2,820%	2,990%	-
Mean	2,492%	2,775%	2,998%	3,065%	3,053%	2.183%

As stated in the annual report, for 2023 NYCB was still in the process of finalizing its financial segment reporting; so, in the next paragraphs, the consolidated financial performance will be analyzed, trying to understand Signature contribution to the whole position.

In 2023, net interest income reached $3.1 billion, marking an increase of $1.7 billion or 120 percent compared to previous year. This growth was mainly driven by the Flagstar acquisition, finalized in late 2022, and the Signature transaction. Interest income on mortgages and other loans increased $2.7 billion, +144%, driven by a $15 billion or 22 percent increase in loan, primarily driven by the Signature transaction (New York Community Bancorp, 2023e). This

result is quite in line with market expectations. NYCB was able to have an extraordinary performance in the first three quarters, surpassing the forecasts: however, in the last two quarters net interest income was slightly behind analyst estimates.

Net income was, on the other hand, way beyond forecast. In the first two quarters, this is easily explained by the gain on Signature acquisition, and the new earning assets and services acquired, that helped NYCB in an abnormal net income. However, the consolidated bank reached the $100 billion assets threshold, that implies more regulatory oversight and requirement, such as liquidity standards, risk-based and leverage capital requirements and stress testing (New York Community Bancorp, 2023b). To start the compliance, NYCB recorded loss provision in a prudent and conservative way that repressed the income. NYCB ended with a loss recording of -$117 million, while the market was expecting a $2.8 billion profit, primarily caused by the goodwill impairment of $2.4 billion.

Interest expense increased to $2.4 billion, or 247 percent, driven by an increase in the average cost of interest-bearing deposits, due to higher interest rates, and higher deposit volume, reflecting the new bank acquisitions.

The net interest margin (defined as net interest income as a percentage of average interest-earning assets) was 2.99 percent, an increase of 64 basis points compared to the previous year. This improvement was largely driven by a larger balance sheet with higher-yielding loans, bolstered by the Flagstar and Signature acquisitions, as well as the impact of rising interest rates. In terms of estimated surprise, this follows the same path of the net interest income, with the first three quarters positive and the last one negative.

Non-interest income rose by $2.4 billion primarily due to the $2.1 billion bargain purchase gain from the Signature transaction. The acquisitions also led to increased fee income, loan administration income, and other revenue streams from mortgage and FDIC loan servicing, as well as higher customer-based fees (New York Community Bancorp, 2023e).

Non-interest expense increased by $4.3 billion, driven by a $2.4 billion goodwill impairment in the fourth quarter. Indeed, the Company identified a triggering event, and the subsequent analysis determined that goodwill from historical transactions was fully impaired, leading to a full impairment charge. Additionally, merger-related expenses rose by $223 million due to the Signature transaction and ongoing integration costs. Excluding these, non-interest expenses totaled $2.2 billion for 2023, compared to $0.6 billion in 2022. Non-interest expense showed all a positive surprise.

In the quarter following the acquisition, with full period Signature contribution, net interest income increased of $345 million due to higher levels of interest-earning assets from the

Signature loans and an high interest rate environment; interest expense increased to $441 million, driven by higher deposit cost and levels ; non-interest income increased of $64 million thanks to new services brought by the acquired bank; non-interest expense of $123m, primarily driven by operating costs (mainly compensation and administrative costs) (New York Community Bancorp, 2023f)

Commercial loans rose by $2.9 billion as of December 31, 2023, reaching $13.4 billion, compared to $10.5 billion at the same time in 2022. This growth was largely driven by the Signature transaction and portfolio expansion. Total loans and leases held for investment were $84.6 billion on December 31, 2023, compared to $69.0 billion at the end of 2022 (+23%), with the increase driven by loans acquired through the Signature transaction and organic loan growth. Nonperforming loan increased from 0.2% to 0.51% of the total. Loans showed no significant surprise, keeping a stable trend without abnormal changes.

The provision for credit losses for the year ended December 31, 2023, was $833 million, significantly higher than the $133 million recorded for the prior year, while the related allowance leases grew by $599 million (+152%). The increase primarily reflects an initial $132 million provision for credit losses related to loans and commitments acquired through the Signature transaction (New York Community Bancorp, 2023g), along with a net $483 million increase in allowance for credit losses. The remaining increase was mainly due to actions taken in the fourth quarter to build reserves in response to emerging risks and weaknesses in the office sector, potential repricing in the multifamily portfolio, and increasing classified assets. Comparing the numbers with the analysts forecast, it can be noted that provision recording was always much higher than projected, due to the just mentioned factors that arose during the year and to which NYCB decided to intervene proactively and in a more prudent manner (New York Community Bancorp, 2023e).

Total assets increased from $90b to $114.1, or a 27 percent mainly driven by the Signature acquisition and organic growth, with surprise variation of around +5%.

Total deposits reached $81.5 billion, an increase of $22.8 billion from $58.7 in 2022 (+39%), primarily due to the Signature transaction. This growth includes $29.3 billion in uninsured deposits, which represent 35.9 percent of the total deposit base. The rise in uninsured deposits is again largely attributable to the Signature transaction. In the days following the acquisition, deposit run off continued. As March 31st, NYCB still experienced Signature deposit outflow of $2b, with other $0.9b through April 20th (New York Community Bancorp, 2023g). At the end of June, NYCB recorded deposit runoff for that quarter of -$1.4b (New York Community

Bancorp, 2023f). Deposit outflow stabilized only during the third quarter, almost six months after the failure.
Signature acquisition accelerated the NYCB process of transformation into a more dynamic, diversified commercial bank. As a result, the balance sheet resulted more diversified, with commercial loans representing 46% of the total loans, that amount to 73% of total assets, and it is expected to improve the bank's net interest margin further. Non-interest-bearing deposits passed from 20 to 25% of total deposits, that consist of 71% of total liabilities (+6%). The deal granted NYCB to acquire strategically and financially attractive assets and liabilities, adding an important number of low-cost deposits, and a middle-market business served by a new team. One of the main challenges for NYCB will be to carry on the integration of two new businesses (Signature and Flagstar) at the same time, in a in a coordinated, coherent and effective manner. The purpose of the next phase will be to integrate Signature's network and offices into the Flagstar's one. NYCB developed a three points plan, consisting of: (i) conversion of Signature into Flagstar platform, that is facilitated by the fact that is a process identical to prior conversion; (ii) combination of Flagstar's and Signature's industry-leading sales and service culture; (iii) optimization of office staffs. Additionally, NYCB aims to capitalize on Signature's network to drive further growth by: (i) integrating the product offerings of both organizations to tap into an expanded, combined customer base; and (ii) attracting Signature's traditional, commercial, low-risk clients and deposits. To ensure a seamless transition, since the beginning NYCB has promptly taken control of Signature's operations, including product pricing, underwriting, and risk management and ensured that Signature's depositors maintain uninterrupted access to their funds (New York Community Bancorp, 2023a). In line to this strategy, NYCB has expanded its private banking business, which was acquired as part of the Signature combination, by hiring six highly regarded teams from former First Republic Bank. These teams are supposed to play a key role in building a premier private banking division, focused on delivering exceptional service to high-net-worth individuals and their businesses. Their addition complements the existing teams, as both share a culture of providing a personalized customer experience through a single-point-of-contact model (New York Community Bancorp, 2023c).

The acquisition of Signature seems to be in line with NYCB growth strategy and has potential to offer financially positive results. However, it also seems that the integration has proceeds at a slow, more careful path. Indeed, the acquired bank brough in new services and segments which NYCB has never fully dived in. As to make things more complicated, a prior and bigger acquisition (Flagstar) is still going on. A good signal is the bank seems to be pro-active: as the

bank crossed the Category IV threshold, it has immediately started to bolster its liquidity profile (helped also by the money given by the FDIC in March), review its loan portfolios and taken actions to make the bank sounder, even if they are disfavored by shareholders (e.g. reduction in quarterly dividend in Q4 to improve capital ratios, net loss arose by reserve building). In conclusion, the premises for a successful result are there.

(Dollars in millions, except par value and share data)	March 31, 2023	June 30,	September 30,	December 31	Year Ended
INTEREST INCOME:					
Loans and leases	867	1.161	1.251	1.230	4.509
Securities and money market investments	167	337	261	217	982
Total interest income	**1.034**	**1.498**	**1.512**	**1.447**	**5.491**
INTEREST EXPENSE:					0
Interest-bearing checking and money market accounts	157	232	268	286	943
Savings accounts	39	40	43	47	169
Certificates of deposit	87	169	180	210	646
Borrowed funds	196	157	139	164	656
Total interest expense	**479**	**598**	**630**	**707**	**2.414**
Net interest income	**555**	**900**	**882**	**740**	3.077
Provision for credit losses	170	49	62	552	833
Net interest income after provision for credit loan losses	**385**	**851**	**820**	**188**	**2.244**
NON-INTEREST INCOME:					
Fee income	27	48	58	39	172
Bank-owned life insurance	10	11	11	11	43
Net loss on securities	0	-1	0	0	-1
Net return on mortgage servicing rights	22	25	23	33	103
Net gain on loan sales and securitizations	20	25	28	16	89
Net loan administration income	7	39	19	17	82
Bargain purchase gain	2.001	141	0	8	2.131
Other	11	14	21	22	68
Total non-interest income	**2.098**	**302**	**160**	**146**	**2.687**
NON-INTEREST EXPENSE:					
Operating expenses:					
Compensation and benefits	219	289	346	295	1.149
Occupancy and equipment	37	50	55	58	200
General and administrative	136	176	184	243	750
Total operating expense	**392**	**515**	**585**	**596**	**2.099**
Intangible asset amortization	17	37	36	36	126
Merger-related and restructuring expenses	67	109	91	63	330
Goodwill impairment	0	0	0	0	2.426
Total non-interest expense	**476**	**661**	**712**	**695**	**4.981**
(Loss) Income before income taxes	**2.007**	**492**	**268**	**-361**	**-50**
Income tax expense	1	79	61	-109	29
Net (loss) income	**2.006**	**413**	**207**	**-252**	**-79**
Preferred stock dividends	8	8	8	8	33
Net (loss) income available to common stockholders	**1.998**	**405**	**199**	**-260**	**-112**
Basic (loss) earnings per common share	$ 2,88	$ 0,55	$ 0,27	$ (0,36)	$ (0,16)
Diluted (loss) earnings per common share	$ 2,87	$ 0,55	$ 0,27	$ (0,36)	$ (0,16)
Net (loss) income	**2.006**	**413**	**207**	**-252**	**-79**

Figure 6 NYCB Income Statement, quarter and year-end 2023

3.3 FIRST REPUBLIC BANK AND JP MORGAN CHASE

Companies

First Republic Bank ("FRB"), founded in 1985 in California, is a commercial bank and trust company headquartered in San Francisco, that offers private banking, business banking and wealth management services, in major urban markets, including San Francisco, New York and Los Angeles. The bank distinguished itself for its exceptional customer service and focus on personalized banking solutions, earning a reputation of a so-called "boutique bank" due to its

high-touch service model and client centric approach. FRB delivers a wide range of products, including residential, commercial and personal loans, deposit services, and private wealth management, including investment, brokerage, insurance, trust and foreign exchange services. The business strategy is centered on (i) delivering superior client services (differentiation strategy), by building long-term relationships through superior client services (client-focused culture) and tailored solutions; (ii) originating high quality loans; (iii) growing deposits, to provide the bank a stable, low-cost source of funding, by expanding relationships with both new and existing clients. The loan portfolio primarily consists of loans secured by single family residences, multifamily buildings and commercial real estate properties, lending to borrowers who are professionals, business executives, entrepreneurs and SMEs. Another source of value is the wealth management segment, that provides professional services to a target client base. As of December 31, 2022, FRB had total assets of $212.6 billion, total loans of $166 billion, total deposits of $176.4 billion, total equity of $17.4 billion, with reporting a net income of $1.6b and net interest margin of $4.8b (First Republic Bank, 2023).

JPMorgan Chase & Co. ("JPM") is a leading global financial services firm headquartered in New York, with a strong international presence. As one of the world's largest banks, JPM is a recognized leader in investment banking, consumer and small business financial services, commercial banking, and asset management. The firm's operations are divided into four primary business segments. (i) Consumer & Community Banking, this segment offers a range of services to individuals and small businesses. (ii) Corporate and Investment Banking, focused on a diverse clientele, including corporations, financial institutions, and governments, this segment provides investment banking, treasury services, and securities trading. (iii) Commercial Banking, serving businesses, municipalities, and nonprofit organizations, this segment offers specialized banking services tailored to these entities' needs. (iv) Asset & Wealth Management, this division caters to high-net-worth individuals and institutional clients, providing investment management, wealth planning, retirement services, and financial advisory. As of December 2023, JPMorgan Chase managed $3.9 trillion in assets (up from $3.6 trillion in 2022), held $1.3 trillion in loans (an increase from $1.1 trillion in 2022), and maintained $2.4 trillion in deposits ($2.3 trillion in 2022). The firm also reported $327.9 billion in stockholders' equity. In the same year, JPMorgan Chase achieved a net income of $49.5 billion, with noninterest revenue totaling $68 billion and net interest income reaching $89.2 billion. The company's well-diversified income stream is generated from a mix of interest income, lending activities, fees, asset management, and trading profits. On May 1, 2023,

JPMorgan Chase acquired certain assets and assumed certain liabilities of First Republic Bank from the FDIC (JP Morgan Chase, 2023).

Reasons of failure

On May 1, 2023, the California Department of Financial Protection and Innovation (CADFPI) closed First Republic Bank and appointed the FDIC as receiver. The same day, the FDIC sold the failed institution to JPMorgan Chase Bank. With $232.9 billion of assets, FRB became the second largest failure in U.S. history (FDIC, 2023a).

The primary cause of its failure was a bank run, result of a loss of market and depositor confidence, after the SVB and Signature failures on March 10 and 12. The most surprising thing about this case is that FRB had always been considered in the past a sound, well-run bank, as proved by the positive feedback and ratings the government supervisors had given in the past. Indeed, the bank grew persistently in the years before, and unlike the other cases where growth was not supported by adequate actions, in this case the bank implemented infrastructure, controls and risk management process suitable with its situation. Notwithstanding, the FDIC found in its review post-failure some weak points in the business model that left it vulnerable to interest rate changed and contagion (FDIC, 2023a).

The first concern on FRB was its rapid growth and funding concentrations. The bank experienced higher growth compared to its competitors, but with both assets and funding concentration, where FRB's borrowers used to prefer low-rate loans with longer maturity. Although it was able to manage this position, after the surge in interest rate in 2022, an asset/liability mismatch was created (FDIC, 2023a). This situation alone is not crucial to lead a bank to fail, but coupled with other factors can create some difficulties.

Another point was the overreliance on uninsured deposits and depositors' loyalty, which also represented another aspect of the funding concentration and a volatile one. FRB's uninsured depositors represented the 67% of total deposits in December 2022 (First Republic Bank, 2023). As said earlier, these types of deposits might become unstable in time of financial distress. Moreover, the bank management was confident that its depositors base was loyal, and the possibility of a bank run very unlikely (FDIC, 2023a).

The last critical aspect was the failure to mitigate interest rate risk. The FDIC detected that FRB business strategy worked well in a low-interest rate environment but did not consider taking necessary actions to mitigate interest rate risk. FRB's business model focused on making loans and deposits with competitive interest rates and a high personal service component. Each year, the bank would make new loans at the prevailing interest rate of the time, to offset the floating-

rate loans reprice. This strategy worked as long as the bank was also able to garner deposits, which provided a stable, low-cost source of funding; the bank relied on its ability to expand client relationships and acquiring new ones, while also having most of deposits as non-interest bearing. This strategy worked well until the first quarter of 2022, when the FED began raising interest rates and creating an asset/liability mismatch. Assets were most long-term loans with low interest, while funding deposits required short-term with the respective higher rate. This worsened FRB performance, with a deterioration of net interest margin caused by higher interest expenses. Even existing depositors started to move to interest-bearing accounts. Finally, with the new interest rate environment, the fair value of the bank's securities and loans decreased, and unrealized losses were identified. This means that the bank could not even sell these securities when the crisis spread to rise additional cash, otherwise it would have recorded a loss (FDIC, 2023a) (Department of Financial Protection, 2023).

As one can notice, FRB had characteristics that were like SVB, i.e. high level of uninsured deposits and differences between the fair values and book values of loans and/or assets. Additionally, they both operated in the same geographic area; therefore, FRB experienced first an inflow of deposits that were shifted from SVB to FRB accounts, but soon FRB's balance sheet garnered attention on news and social media, as in the eyes of the public the situation was the same of SVB and withdrawals began. On Mach 31, deposits totaled $104 billion, from $176b in December 2022, a 41% decrease. The contagion manifested as a large decline in stock price and deposit outflow. Despite FRB was initially able to manage the liquidity need, the non-stop withdrawal requests, pushed by the VE and PE community's advice on social media to do the same, accelerated the degradation of the bank's soundness. Liquidity deteriorated and on March 16, a consortium of 11 bank (JPM included) placed $30 billion in deposits slowing down the outflow, in an attempt to save the situation (FDIC, 2023a)(Department of Financial Protection, 2023)(S&P Global Ratings, 2023).

On April 24, FRB communicated to have lost over $100b deposits, that amounted to $92.6 at closing date, and significant withdrawals soon resume (Acharya et al., 2023); this sparked a negative market response, with a decline in the bank's stock price that went from $122.5 (on March 1), to $14.27 (on April 24) and closing at $3.51 on April 28. The CADFPI considered the position irremediable, with every attempt to restore confidence in vain, downgraded the bank as a problem status, decided to take possession of the bank and appoint FDIC as receiver (Department of Financial Protection, 2023). In the prior days, FDIC had already started an informal discussion to have indicative bids from a pool of 40 banks, to choose the best offers (Reuters, 2023b). Immediately after taking bank's possession, FDIC sold it to JPM. The FDIC

also estimated the cost to the DIF of the resolution to be around $16.1 for SVB, $2.4 for Signature and $13 for FRB (Acharya et al., 2023).

The Deal

On May 1, 2023, JPMorgan Chase acquired the majority assets and assumed certain liabilities of First Republic Bank from the FDIC, for $67.8 billion, with an immediate payment of $10.6b, resulting in an estimated bargain purchase gain of $2.8 billion. As part of the acquisition, JPM acquired $192.2b of assets, of which $30b in securities and $153 in loans, and assumed $121.6b of liabilities, of which $87b deposits. In connection with the transaction, the bank issued a five-year, $50 billion note to the FDIC and entered into two shared-loss agreements regarding certain loans acquired (Commercial Shared-Loss Agreement - "CSLA") and lending-related commitments assumed (Single-Family Shared-Loss Agreement - “SFSLA”). The CSLA covers 80% of credit losses over 5 years, followed by a 3-year recovery period for certain acquired commercial loans and real estate exposures. The SFSLA also covers 80% of credit losses over 7 years for certain acquired loans secured by residential properties. The indemnification assets, representing the fair value of the CSLA and SFSLA, are included in the total acquired assets. The objective of the share loss agreements is to reduce the risk of negative future impacts, as the bank intervened quickly to stabilize the system, and maintain the bank strong credit profile. As part of the deal, JPM issued a $50b note, with a five-year maturity, bearing a fixed interest rate of 3.4% and secured by certain acquired loans, that can be prepaid with notice to the FDIC. On March 16, 2023, the company placed a $5 billion deposit with First Republic Bank as part of a $30 billion effort by major U.S. banks. This $5 billion deposit was settled during the acquisition, and the remaining $25 billion were repaid, along with accrued interest, to the consortium of banks on May 9 (JPMorgan Chase, 2023c).

JPM stated that the combination would further develops the bank’s wealth management strategy and is complementary to the existing franchises. The transaction rationale considered the opportunity to accelerate the penetration in the U.S. high net worth clients’ sector, by adding FRB’s wealth centers placed in attractive location, and adding almost half million clients from the former FRB. The combined entity maintains a sound credit profile, that should have instilled confidence in FRB depositors, after the crisis. Furthermore, JPM expected since beginning the transaction to be remunerative, forecasting to add more than $500 million (then revised to $2b) earnings annually, while also preserve a quality portfolio, supplemented by the FDIC protection (JPMorgan Chase, 2023a). It should be also considered that the purchase brought stability and strength in the banking system; the deal was considered such an important step to overcome the

bank instability, that the government seek JPM help and intervene. After the acquisition, FRB reopened on May 1 as normal, with clients continuing to receive all the services previously provided (JPMorgan Chase, 2023b).

Consolidated Post-Merger Financial Statement

The single balance sheets of First Republic Bank and JPMorgan Chase are presented below.

Table 9 First Republic Bank as December 2022 and March 2023

	March 31, 2023	December 31, 2022
(in millions, except per share data)		
ASSETS:		
Cash and cash equivalents	$ 13.159	$ 4.283
Deposits with banks		0
Securities:		
Federal funds sold and securities purchased under resale agreements		0
Securities borrowed		0
Trading assets		0
Securities available-for-sale	3.409	3.347
Held-to-maturity securities	31.389	28.348
Equity securities	24	24
Total securities	**34.822**	**31.719**
Loans	173.311	166.868
Less: Allowance for credit losses on loans and leases	-802	-784
Total loans and leases held for investment, net	**172.509**	**166.084**
Accrued interest and accounts receivable	0	0
Premises and equipment	488	483
Goodwill and other intangibles	193	218
Investment in life insurance	4.039	3.435
Tax credit investment	1.393	1.383
Other assets	6.341	5.034
Total assets	**$ 232.944**	**$ 212.639**
LIABILITIES AND STOCKHOLDERS' EQUITY:		
Deposits:		
Noninterest-bearing	20.297	62.579
Interest bearing	23.162	41.178
Money market checking	6.028	25.805
Money market savings	5.159	21.663
Certificates of deposits	49.828	25.212
Total deposits	**104.474**	**176.437**
Borrowed funds:		
Federal funds purchased and securities loaned or sold under repurchase agreements	0	0
Short-term borrowings	80.365	0
Trading liabilities	0	0
Accounts payable and other liabilities	3.811	3.477
Beneficial interests issued by consolidated VIEs	0	0
Long-term debt	0	0
Short-term FHLB avdances	0	6.700

Long-term FHLB advances	25.525	7.300
Senior notes	0	500
Subordinate notes	779	779
Total borrowed funds	**110.480**	**18.756**
Total liabilities	**214.954**	**195.193**
Stockholders' equity:		
Preferred stock	3.633	3.633
Common stock	2	2
Additional paid-in capital	6.585	6.256
Retained earnings	8.065	7.886
Treasury stock	0	0
Accumulated other comprehensive loss	-295	-331
Total stockholders' equity	**17.990**	**17.446**
Total liabilities and stockholders' equity	**$ 232.944**	**$ 212.639**

Table 10 JPMorgan Chase Balance Sheet as December 2022-2023

	December 31, 2023	December 31, 2022
(in millions, except per share data)		
ASSETS:		
Cash and cash equivalents	$ 29.066	$ 27.697
Deposits with banks	595.085	539.537
Securities:		
Federal funds sold and securities purchased under resale agreements	276.152	315.592
Securities borrowed	200.436	185.369
Trading assets	540.607	453.799
Securities available-for-sale	201.704	205.857
Held-to-maturity securities	369.848	425.305
Total securities	**571.552**	**631.162**
Loans	1.323.706	1.135.647
Less: Allowance for credit losses on loans and leases	-22.420	-19.726
Total loans and leases held for investment, net	**1.301.286**	**1.115.921**
Accrued interest and accounts receivable	107.363	125.189
Premises and equipment	30.157	27.734
Goodwill and other intangibles	64.381	60.859
Other assets	159.308	182.884
Total assets	**$ 3.875.393**	**$ 3.665.743**
LIABILITIES AND STOCKHOLDERS' EQUITY:		
Deposits:		
Noninterest Bearing	666.845	671.907
Interest bearing	1.733.843	1.668.272
Total deposits	**2.400.688**	**2.340.179**
Borrowed funds:		
Federal funds purchased and securities loaned or sold under repurchase agreements	216.535	202.613
Short-term borrowings	44.712	44.027
Trading liabilities	180.428	177.976
Accounts payable and other liabilities	290.307	300.141
Beneficial interests issued by consolidated VIEs	23.020	12.610

Long-term debt	391.825	295.865
Total borrowed funds	**1.146.827**	**1.033.232**
Total liabilities	**3.547.515**	**3.373.411**
Stockholders' equity:		
Preferred stock	27.404	27.404
Common stock	4.105	4.105
Additional paid-in capital	90.128	89.044
Retained earnings	332.901	296.456
Treasury stock	-116.217	-107.336
Accumulated other comprehensive loss	-10.443	-17.341
Total stockholders' equity	**327.878**	**292.332**
Total liabilities and stockholders' equity	**$ 3.875.393**	**$ 3.665.743**

For this case it was deemed appropriate to draft the consolidated balance sheet using the FRB's data of March 2023, as there were some discrepancies in some items between the data at year end 2022 and JPM acquired values on May 1st. The main source of information to draft was the purchase price allocation as of May 1 and the 8-K of the same day.

Table 11 Purchase Price Allocation

(in millions)	**Fair value purchase price allocation**
Purchase price consideration	
Amounts paid/due to the FDIC, net of cash acquired	13.524
Purchase Money Note (at fair value)	48.848
Settlement of First Republic deposit and other related party transactions	5.447
Contingent consideration - Shared-loss agreements	15
Purchase price consideration	67.834
Assets	
Securities	30.285
Loans	153.242
Core deposit and customer relationship intangibles	1.455
Indemnification assets - Shared-loss agreements	675
Accounts receivable and other assets	6.574
Total assets acquired	**192.231**
Liabilities	
Deposits	87.572
FHLB advances	27.919
Lending-related commitments	2.614
Accounts payable and other liabilities	2.793
Deferred tax liabilities	724
Total liabilities assumed	**121.622**
Fair value of net assets acquired	**70.609**
Estimated gain on acquisition, after-tax	**2.775**

The purchase price consideration includes $10.6b of cash paid to the FDIC at acquisition and $3.6 billion payable to the FDIC (both included in the "amount paid/due to FDIC"). As part of the consideration JPM issued a five-year note of $50 billion, here at fair value. Finally, the bank had placed a $5 billion deposit with FRB on March 16, 2023, as part of $30 billion of deposits provided by a group of large U.S. banks, that was effectively settled as part of the acquisition. JPM subsequently repaid the remaining $25 billion of deposits to the bank consortium. The issuance of the Purchase Money Note, the effective settlement of the $5 billion deposit and $447 million of securities financing with First Republic Bank, and the $3.7 billion payable to the FDIC as part of the purchase price consideration were considered non-cash transactions and were recorded as long-term debt (JP Morgan Chase, 2023).
Securities acquired included both available-for-sale and held-to-maturity, with a total amount of $30b, whose valuations are based on discounted cash flow, which consider inputs from prices of similar assets in active markets, market rates for the respective maturity and other collateral characteristics. Loans totaled $153.2b and their valuation was based on observed market prices of similar instruments, if available, or on discounted cash flow, otherwise. At inception, the 64% were consumer loans, 27% commercial loans and 9% wealth management. Core deposit and certain wealth management customer relationship intangibles were recognized as part of the First Republic acquisition. The core deposit intangible was valued at $1.3 billion, determined by discounting the estimated after-tax cost savings over the remaining useful life of the deposits. The after-tax cost savings were estimated by comparing the cost of maintaining the core deposit base to the cost of alternative funding sources available to market participants. The customer relationship intangibles, valued at $180 million, were determined by discounting the estimated after-tax earnings over their remaining useful lives using the multi-period excess earnings method. The core deposit and customer relationship intangibles will be amortized over an estimated 7-year period, aligned with the expected future cash flows. The indemnification assets, related to the shared-loss agreements, represent forecasted recoveries from the FDIC associated with the shared-loss assets over the respective shared-loss recovery periods. The indemnification assets were recorded at fair value in other assets. The fair values of the indemnification assets were estimated based on the timing of the forecasted losses underlying the related allowance for credit losses. The subsequent quarterly remeasurement of the indemnification assets is based on changes in the amount and timing of forecasted losses in the allowance for credit losses associated with the shared-loss assets and is recorded in other income. Under certain circumstances, the firm may be required to make a payment to the FDIC upon termination of the shared-loss agreements based on the level of actual losses and

recoveries on the shared-loss assets. The estimated potential future payment is reflected as "contingent consideration" as part of the purchase price consideration. Other assets ($6.6b) include $1.2b in tax-oriented investment and $683m of lease right-of-use assets.

In the liabilities side, deposits amounted to $87.6 billion (both insured and uninsured), and represented most liabilities assumed, followed by FHLB advances. Federal Home Loan Banks (FHLB) advances' purpose is to provide members with liquidity to meet short- and long-term needs. They serve as a source of funding for a variety of products, are backed by collaterals, can present different maturity (up to 30 years) and different term structure (floating or fixed rate) (FDIC, 2021). Then, they classified as borrowings. Their fair values were based on a discounted cash flow methodology and considered the observed FHLB advance issuance rates. Other liabilities included tax-oriented investment liabilities for $669 million and lease liabilities for $748m. As result, JPM recorded a gain on acquisition of $2.8b, net of deferred taxes.

Table 12 JPM-FRB Consolidated Balance Sheet

CONSOLIDATED BALANCE SHEET AT 31/12/2022

	JPM	FRB	BV acquired	Consideration	FV adj	Other	Goodwill	JPM gain	Total adj	Pro-forma
Assets										
Cash and cash equivalents	27.697	13.159	0						0	27.697
Deposits with banks	539.537	-							0	539.537
Securities:	-	-							0	0
Federal funds sold and securities purchased under resale agreements	315.592	-							0	315.592
Securities borrowed	185.369	-							0	185.369
Trading assets	453.799	-							0	453.799
Securities	631.162	34.822	29.600		685				30.285	661.447
Loans	1.135.647	173.311	172.900		-19.658				153.242	1.288.889
Less: Allowance for credit losses on loans and leases	-19.726	-802	0						0	-19.726
Total loans and leases held for investment, net	**1.115.921**	**172.509**								**1.269.163**
Accrued interest and accounts receivable	125.189	-							0	125.189
Premises and equipment	27.734	488	0						0	27.734
Goodwill and other intangibles	60.859	193	0			1.455	0		1.455	62.314
Investment in life insurance	-	4.039	0						0	0
Tax credit investment	-	1.393	1.200						1.200	1.200
Other assets	182.884	6.341	4.800		574	675			6.049	188.933
Total assets	**3.665.743**	**232.944**	**208.500**	**0**	**-18.399**	**2.130**	**0**	**0**	**192.231**	**3.857.974**
LIABILITIES AND STOCKHOLDERS' EQUITY:										
Total deposits	2.340.179	104.474	92.400		-4.828				87.572	2.427.751
Borrowed funds:										
Federal funds purchased and securities loaned or sold under repurchase agreements	202.613	-							0	202.613
Short-term borrowings	44.027	80.365	2.614						2.614	46.641
Trading liabilities	177.976	-							0	177.976
Accounts payable and other liabilities	300.141	3.811	2.300		493			724	3.517	303.658
Beneficial interests issued by consolidated VIEs	12.610	-							0	12.610
Long-term debt	295.865	-		67.834					67.834	363.699
Short-term FHLB avdances	-	-							0	0
Long-term FHLB advances	-	25.525	25.525		2.394				27.919	27.919
Senior notes	-	-							0	0
Subordinate notes	-	779	0						0	0
Total borrowed funds	**1.033.232**	**110.480**								**1.135.116**
Total liabilities	**3.373.411**	**214.954**	**122.839**	**67.834**	**-1.941**	**0**	**0**	**724**	**189.456**	**3.562.867**
Stockholders' equity:										
Preferred stock	27.404	3.633							0	27.404
Common stock	4.105	2							0	4.105
Additional paid-in capital	89.044	6.585							0	89.044
Retained earnings	296.456	8.065						2.775	2.775	299.231
Treasury stock	-107.336	-							0	-107.336
Accumulated other comprehensive loss	-17.341	-295							0	-17.341
Total stockholders' equity	**292.332**	**17.990**								**295.107**
Total liabilities and stockholders' equity	**3.665.743**	**232.944**	**122.839**						**192.231**	**3.857.974**

Post-merger

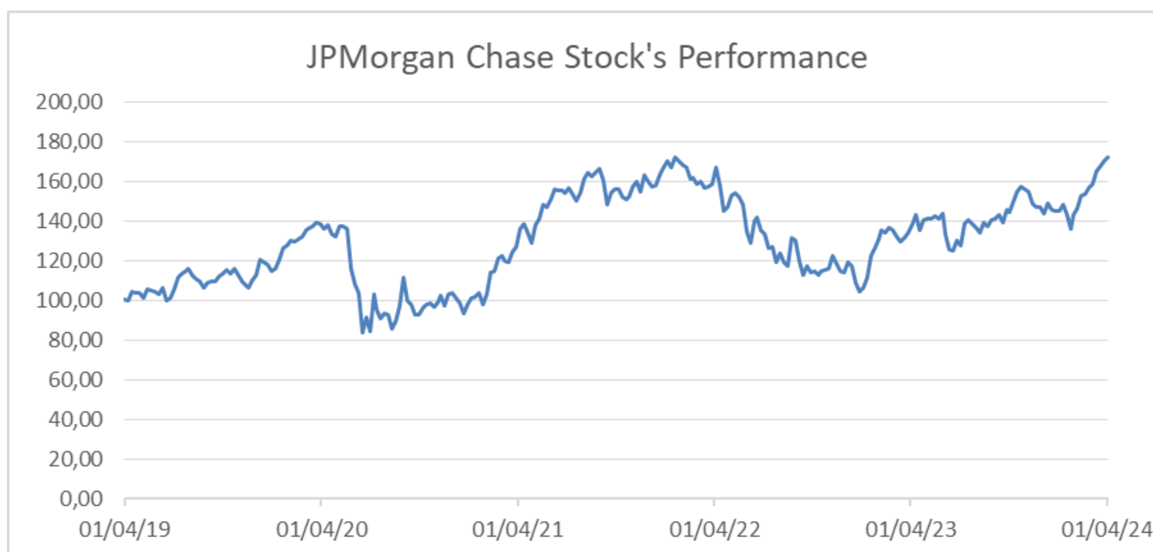


Figure 7 JPM Chase Stock's Performance 2019-2023

During the period considered, JPMorgan Chase's stock price started at $100.69 per share in January 2019. Over the next three years, the stock generally rose, except for 2020, reaching $158 at the beginning of 2022. However, throughout 2022, the stock faced a decline due to broader market challenges, particularly higher interest rates aimed at combating inflation. These rate hikes led to concerns about the overall economic situation, impacting various sectors, including banking. As a global financial institution, JPMorgan Chase was also affected by international factors, such as the Russia-Ukraine conflict and fears of a global recession. The stock hit a low of $113 in June 2022. By the end of the year, the stock price recovered, closing at $134 per share, which was still lower than at the beginning of the year but showed improvement from mid-year lows. In 2023, the stocks reached higher value in the second part of the year, ranging from $140 and $160, and closing at $170 per share. It seems that the bank was little impacted by the crisis event; actually, its strong capital position and financial health helped in restoring confidence in the sector. From March to May, its stocks range from $130 to $140, with the lowest peak being $127. Even FRB acquisition's announcement did not have significant impact in the value, likely because the acquisition was relatively small compared to the overall size of JPMorgan Chase. Performance-wise, the bank reported strong results, with quarterly increases in both interest income and noninterest revenues. This growth was driven by from higher interest rates, loan growth, a robust wealth management segment and strategic investment in technology and digital banking.

Select Period End Balances:							
(in millions)	Consumer	Commercial	Asset&Wealth	Corporate	FRB	Total JPM	%
Selected Income statement data							
Revenue							
Asset management fees	$ 387	$ -	$ -	$ -	$ 387	$ 15.220	2,54%
All other income	489	201	503	2862	4.055	53.617	7,56%
Noninterest revenue	**876**	**201**	**503**	**2862**	**4.442**	**68.837**	**6,45%**
Net interest income	2.401	704	668	-55	3.718	89.267	4,17%
Total net revenue	**3.277**	**905**	**1.171**	**2.807**	**8.160**	**158.104**	**5,16%**
Provison for credit losses	421	731	128	$ -	1.280	9.320	13,73%
Noninterest expense	1.219	45	50	1.033	2.347	87.172	2,69%
Net income	**1.244**	**98**	**753**	**2.015**	**4.110**	**49.552**	**8,29%**
Select Period End Balances:							
Loans	94.671	38.495	11.436	$ -	144.602	1.301.286	11,11%
Deposits	42.710	6.163	12.098	$ -	60.971	2.400.688	2,54%

Figure 8 Selected Period End Balances of 2023: FRB contribution to JPM

FRB’s contribution to JPM’s net income amounted to 8,29%, mainly coming from the interest margin, which added $3.7b (or a 4%) primarily from the Consumer segment. Net income was also boosted by the bargaining gain of $2.8b, that is the main source of FRB’s contribution to non-interest revenues. The asset management segments, one of the core FRB’s operations, contributed for 2,54%. During the second quarter, net income attributable to FRB was $2.4b, mainly coming from the acquisition gain. Right after the combination, at the end of the second quarter FRB apported $897 million of net interest income, $436 of noninterest revenue and $599 of expenses (JPMorgan Chase, 2023d). In the third quarter, FRB’s net income totaled $1.1 billion, coming from $1.5b of net interest income, $761m of noninterest revenue and $858m of expenses (JPMorgan Chase, 2023e). The following quarter, net income attributable to FRB was $647m, this reflected $1.3b of net interest income, $533 of noninterest revenue and $890m in expenses. Comparing the historical quarter results with the forecasted one, it can be noticed that JPM had higher net interest income but did not satisfy analysts projection in terms of noninterest revenue and net income in the second part of the year.

Provision for credit losses includes the $1.2b first recording of FRB’s credit reserve (JPMorgan Chase, 2023d), that consisted in the 13% of the total recordings.

Noninterest expense of $1.033 includes $360 million of restructuring integration costs. Other expenses come from employee’s compensation; indeed, of the 5.100 employees FRB had, 85% were invited to remain in JPM and 91% accepted (JPMorgan Chase, 2023f). The overall FRB’s noninterest expenses were $2.3 billion (or 2,69%), always quite in line with projections.

FRB’s loans are primarily concentrated in the consumer segment. At the end of the year, they amounted to $144b (11% of the total), with an outflow of around $9billion from acquisitions.

Even with respect to forecasted data, loans were slightly disappointing, with negative results comparing the two metrics.

Deposits are concentrated in the Consumer business, totaling to $60b at December 2023, consisting of just a 2,54% of the total deposits. The deposit outflow of $30b from acquisition date was due to repayment of the deposits granted by the consortium of banks back in March, that were settled right after the acquisition. For the other portion, the bank was able to retain clients, probably because former FCB's client trusted JPM position and strength, giving them confidence. In terms of surprise, deposits always showed a positive but little surprise, confirming the bank ability to retain clients even in difficult times.

	Historical FY 2023					Estimated
	Q1	Q2	Q3	Q4	FY 23	FY 24
(Net) Loans						
Surprise %	-2,050%	5,445%	-0,067%	-1,480%	-1,480%	0,066 %
Actual	1.108.843	1.278.089	1.288.113	1.301.286	1.301.286	-
Mean	1.132.054	1.212.095	1.288.975	1.320.838	1.320.838	1.344.288
Assets						
Surprise %	3,142%	3,779%	0,016%	-0,658%	0,560%	1,667%
Actual	3.744.305	3.868.240	3.898.333	3.875.393	3.875.393	-
Mean	3.630.253	3.727.386	3.897.712	3.901.055	3.853.822	4.060.008
Deposits						
Surprise %	3,152%	3,825%	0,676%	2,989%	1,301%	0,542%
Actual	2.377.253	2.398.962	2.379.526	2.400.688	2.400.688	-
Mean	2.304.613	2.310.587	2.363.540	2.331.017	2.369.864	2.439.920
Net Interest Income						
Surprise %	8,522%	2,902%	1,923%	4,952%	1,023%	0,107%
Actual	20.711	21.779	22.726	24.051	89.267	-
Mean	19.085	21.165	22.297	22.916	88.363	91.070
Loan Loss Provision						
Surprise %	1,510%	13,106%	-40,733%	19,603%	6,828%	6,140%
Actual	2.275	2.899	1.384	2.762	9.320	-
Mean	2.241	2.563	2.335	2.309	8.724	10.277
Non-interest Revenue						
Surprise %	3,371%	4,713%	-1,759%	-14,269%	-7,713%	0,681%
Actual	17.638	19.528	17.148	14.523	68.837	-
Mean	17.063	18.649	17.455	16.940	74.590	77.353
Non-interest Expense						
Surprise %	-1,394%	-0,345%	0,998%	1,813%	0,840%	0,351%
Actual	20.107	20.822	21.757	24.486	87.172	-

Mean	20.391	20.894	21.542	24.050	86.446	91353,800
Net Income						
Surprise %	18,731%	17,438%	11,623%	-11,056%	-2,705%	0,221%
Actual	12.193	14.011	12.685	8.870	47.760	-
Mean	10.269	11.931	11.364	9.973	49.088	51532,833
Net Interest Margin Ratio						
Surprise %	8,841%	2,144%	2,944%	2,461%	1,211%	-
Actual	2,630%	2,620%	2,720%	2,810%	2,700%	-
Mean	2,416%	2,565%	2,642%	2,743%	2,668%	2,672%

Overall net interest income and noninterest revenues were up to 34% and 11% respectively, driven by higher interest rates and FRB impact.

JPMorgan Chase has integrated First Republic Bank into its operations, allowing First Republic clients to continue banking as usual, assured by the strength and security of JPMorgan Chase. The bank focused on minimizing job losses through redeployment efforts and retaining key First Republic employees, especially those with strong client relationships, to ensure stability in customer service. As part of the integration, First Republic's platforms will transition to JP Morgan brands and technology, providing clients access to JPMorgan Chase's capabilities. Certain First Republic branches will be converted into new JPM wealth centers, and loan portfolios will be integrated into JPMorgan Chase's business segments. JPMorgan Chase emphasized maintaining continuity for First Republic's clients, particularly its high-net-worth individuals and private banking clients, who were crucial to First Republic's business model. While JPMorgan Chase is familiar with the assets acquired and has hedged against the excessive interest rate exposure that contributed to First Republic's failure, the integration may still face challenges. Potential issues include differences in expected outcomes related to the integration costs, the time required for full integration, and the performance of acquired assets and liabilities. The complex and costly integration process requires aligning various systems, policies, and maintaining relationships with stakeholders, which could cause disruptions or inconsistencies. Despite these challenges, JPM expects to achieve cost savings and other business synergies from the acquisition. The acquisition also allows JPM to expand its presence in private banking and wealth management, leveraging First Republic's expertise and client base, particularly in wealth management-rich regions like California and the Northeast (JPMorgan Chase, 2023b) (JP Morgan Chase, 2023).

JP Morgan Chase

Consolidated Statements of (Loss) Income and Comprehensive (Loss) Income

(Dollars in millions, except par value and share data)	March 31, 2023	June 30,	September 30,	December 31	Year Ended
Revenue:					
Investment banking fees	$ 1.649	$ 1.513	$ 1.722	$ 1.635	$ 6.519
Principal transactions	7.615	6.910	6.210	3.725	24.460
Lending- and deposit-related fees	1.620	1.828	2.039	1.926	7.413
Asset management fees	3.465	3.774	3.904	4.077	15.220
Commissions and other fees	1.695	1.739	1.705	1.697	6.836
Investment securities losses	-868	-900	-669	-743	-3.180
Mortgage fees and related income	221	278	414	263	1.176
Card income	1.234	1.094	1.209	1.247	4.784
Other income	1.007	3.292	614	696	5.609
Noninterest revenue	**17.638**	**19.528**	**17.148**	**14.523**	**68.837**
Interest income	37.004	41.644	44.556	47.384	170.588
Interest expense	16.293	19.865	21.830	23.333	81.321
Net interest income	**20.711**	**21.779**	**22.726**	**24.051**	**89.267**
Total net revenue	**38.349**	**41.307**	**39.874**	**38.574**	**158.104**
Provision for credit losses	2.275	2.899	1.384	2.762	9.320
Net interest income after provision for credit loan losses	**36.074**	**38.408**	**38.490**	**35.812**	**148.784**
Noninterest expense:					
Compensation expense	11.676	11.216	11.726	11.847	46.465
Occupancy expense	1.115	1.070	1.197	1.208	4.590
Technology, communicatios and equipment expense	2.184	2.267	2.386	2.409	9.246
Professional and outside services	2.448	2.561	2.620	2.606	10.235
Marketing	1.045	1.122	1.126	1.298	4.591
Other expense	1.639	2.586	2.702	5.118	12.045
Total non-interest expense	**20.107**	**20.822**	**21.757**	**24.486**	**87.172**
(Loss) Income before income taxes	**15.967**	**17.586**	**16.733**	**11.326**	**61.612**
Income tax expense	3.345	3.114	3.582	2.019	12.060
Net (loss) income	**$ 12.622**	**$ 14.472**	**$ 13.151**	**$ 9.307**	**$ 49.552**

Figure 9 JPM Income Statement 2023, quarterly and year-end

3.4 PACWEST BANCORP AND BANC OF CALIFORNIA

Companies

PacWest Bancorp ("PW") is a bank holding company headquartered in Los Angeles, California. The bank is a relationship-based community bank focused on providing business banking and treasury management services to small, middle-market, and venture-backed businesses. It offers a broad range of loan and lease and deposit products and services through full-service branches throughout California, North Carolina and Colorado, and loan production offices around the country. PacWest Bancorp was established in October 1999 and has achieved strong market positions by developing and maintaining extensive local relationships in the communities it serves, while also growing through M&A, enhancing its market presence and expanding its services. The business model centers in offering high quality services to a client-focused based, well-capitalized and profitable nationwide bank dedicated to providing personal service to its business and individual customers. The loan and lease portfolio consists primarily of real estate mortgage loans, real estate construction and land loans, and commercial loans and leases. PW also cultivates strong relationships with venture capital and private equity firms, providing banking products and services tailored to startups, growth-stage companies, and venture capital firms. This includes offering working capital lines of credit, growth capital term loans, and other

financial solutions. As of December 31, 2022, the Company had total assets of $41.2 billion, $7.1b in securities, total loans and leases of $28.7 billion and total deposits of $33.9b (PacWest Bancorp, 2022).

Banc of California (BC), established in 1941 and headquartered in Los Angeles, is a financial institution focused on serving the diverse communities of California. The bank is a relationship-driven business bank that provides a comprehensive range of financial products and services tailored to meet the needs of businesses, business owners, high-net-worth individuals, professionals, and venture businesses. Following its merger with PacWest Bancorp on November 30, 2023, Banc of California has solidified its position as one of the nation's premier relationship-based business banks. BC is committed to building strong client relationships by offering exceptional service through its skilled team and designing customized financial solutions. The bank is structured into four main business groups: (i) Community Banking, this group focuses on relationship lending and deposit gathering within local markets, operating through regional offices; (ii) Specialty Banking, this division serves niche markets, including venture banking, Small Business Administration (SBA) lending, mortgage warehouse lending, media and entertainment financing, and equipment finance; (iii) Deposit Services, this segment provides cash management and treasury management solutions tailored to the needs of clients across other business groups; (iv) Payment Solutions, this group offers credit cards, purchasing cards, and transaction processing services to business clients. Banc of California provides a broad spectrum of services, including commercial banking, personal banking, specialized financial solutions for high-net-worth individuals, and digital banking platforms. The bank's strategy revolves around delivering customized solutions and maintaining strong client relationships, positioning itself as a trusted financial partner. As of December 31, 2023, Banc of California reported total assets of $38.5 billion, up from $9.2 billion in 2022. The bank's total loans and leases stood at $25.5 billion ($7 billion in 2022), securities totaled $4.7 billion ($1.3 billion in 2022), and total deposits reached $30.4 billion (up from $7.1 billion) (Banc of California, 2023c) (Banc of California, 2022).

Reasons of failure

During the first half of 2023, PacWest faced multiple liquidity stress events, leading to significant changes in liquidity levels and funding structure. These stresses originated from deposit outflows following the collapse of two regional banks, Silicon Valley Bank (SVB) and Signature Bank, during the U.S. banking crisis. The failure of these banks sparked widespread

fears of further bank failures, negatively impacting PacWest due to its perceived similarities with the failed banks (Banc of California, 2023c).
These events raised PacWest's risk profile in several ways:

1. Loss of Customer Deposits: this put pressure on PacWest's liquidity position as customers withdrew their funds, fearing of additional bank failures.
2. Reduced Net interest Margin: replacing lower-cost customer deposits with higher-cost brokered deposits and borrowings led to decreased net interest income.
3. Credit Rating Downgrade: lower ratings from third-party agencies potentially increased borrowing costs and triggered additional collateral or funding requirements.
4. Increase in operating costs: higher FDIC assessments and other costs to meet regulatory requirements further constrained the bank's resources (PacWest Bancorp, 2023)

PW experienced significant deposit outflows, losing $6.5 billion, or 19% of deposits, over the period March 10 to March 17, 2023. Another wave of withdrawals occurred from May 1 to May 5 following the collapse of First Republic Bank, resulting in an additional $2.5 billion loss (Banc of California, 2023c). Overall, in nine months, deposits fell by $7.3 billion, from $33.9 billion to $26.6 billion, a 21.6% decrease. Of this amount, $5.6 billion were noninterest-bearing deposits, and $1.7 billion were interest-bearing. As of September 30, 2023, noninterest-bearing deposits accounted for 21% of total deposits (PacWest Bancorp, 2023).
To counteract these challenges, PacWest activated its contingency funding plan on March 10, 2023, to address deposit outflows and improve liquidity. All available assets were pledged to borrowing lines at the Federal Home Loan Bank (FHLB). Additionally, PacWest executed a $1.4 billion repurchase agreement using previously unpledged loans to further boost liquidity. To cover the shortfall, PacWest also turned to brokered deposits, despite the higher costs and lower net interest income, to ensure sufficient liquidity to manage the outflows and prevent further withdrawals (Banc of California, 2023c). PacWest management took additional measures, such as reducing the quarterly dividend on common stock from $0.25 to $0.01 per share, increasing customer enrollment in reciprocal deposit programs to enhance FDIC insurance coverage, offering competitive promotional rates to attract new deposits, and repositioning its balance sheet by selling $5.2 billion in loan portfolios. Despite these efforts, the market's confidence remained shaky, with PW shares dropping 30% after the deposit withdrawal announcement, in May 11; after being halted for volatility the same day, stocks closed about 23% down. Investors started questioning about the soundness of the bank, wondering if it would have failed or if it would be sold (Morrow, 2023).

All these actions taken by PacWest management helped to increase customer deposits in the later part of the second quarter and in the third quarter. Immediately available liquidity was $16.7 billion on September 30, 2023, which exceeded uninsured deposits of $5.0 billion. However, on September 30, 2023, despite the progress made, PacWest was still not in compliance with all its liquidity guidelines. PacWest's net interest margin and overall profitability were reduced because of the loan sales and was affected by elevated levels of higher-cost deposits and borrowings (Banc of California, 2023c). Moreover, the decrease in net interest income was due primarily to the interest-bearing liabilities repricing faster than interest-bearing assets when interest rates rapidly increased over 2022/23. Also, the mix of interest-bearing liabilities changed significantly to higher-cost borrowings and brokered deposits from lower-cost customer deposits, as consequence of the closure of the bank run (PacWest Bancorp, 2023).

On July 25, 2023, PacWest announced the signing of a definitive agreement and plan of merger with Banc of California, to solve the distressed situation. After the talk of a possible deal started circulating, PW investors appeared disappointed by how the situation was going to end, as its shares fall 27%. However, after the merge was announced share value bounced back. Banc of California shares, on the contrary, rose 11% (Copeland, 2023). On December 31, 2023, after completion of the Merger and balance sheet repositioning strategy, the Bank was in compliance with all of its funding concentration liquidity guidelines (Banc of California, 2023c).

PacWest was able to promptly look for an acquirer to bailout and rescue the situation, because it was on the edge of failure. This save the bank, that at the end did not materially fail. It is however possible to find some characteristics in common with the other cases, that help explain why PW business model rapidly collapsed. PW had a high amount of uninsured deposit, that accelerated the outflow during the bank run days, as they tend to be the first to panic without a government backstop (Zahn, 2023); PW had a total of $17 uninsured deposits, or a 52.5% (PacWest Bancorp, 2022). Another critical point is the lack of liquidity to face the outflow. Although it is not easy to say, in this case, if the internal management handle liquidity risk appropriately, the events seem to confirm that liquidity stress events were not supported by appropriate actions or reserve, and the contingency plan adopted only slow down the turmoil but did not restore confidence. Indeed, PW was forced to sell a part of its portfolio to repair the fall. One more thing in common is the mismatch between assets and liabilities, caused by the change in interest rates during the year. Interest-bearing liabilities repriced faster than interest-bearing assets, damaging the bank profitability and creating billions of unrealizes losses, as value of long-term bond dropped. The primary reason of its failure, however, it is the panic the

crisis spread. When SVB and Signature failed, investors started looking for other banks that resembled the failed institutions and could become the next link in the chain. PW has a business model like FRB, and when First Republic failed, market shifted its eye on PW waiting for its fall, triggering a self-fulfilling event.

The Deal

Following the difficulties happened in March, PW board of directors met on May 3 to consider alternative strategies to face those hard times; among the proposals there were the intention to start discussions with some strategic partners. Between May and June, 13 potential acquirers were contacted, with 10 of them, including BC, signing a confidentiality agreement and conducting preliminary due diligence. Initially, two parties, that did not include BC, showed interest in an all-cash transaction. But soon enough, discussions ceased with neither of them proposing final acquisition terms, because they lacked the required capital to support the transaction. At the same time, PW was failing to meet its internal liquidity requirements and was forced to re-engage in negotiations with BC. This time, Banc of California showed interest in the combination with PacWest; by mid-June the two boards were discussing about possible combination, operations, potential synergies, efficiencies and the need of a capital infusion. On June 17 and July 3, the two banks made available the virtual data room, to conduct detailed mutual due diligence. In the same period, BC was looking for potential investors to inject new equity. The Warburg Investors and the Centerbridge Investors, two private equity companies, signed an NDA at the end of June; the proposed equity financing involved the injection of $400 million. On June 26, BC submitted the Letter of Intent, where it proposed an all-stock merger, with BC being the legal acquirer, PW the surviving bank and the combined entity would operate under the "Banc of California" brand. In the middle of July, the two parties agreed to the exchange ratio of 0.6569 of a share of BC common stock for each share of PW common stock. On July 25, negotiations were completed, and the merge was announced the same day (Banc Of California, 2023). The effective merge took place on November 30.

With the merge, the ownership is so divided: PW has 47% of common shares, BC 34% and the two PE Investors 19%. Considering only voting shares, PW has 50%, BC 37%, Warburg Investors 9% and Centerbridge 4%.

Under the terms of the deal, the combination was accounted for as a reverse merger. A reverse merger occurs when the legal acquirer (the entity that pays the consideration) is identified as acquiree for accounting purposes. The legal acquiree (the entity acquired) is considered the acquirer for accounting purposes; hence the name reverse acquisition (Amir & Ghitti, 2021).

Therefore, PW was deemed the acquirer for reporting purposes, even though BC was the legal one. The merge was an all-stock transaction, with each share of PW common stock receiving 0.6569 of a share of BC common stock. Each outstanding share of common stock of BANC remained like that and was unaffected by the combination, at the same time BC stockholders will not receive any consideration for the shares issued. As the merge closure, PW had 120 million and BC 57 million common shares (Banc of California, 2023c).

Contemporaneously, BC entered into two Investment Agreements with Warburg Pincus and Centerbridge Partners, two private equity firms. Under the terms of these agreements, the companies invested $400 million in exchange for the sale and issuance by BC of approximately 21.7 million shares of BC common stock and 10.8 million shares of a new class of non-voting, common-equivalent stock, in each case, at a purchase price of $12.30 per share. Additionally, they received warrants to purchase around $16 (Warburg) and $3 (Centerbridge) million shares with an initial exercise price of $15.38, with a term of seven years but with mandatory exercise if the share price reached (or exceed) $24.60 for 20 or more days (Banc of California, 2023c).

With the merger, the two banks committed to engage in a balance sheet repositioning, that consisted of selling around $6 billion of assets, including part of the family residential mortgage portfolio, available-for-sale and held to maturity securities, to repay a part of the borrowings (Banc Of California, 2023). This repositioning along with the new capital will bolster liquidity, resulting in a sounder profile, robust capital level and possible improved earnings.

As stated by Banc of California, the merger will create the premier relationship-focused business bank in California, with more than 70 branches. Strategically, then, the combined entity will have a vast presence in the territory, aiming to capitalize on market opportunities of the region. BC investment in technology offer the opportunity to integrate those systems into PW, to improve client experience, attract talents, enhance new business developments and create operational and financial scale, to further increase investment. The bank will have a more diverse deposit mix, thanks to the combined complementary deposits, that lower the risk profile and could grant more funding opportunities. Another complementary aspect is the nature of both bank, that focused on different niches but with a similar relationship approach, that can rely on both mutual strengths and expand the product offerings. BC is also expecting cost savings to be around $130 million. Moreover, it was decided that the new management team would be composed by a mix of BC and PW executives, to enhance the likelihood of realizing the strategic benefits and achieve the desired results. Both teams have an experience of former M&As and integration, that could simplify the realization of the goals set (Banc Of California, 2023).

Consolidated Post-Merger Financial Statement

Differently from the other cases, this combination was characterized by a proper due diligence. In this way, the companies had enough time to draft a pro-forma consolidated balance sheet and income statement. Because the acquisition was accounted as reverse merger, the fair value and other adjustments were made on Banc of California, and thus it is treated like the acquired company. The decision was driven by the larger size of PacWest, in terms of assets, revenue, earning and its voting power (Banc Of California, 2023). BC merged into PW with $8 billion of assets, of which $6.1 billion were loans, $872 million securities, and $7.7 billion liabilities, of which $6.5 billion deposits. The consideration paid amounted to $663 million, as composed: 130 common stock, 5 non-voting shares and 662.869 additional paid in capital. As a result of the merger, the company recorded $198 million in goodwill.

Table 12 Purchase Price Consideration of BC case

		Purchase Price Consideration (in thousands)
Total merger consideration		**$ 663.004**
Fair value of assets acquired:		
Cash and due from banks	$ 335.300	
Securities available-for-sale, at fair value	872.800	
Loans and leases held for sale	2.182.988	
Loans and leases held for investment, net	3.965.112	
Premises and equipment	103.500	
Other intangibles	145.500	
Deferred tax asset	209.100	
Other assets	392.550	
Total asset acquired	**8.206.850**	
Deposits	6.547.659	
FHLB advances	794.000	
Long-term debt	257.600	
Accrued interest payable and other liabilities	143.214	
Total liabilities acquired	**7.742.473**	
Net assets identified, excluding goodwill		**464.377**
Goodwill		**$ 198.627**

Table 13 Consolidated Balance Sheet BC-PW Post-Merger

	PacWest Historical	BANC Historical	FV Adj	Tot FV	Goodwill	Eliminations	Equity injection	Other	Financing Adj	Provision	H-t-m value loss	Other Equity adj	Consolidated
ASSETS													
Cash and due from banks	$ 208.300	$ 42.532	$ -	42.532			400.000	-58500	232.728				$ 825.060
Interest-earning deposits	6.489.847	241.197	51.571	292.768									6.782.615
Total cash & cash equivalents	**$ 6.698.147**	**$ 283.729**	**$ 51.571**	**$ 335.300**	**$ -**	**$ -**	**$ 400.000**	**-58.500**	**$ 232.728**				**$ 7.607.675**
Securities available-for-sale	4.708.519	922.091	-49.291	872800					-3.222.091				2.359.228
Securities held to maturity	2.278.202	328.405							-267.045		-61.360		1.949.797
Federal Home advances	17.250												17.250
Total investment securities	**7.003.971**	**1.250.496**	**-49.291**	**872.800**					**-3.489.136**		**-61.360**		**$ 4.326.275**
Loans held for sale	478.146	-											478.146
Gross loans and leases held for investment	22.311.292	-											22.311.292
Loans receivable	-	7.156.206											
Deferred fees, net	-53.082	-											-53.082
Allowance for loan and leases	-219.234	-80.883											-219.234
Total loans and leases	**22.038.976**	**7.075.323**	**-927.223**	**6.148.100**					**-3.100.930**	**-53.985**			**$ 25.032.161**
Equipment leased to others	380.022	-											380.022
Premises and equipment	57.078	108.235	-4.735	103.500									160.578
Foreclosed assets, net	8.426	-	0										8.426
Goodwill	-	114.312	-114.312		198.627								198.627
Core deposit and customer relationship intangibles	26.581	-	0										26.581
Other intangibles	-	6.603	138.897	145.500									145.500
Deferred tax asset, net	426.304	64.001	145.099	209.100									635.404
Other assets	1.219.599	467.566	-75.016	392.550									1.612.149
Total assets	**$ 38.337.250**	**$ 9.370.265**	**$ (835.010)**	**$ 8.206.850**	**$ 198.627**	**$ -**	**$ 400.000**	**-$58.500**	**-$6.357.338**	**-$53.985**	**-$61.360**		**$ 40.611.544**
LIABILITIES													
Noninterest-bearing deposits	$ 6.055.358	$ 2.446.693											$ 6.055.358
Interest-bearing deposits	21.841.725	4.424.383	-323.417										21.841.725
Total deposits	**27.897.083**	**6.871.076**	**-323.417**	**6.547.659**									**$ 34.444.742**
Borrowings	6.357.338	-							-6.357.338				
Subordinated debt	870.378	-							0				870.378
FHLB advances	-	1.147.997	-353.997	794.000					0				794.000
Long-term debt, net	-	274.121	-16.521	257.600					0				257.600
Accrued interest payable and other liabilities	679.256	120.017	23.197	143.214					0				822.470
Total liabilities	**35.804.055**	**8.413.211**	**-670.738**	**7.742.473**					**-6.357.338**				**$ 37.189.190**
STOCKHOLDERS' EQUITY													
Preferred stock	498.516	-											498.516
Common stock	1.233	653		130		-653	325					-440	1.248
												3	
Class B non-voting stock	-	5		5		-5							5
Additional paid-in capital	2.911.268	867.994		662.869		-867.994	399.675	-14.000				440	3.960.252
												-3	
Retained earnings	7.892	275.430				-275.430		-44.500		-53985	-61.360		-151.953
Treasury stock, at cost	-111.911	-137.270				137.270							-111.911
Accumulated other comprehensive income	-773.803	-49.758				49.758							-773.803
Total stockholders' equity	**2.533.195**	**957.054**		**663004**		**-957054**	**400000**	**-58500**		**-53985**	**-61360**	**0**	**3.422.354**
Total liabilities and equity	**38.337.250**	**9.370.265**		**8.405.477**			**400.000**	**-58.500**	**-6.357.338**	**-53.985**	**-61.360**	**0**	**$ 40.611.544**

The consolidated Balance Sheet reflects the fair value adjustments ("FV Adj") following the purchase price allocation adjustments to record BC assets and liabilities at fair value, the recognition of goodwill, the consideration paid (under "Total FV") and the eliminations of BC's equity ("Elimination"). The column "Equity Injection" consider the Investment Agreement with the two PEs who invested $400 million and the issuance of 32.5 million shares of BC common stocks. "Other" reflects nonrecurring transactions costs $58.5 million to be incurred because of the transaction. This amount includes $35.0 million in investment banking fees, $8 million in legal fees, $14 million in issuance costs, $0.5 million of accounting and audit fees, and other costs of $1.0 million. The "Financing Adjustments" reflects the sale of certain securities and loans/leases, including $2.3 billion of PW securities, $0.9 billion of BC available-for-sale securities, $0.3 billion of held-to-maturity (with a fair value loss of $61 million), $1.6 billion BC residential mortgage loans and $1.3 billion BC multifamily loans, the proceeds of which were used to pay down debt. This financing activity was considered as part of the repositioning activities to reinforce the bank's liquidity position and having a stronger and more sound. Along with the merge, the bank recognized an allowance for loan losses on BC's loans. At the end, there were other equity adjustments, that represented the issuance of 79.3 million shares of BC common stock to PW stockholders and issuance of 0.3 million shares of BC common stock to its stockholders upon closing of the transaction related to a BC stock plan (Banc Of California, 2023).

With the merge, the bank acquired certain assets and liabilities, which are now discussed individually.
Cash and due from banks' carrying amount ($335 million) is reasonable estimate of fair value based on the short-term nature of these assets. Investment in securities' fair values, $872 million, were the actual sales prices of the securities when they were sold in December 2023 as this was determined to be the best indicator.
Combining $6.1 billion of loans of BC with $22 from PW, the combined entity has $25 billion (as $3 billion were sold as part of the balance sheet repositioning). The final portfolio is more diversified among the loan segments, with the majority (28%) being from the Commercial and Real Estate segment, followed by multifamily (13%), Residential Mortgage and Consumer both having 11%. The bank estimated the fair value of most of the acquired loans and leases held for investment using a discounted cash flow methodology, with loans segmented in three pools based on their credit quality, type and internal risk rating. The stream of cash flows was based on the contractual terms and adjusted for credit loss expectations, while discount rates were

based on the cash flow risk and its segment characteristics. Other loans were based on sales prices of similar loans (Banc of California, 2023c).

The fair values of premises and equipment (mainly buildings and land) were based on a market approach, by obtaining third-party valuation and broker opinions, and have an estimated useful life of 30 years. Core deposit intangible, recorder under other intangibles, amounted to $145.2 million, under a cash flow methodology, that considered expected customer attrition rates, net maintenance cost of the deposit base, interest costs associated with customer deposits, and the alternative cost of funds. The intangible assets are being amortized over 10 years using the sum of years digits, based upon the period over which estimated economic benefits are estimated to be received.

On the liabilities side, the fair values used for deposits were estimated using a discounted cash flow calculation that applies interest rates currently being offered to the contractual interest rates on such time deposits. For the borrowings, the fair values of FHLB advances and long-term debt instruments were estimated based on quoted market prices for the instrument if available, or for similar instruments if not available, or by using discounted cash flow analyses (Banc of California, 2023c).

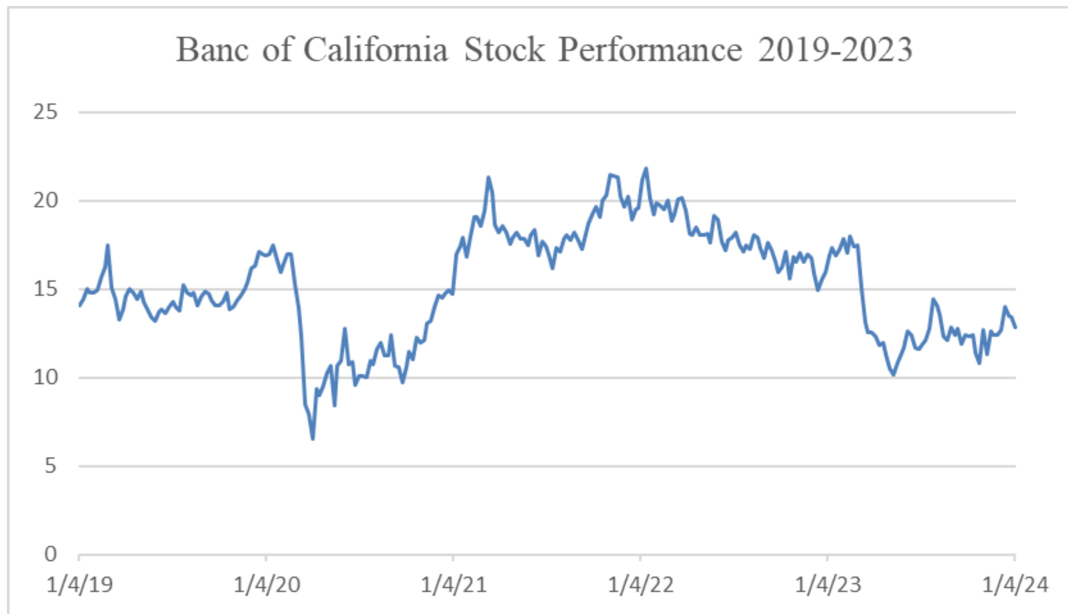
This time, the bank also drafted a consolidated Income Statement, as if the acquisition occurred in January 2022. In this case the adjustments reflect the impact of the acquired assets and liabilities. An increase in loan interest income of $40 million, an increase of interest expenses related to higher FHLB advances, long-term debt and deposits of $44 million, more amortization and depreciation expenses related to the acquired intangibles and premises. Other transaction adjustments include the recognition of nonrecurring expenses related to the transaction costs (legal, accounting and other advisory fees), the recording of the provision for credit losses. The financing adjustments reflects the reduction in both interest income ($-224 million) and expenses ($-317 million) due to the sale of certain securities and the pay down of debt.

Table 14 Consolidated Post-Merger Income Statement, as 31/12/2022

	PacWest Historical	BANC Historical	Transaction Adjustments	Financing Adjustments	Combined Pro Formas
Interest income:					
Loans and leases	$ 1.312.580	$ 327.545	$ 40.067	$ (127.902)	$ 1.552.290
Investment securities	209.751	38.527	-	-96.027	152.251
Deposits in financial institutions	34.158	-	-	-	34.158
Other interest-earnings interest-earnings assets	-	6.700	-	-	6.700
Total interest income	**1.556.489**	**372.772**	**40.067**	**-223.929**	**1.745.399**
Interest expense:					
Deposits	200.449	27.833	11.356		239.638
Borrowings	25.645	-	-	-317.867	-292.222
Subordinated debt	39.633	-	-		39.633
Federal Home Loan Bank advances	-	15.153	26.584		41.737
Long-term debt and other interest-bearing liabilities	-	15.421	6.103		21.524
Total interest expense	**265.727**	**58.407**	**44.043**	**-317.867**	**50.310**
Net interest income	**1.290.762**	**314.365**	**-3.976**	**93.938**	**1.695.089**
Provision for credit losses	24.500	-31.542	53.985	-	46.943
Net interest income after provision	**1.266.262**	**345.907**	**-57.961**	**93.938**	**1.648.146**
Noninterest income:					
Other commissions and fees	43.635	-			43.635
Leased equipment income	50.586	-			50.586
Service charges on deposit accounts	13.991	-			13.991
Customer service fee	-	9.540			9.540
Gain on sale of loans and leases	518	-			518
Loss on sale of securities	-50.321	-7.692			-58.013
Dividends and loss on equity investments	-3.389	-			-3.389
Warrant income	2.490	-			2.490
Loan servicing income	-	1.518			1.518
Income from bank owned life insurance	-	3.402			3.402
Other income	17.317	10.582			27.899
Total noninterest income	**74.827**	**17.350**			**92.177**
Noninterest expense:					
Compensation	406.839	113.060			519.899
Occupancy	60.964	32.811	-1.435		92.340
Leased equipment depreciation	35.658	-			35.658
Data processing	38.177	7.053			45.230
Insurance and assessments	25.486	3.626			29.112
Other professional services	30.278	15.001			45.279
Customer related expenses	55.273	-			55.273
Intangible asset amortization	13.576	1.705	43.273		58.554
Loan expense	24.572	-			24.572
Acquisition, integration and reorganization costs	5.703	2.080			7.783
Foreclosed assets income	-3.737	-			-3.737
Goodwill impairment	29.000	-			29.000
Gain on investments in alternative energy partnerships	-	2.313			2.313
(Reversal of) provision for loan provision	-	-1.004			-1.004
Other expense	51.732	17.728	44.500		113.960
Total noninterest expenses	**773.521**	**194.373**	**86.338**		**1.054.232**
Earnings (loss) before income taxes	567.568	168.884	-144.299	93.938	686.091
Income tax expense	143.955	47.945	-42.713	27.806	176.993
Net earnings (loss)	**423.613**	**120.939**	**-101.586**	**66.132**	**509.098**
Preferred stock dividends	19.339	1.420	-	-	20.759
Impact of preferred stock redemption	-	3.747	-	-	3.747
Net earnings (loss) available to common stockholders	$ 404.274	$ 115.772	$ (101.586)	$ 66.132	$ 484.592

Post-merger

Figure 12 BC Stock Performance 2019-23



Banc of California's stock price remained relatively stable in 2019, trading between $14 and $18 per share. However, like the broader market, it was impacted by the COVID-19 pandemic, which caused the stock to drop sharply, reaching a low of $8 per share. As the economy began to stabilize, the stock gradually recovered. In 2021 and 2022, Banc of California demonstrated overall recovery and stability, with the stock price fluctuating between $16 and $20 per share. Positive economic sentiment supported this recovery, but concerns over rising inflation and interest rate hikes led to a negative trend in the second half of 2022. At the start of 2023, Banc of California's stock was trading at $16 per share. However, the U.S. banking crisis brought significant volatility, leading to a sharp price drop beginning on March 10th. The stock hit its lowest point in this period on May 12th ($10.15). This macroeconomic turmoil was reflected in Banc of California's disappointing financial results. Recovery in the stock price began around June/July, likely due to the bank's resilience to external stress and rumors about a potential acquisition of PacWest Bancorp. Following the official merger announcement on July 25th, the stock price rose to $14, indicating a positive market reaction to the merger, which was expected to create a significant regional banking institution. The banks' strategic alignment also played a role in this optimism. Throughout the subsequent quarter, Banc of California continued to demonstrate financial strength and satisfactory performance, with a strong commitment to finalizing the merger before the end of the year. As a result, the stock price fluctuated between $12 and $13 per share until year-end. The day after the merger became effective, on December 1st, the stock was valued at $12.43 per share.

	Historical FY 2023					Estimated
	Q1	Q2	Q3	Q4	FY 23	FY 24
(Net) Loans						
Surprise %	-1,380%	0,648%	-3,886%	-0,932%	-0,978%	-0,324 %
Actual	6.970	7.075	6.887	25.331	25.331	-
Mean	7.067	7.030	7.165	25.569	25.581	25.272
Assets						
Surprise %	8,913%	-4,240%	-1,563%	5,605%	5,605%	-2,906%
Actual	10.039	9.370	9.247	38.534	38.534	-
Mean	9.217	9.785	9.394	36.489	36.489	36.700
Deposits						
Surprise %	-1,634%	-1,417%	-3,469%	5,149%	5,149%	-1,073%
Actual	6.952	6.871	6.641	30.402	30.402	-
Mean	7.067	6.970	6.879	28.913	28.913	28.189
Net Interest Income						
Surprise %	-6,003%	-2,811%	-3,370%	-	-	0,425%
Actual	73	70	69	-	-	-
Mean	78	72	72	169	621	980
Loan Loss Provision						
Surprise %	-17,802%	-37,453%	19,010%	-27,989%	-24,718%	-2,682%
Actual	2	2	5	47	52	-
Mean	2	3	4	65	69	42
Non-interest Revenue						
Surprise %	33,575%	2,113%	739,778%	-	-	0,328%
Actual	8	6	51	-	-	-
Mean	6	6	6	33	85	142
Non-interest Expense						
Surprise %	-1,003%	-2,504%	284,786%	17,650%	-1,544%	0,197%
Actual	49	48	191	252	832	-
Mean	50	50	50	214	845	778
Net Income						
Surprise %	-11,297%	-0,644%	199,564%	-222,748%	-88,666%	3,116%
Actual	20	18	43	-493	-1.939	-
Mean	23	18	14	-153	-1.028	178
Net Interest Margin Ratio						
Surprise %	-6,612%	-2,943%	0,000%	-23,645%	-16,141%	-
Actual	3,410%	3,110%	3,190%	1,690%	1,980%	-
Mean	3,651%	3,204%	3,190%	2,213%	2,361%	2,879%

The merge took place in November 2023, so the PacWest impact is reflected only in the last quarter and year-end data. The bank consolidated the income statement and balance sheet even for 2022, so the year-over-year comparison is between two consolidated statements, following the company logic.

After the merge, the company completed the sales of $6 billion longer duration, low yielding assets to paydown high-cost balances as part of the balance sheet repositioning, resulting in obtaining high liquidity levels and strong funding position. Indeed, at end of December 2023, BC had cash consisted of 14% of total assets and reported a decline in average cost of funds (Banc of California, 2023a). The portfolio restructuring, thus, was able both to provide cash and to reduce cost of funding and created opportunities to invest those money in a more optimal portfolio.

Full year net interest income decreased by $544 million, a 42%, due to higher funding costs from higher market rates, changes in the balance sheet composition and actions taken in early 2023 to face liquidity challenges (Banc of California, 2023b). For year 2024, analysts are expecting net interest income to reach $980, probably deriving from the merge advantages.

Noninterest income decreased by $523 million, booking a loss of $448 million, mainly due to a loss in the sale of securities and loans. Noninterest expenses increased by $1.7 billion to $2.5 billion mainly coming from goodwill impairment and acquisition, integration costs of $137 million (Banc of California, 2023b). For next year-end, it is expected these both items to show a little improvement, coming from synergies and cut of redundant costs between the two banks.

Net income resulted in a loss of $1.9 billion, driven by the loss on the sale of securities, goodwill impairments and merger-related expenses. The bank is expected to reverse the situation in 2024.

When the deal was announced, PacWest's deposits started to stabilize and actually begun to grow. At year-end the company had an improved deposit mix: 89% were categorized as core deposits, and only 23% uninsured ($6.9 billion) (Banc of California, 2023a). The focus on interest-earning deposits was part of the balance sheet repositioning, as the bank wants to hold more liquidity in response to the deposit volatility caused by the failures of three bank in 2023.

In the latest 10-Q available, referring to the period from March to June 2024, it can be noticed how the merge is proceeding, after a full period of PacWest influence. The bank sees 2024 as a transformational year, as it is integrating the two business and finalizing the balance sheet optimization. So far, it showed improvement in net interest margin, due to lower funding cost and higher yield; this is linked to the reposition of the balance sheet, that aims to get a better deposit mix, ensure credit quality, expand and deepen customer relationships to drive loan

growth. Moreover, total expenses decreased by a reduction in compensation from lower headcount and are expected to keep declining due to cost synergies (Banc of California, 2024b).

By first half of 2024, a part of the integration process already occurred. BC was able to retain key employees and clients, considered of utmost importance for a business model that centered on long-term relationships and service quality. Another completed point was the sale of certain assets to paydown funding to look for more optimal sources. Also, some cost savings are already realized, without having adversely affect revenues. By end of 2024, the bank expects to complete integration by realizing full operational expense savings, continuing the reduction of interest expenses, deposit mix improvements and revenue diversification (Banc of California, 2024a). Some risk remains though. The combined company could not be able to achieve all the predetermined objectives fully or may take longer. For example, the cost savings could result in less than programmed or the integration could bring even additional costs. Integration between two complex entities could also divert management attention from other core operations.

The merger between Banc of California and PacWest looks promising. The two banks are strategically aligned, serving the same geographic market but with complementary products. Moreover, the strategies adopted to strengthen the combined position are showing their effects, by enhancing interest income and decreasing the cost of funds. In addition, the proper due diligence process could have helped the bank in drafting an accurate acquisition and integration plan, that will lead BC soon.

3.5 COMPARATIVE ANALYTICS

The four banking deals involving SVB-First Citizens, Signature-New York Community Bank, First Republic-JP Morgan, and PacWest-Banc of California shared common themes around the need to stabilize distressed banks while also positioning the acquiring banks for strategic growth. Each deal had its unique structure, impact, and integration challenges.

The acquisition were all asset deals, except for PacWest. The asset and liabilities involved were mainly loans and deposits, while certain assets and liabilities, such as cryptocurrency assets/liabilities, intangibles or digital assets were often excluded because they were considered too volatile, toxic or would have not brought value. The only asset deal that involved securities were the First Republic Bank one. As a results of the deals, the acquiring banks now fully own the rescued ones, but PacWest makes an exception. PW did a reverse merger, obtaining most of the control in the merged entity. Indeed, what distinguishes PW from the others is that it had time and was quick enough to understand the near bankruptcy and immediately look for an

acquirer to rescue it. In this way it was able to find an agreement with Banc of California. Furthermore, PacWest is the only deal where the acquirer bank is smaller in size with the acquired one, which could explain why they choose a merge and not a full acquisition, as it would probably not be able to financially sustain it.
From a financial perspective, two deals (SVB and FRB) were paid with cash, the other two with equity, Signature with an equity appreciation instrument to the FDIC while PW was an all-stock transaction with Banc of California. As in the first three cases the bank were already failed, the deal was negotiated with FDIC. In this optic, there was urgency to restore confidence not only in the failed banks' environment, but to all system. That is why FDIC's deals are characterized by strong support. For example, when the acquisition was paid with money, the FDIC granted the possibility to issue a note, to spread the payment over five years.
One common theme across these deals was the liquidity preservation and risk management. This is understandable as these were the two main highlights of the crisis and subsequent priorities for banks. To preserve liquidity FDIC provided facilities (SVB), delays in payment s (FRB) or imposed limits on dividends (Signature). PW and BC bolstered liquidity via a balance sheet repositioning and injection from two Private Equity partners. They sold certain assets, which could be compared to excluding them in an asset deal: the ones not considered essential or less valuable were sold/excluded. With the proceeds, they pay down borrowings. To manage the risk of the combination, First Citizens and JPM signed a Shared Loss Agreement to limit credit risk, so the credit losses will partially be absorbed by the FDIC. This was deemed essential as the bank's intervention was fundamental to restore financial confidence. It is not surprising that the government supported the deals and preserve bank's credit profile. While NYCB did not sign a similar agreement, excluding certain items from the deal, or selling them in case of PW, was another way to reduce the risk of the combination. One specific characteristic of NYCB deal was the obligation to provide services to assist FDIC in managing the assets and liabilities not assumed, a sort of cooperation to solve the situation. The four banks, thus, tried to build a liquid ex-post position with a sound profile.
Strategically, all banks aimed to diversify their portfolios, reduce concentration risk, strengthen client relationships and leveraging technology to enhance service offerings. The acquisitions granted an expanded presence in the US. It seems one common factor was the geographic proximity or complementarity of the acquired bank's offices and clients. Indeed, NYCB and Signature were mainly located in New York, while PacWest and Banc of California in California, aiming at becoming leader in the respective location, by expanding their market presence and scale. In the case of SVB, its branches complemented the FCB's one, as one are

located in the West Coast and the other in the East Coast. JPM, on the other hand, already has a strong presence, but the FRB acquisition contributes to expand its penetration in the private banking and wealth management in rich regions like California and Northeast.

Other things common to the acquired banks, which has been recognized in all cases as a valuable driver, is the acquisition of the private banking and high-net worth individual segments. The failed banks operated in wealthy areas. To manage with this segment, they developed quality relationships and a more customer-centric approach. It might even go as far as to say they were pioneers or famous in this segment. Another consideration is that this segment raised uninsured deposits, as it is easy to presume, they had more than $250k in their accounts. Hence, acquiring these segments diversified the acquirer portfolio and carried solid long-term relationships. This is also linked to another factors. The deals involved banks with similar business models but with specific characteristics that complements each other.

FCB diversified its portfolio with the start-up, venture capital and private equity segment, positioning it as a player in high-growth sectors. The new loan and deposit portfolio limits concentration risk, but with possibility to expand products offerings and cross selling among the different clients, and use each other technology, expertise to explore further opportunities. The risk here comes from the volatility of the tech sector, where SVB mainly operates.

Similarly, Signature added low-cost deposits, middle-market businesses. Core elements of the deal were the possibility to share technology, teams and services to help NYCB complete its transformation in a full-service commercial bank. NYCB saw an opportunity to boost its commercial real estate and private banking portfolio, especially in the New York area.

Even JP Morgan aimed to consolidate its position as a dominant U.S. bank and absorb First Republic's wealthy customer base. JP Morgan gained access to First Republic's affluent clientele, bolstering its wealth management and private banking businesses, while also improving profitability and maintain portfolio quality. It also raises concerns about banking sector consolidation.

PacWest and Banc of California merge wants to create the first relationship-focused business bank in California, sharing technology to improve services and develop new growth opportunities. The merge portfolio results to be diversified and with lower risk. They also have the potential to expand product offerings and complements each other. The merger was designed to stabilize PacWest, which had been struggling, while Banc of California sought growth opportunities.

In conclusion, liquidity preservation and risk management were key drivers of the deals. All four acquiring banks focused on enhancing their liquidity position, either through FDIC support

or restructuring balance sheets. In addition, they aimed to diversify portfolio, expand their presence, reduce concentration risk and strengthen client relationships with each other technology and services. Apart from JPM, that raises concerns about bank consolidation, M&As with mid-sized regional banks might be a strategic move to compete with largest banks. Focusing on specific segments could differentiate smaller banks from the largest banks, when economies of scale or scope exploitation cannot be a source of competitive advantage. It can also help in preserving financial stability by creating sounder institutions.

Table 16 FCB and NYCB Ratios

	First Citizens Bank			New York Community Bancorp		
	2022	2023	Δ	2022	2023	Δ
ROE	15,25%	74,17%	58,92%	7,37%	-0,92%	-8,29%
Tangible Equity[7]	8.295	19.716	-	5.608	7.239	-
ROTE	13,24%	81,87%	68,63%	11,59%	-1,23%	-12,82%
ROA	1,31%	7,10%	5,79%	0,72%	-0,08%	-0,80%
Total Asset Turnover	6,62%	13,91%	7,29%	2,59%	8,01%	5,42%
Net Income Margin	19,79%	51,04%	31,25%	27,79%	-0,97%	-28,76%
Net Interest Margin	53,09%	29,88%	-23,21%	59,68%	37,63%	-22,06%
Net Fee Margin	12,49%	5,27%	-7,21%	3,38%	4,46%	1,09%
Leverage	11,64	10,45	-1,19	10,22	11,88	1,663
Provision Cover Ratio	1,79%	1,71%	-0,08%	0,57%	1,29%	0,72%
Texas Ratio	0,0475	0,0570	0,01	0	0	0,000
NPL ratio	0,76%	0,78%	0,02%	0	0	0,00%
Efficiency Ratio	60,51%	59,42%	-1,09%	76,94%	65,99%	-10,96%
Overhead Efficiency	69,46%	226,34%	156,87%	36,11%	53,94%	17,83%

Table 17 JPM and BC Ratios

	JPMorgan Chase			Banc of California		
	2022	2023	Δ	2022	2023	Δ
ROE	12,89%	15.98%	3,091%	10,72%	-51,74%	-62,461%
Tangible Equity	204.069	236.093	-	2.528	2.044	-
ROTE	18,46%	22,52%	4,05%	16,76%	-83,08%	-99,83%
ROA	1,03%	1,31%	0,29%	1,03%	-4,76%	-5,79%
Total Asset Turnover	4,22%	6,35%	2,13%	0,83%	3,82%	2,99%
Net Income Margin	24,34%	20,70%	-3,64%	25,97%	-124,72%	-150,69%
Net Interest Margin	43,10%	37,28%	-5,81%	79,12%	49,07%	-30,06%
Net Fee Margin	38,79%	27,74%	-11,05%	4,59%	5,63%	1,04%
Leverage	12,54	12,16	-0,38	10,44	10,86	0,43
Provision Cover Ratio	1,77%	1,86%	0,09%	0,71%	1,05%	0,34%
Texas Ratio	0,00767	0,00741	0,00	0,041	0,039	-0,002
NPL ratio	0,14%	0,13%	-0,01%	0,37%	0,33%	-0,03%
Efficiency Ratio	59,16%	67,74%	8,57%	56,64%	119,81%	63,17%
Overhead Efficiency	81,41%	78,97%	-2,44%	9,67%	-18,24%	-27,91%

[7] Data in billion

Next, it will be used some of the most relevant ratios utilized to analyze the profitability, stability, asset quality and efficiency of a bank. Even though these four banks have different characteristics and sizes, the ratio analysis allows to compare them in various dimensions; the focus will be on two years, the one prior the acquisition and the year of the merge/acquisition, to see if the deal had some impact on the overall performance.

FCB experienced a substantial increase in Return on Equity and Return on Tangible Equity, with ROE jumping from 15.25% to 74.17% and ROTE from 13.24% to 81.87%. This was driven by an increase of $4 billion in interest margin and the gain on SVB acquisition that boosted the net income. In the case of NYCB, both metrics saw negative changes, with ROE falling from 7.37% to -0.92% and ROTE from 11.59% to -1.23%. Although NYCB recorded higher revenues, thank to Signature acquisition, the benefits were offset by higher operating expenses and a $2 billion goodwill impairment. JPM's ROE and ROTE experienced a moderate improvement with ROE increasing from 12.89% to 15.98% and ROTE from 18.46% to 22.52%; this indicates stable and increasing profitability, mainly from an increase in interest income, from $93 to $170 billion, of which FRB contributed only in part. In case of Banc of California, both ratios saw substantial declines, with ROE dropping from 10.72% to -51.74% and ROTE from 16.76% to -83.08%, indicating significant profitability issues. As a matter of fact, Banc of California recorded a loss of $1.9 billion in 2023, due to losses in sales of securities, higher customer expenses, integration costs and goodwill impairments. For the same reasons, even ROA dropped from 1.03% to -4.76%. It can be assumed that this performance is temporary, as integration will end by 2024, and the balance sheet will be optimized as prevented. For FCB, Return on Assets (ROA) also saw a notable increase from 1.31% to 7.10%, indicating more efficient use of assets to generate profit. The ratio, however, is distorted by the high purchase gain; in fact, if this item is excluded from the computation, the ratio falls back to 1.03%, in line with the previous year and the other banks. Even Total Asset Turnover showed an improvement of +7%, indicating that the bank was able to combine and generate additional revenues from the assets acquired. NYCB growth in assets, on the other side, was not backed by a rise in profitability for 2023. The bank recorded a loss and so, a drop in ROA from 0.72% to -0.08%. The lower profitability, however, should not be imputed fully to the Signature Acquisition, as the main source of loss is the goodwill impairment already had by NYCB. JPM's ROA had a slight increase from 1.03% to 1.31%, suggesting continued efficiency in using assets to generate profits.

FCB'S Net Income Margin rose from 19.79% to 51.04%, indicating improved profitability per dollar of revenue. Despite the external tensions, 2023 was a satisfying year for FCB. Net Interest Margin decreased from 53.09% to 29.88%, suggesting that the bank's interest income relative to its earning assets declined. In fact, in 2023 noninterest income passed the interest one, due to the SVB gain. It can be expected that in 2024, interest margin will re-become the main source of profitability. For NYCB, Net Income Margin fell from 27.79% to -0.97% for the same reasons above mentioned. Also, Net Interest Margin decreased from 59.68% to 37.63%, indicating a reduction in the profitability of interest-earning assets, due to higher interest expenses. Although interest income increased by $3 billion, noninterest income weighted more than 2022 to the total revenues, because of the bargain gain. In the case of JPM, Net Income Margin decreased from 24.34% to 20.70%, indicating a slight reduction in profitability per dollar of revenue. Albeit higher income, profitability was limited by higher interest and noninterest expenses that grew more than relative incomes. Net Interest Margin decreased from 43.10% to 37.28%, suggesting reduced interest profitability. As already mentioned, interest income increased with a rate of 84% from 2022 to 2023, while interest expenses 212%. Net fee margin remains quite stable, but its lower amount is due from a bigger contribution from interest margin and other sources of income (e.g. purchase gain). BC's Net Income Margin had the same path, as it plummeted from 25.97% to -124.72%, reflecting severe profitability challenges. Net Interest Margin decreased from 79.12% to 49.07%, suggesting declining profitability from interest-earning assets, caused by the sale of a part of the portfolio and higher deposit costs. All the cases, then, experienced a reduction in profitability and interest margin, generally due to higher interest rates and minor contribution to total revenues.

In all the cases, leverage range from 10 to 12, with marginally movement from one year to another. The ratio, then, seems to be aligned for all the banks, indicating that the optimal point could be somewhat between this range, as it is able to leverage debt to create profitability, while maintaining a safe position. FCB's Provision Cover Ratio remained quite stable at 1,7% and has a similar value to the JPM's one; NYCB and BC, on the other hand, have a lower ratio (1.29% and 1.05%). Maybe these banks valued their loans safer. It seems that the acquisition did not have almost any impact on this ratio. The same situation can be found with the Texas Ratio. It indicates whether the bank has enough tangible equity to absorb losses from the Non-Performing Loans. Banks should aim to have it at a value lower than 1 (the lower, the better). All four banks satisfy this condition. Interestingly, NYCB stated in its Annual Report, that it does not have any NPL. First Citizens' NPL ratio lightly increased of 0.02%, while JPM and BC saw a little decrease of 0.01 and 0.03 respectively. This could signify that the banks were

able to pick the right assets in case of the asset deals (FCB, NYCB and JPM) or they managed them correctly (e.g. BC could have sold a part of toxic assets as part of its post-merger strategy) Talking about the Efficiency Ratio, FCB had a slight improvement from 60.51% to 59.42%, indicating better cost management relative to income. Its Overhead Efficiency increased dramatically, indicating a major boost in profitability against overhead costs. However, if the purchase gain is not considered, the ratio falls to 42,49%, caused by higher noninterest expenses (the biggest one being the compensation), not accompanied by a relative growth in noninterest revenues. NYCB's Efficiency Ratio and Overhead Efficiency improved significantly from 76.94% to 65.99%, and from 36.11% to 53.94% respectively, suggesting better cost control despite falling profitability; actually, maybe the acquisition could have played a role triggering cost synergies or enhancing better management practices and reduction in overhead costs relative to income. For JPM, Efficiency Ratio increased from 59.16% to 67.74%, indicating higher operating costs relative to income, in particular compensation (the majority from the First Republic Acquisition), while Overhead Efficiency slight decreased, indicating marginally less profitability against overhead costs. Additionally, noninterest expenses grew more that noninterest revenue. Thinking about the deal, FRB contribution to compensation expenses was not balanced by an appropriate increase in fees or other noninterest income. Lastly, in the case of BC, Efficiency Ratio deteriorated significantly from 56.64% to 119.81%, indicating rising costs relative to income. As this was a transformational period, the bank must be able to benefit from the merge and going back to a sustainable path. Even Overhead Efficiency plummeted from 9.67% to -18.24%. BC has always had a low amount of noninterest income, largely not able to cover the bank general costs. To make the things worst, in 2023 BC recorded a loss even in the noninterest income section, primarily from the sales of part of securities and loans at loss. Then, it may be said that cost benefits have still to materialize, as they could take some times as the banks integrate and understand how to manage for the better the business acquired.

CONCLUSION

The thesis analyzed four M&A bailout takeovers involving banks hit by the banking crisis in 2023. The Silicon Valley Bank, Signature, First Republic Bank and PacWest cases have several implications. As the banking sector is constantly evolving, banks must adapt in this context and face both existing and emerging risks. The collapses showed several weaknesses the banking sector should solve. A high-interest rate environment can cause significant losses for banks, especially for small- and mid-size one; in this context, an overreliance on uninsured deposits can be detrimental if a bank run occurs; social media has proved to be a dangerous tool, when

a bank run occurs, as it spreads panic, possible misinformation and speed up contagion from one bank to another. It was also noticed how failed banks did not have an efficient risk management and lack supervision, underestimating interest rate and liquidity risk and leaving the institutions vulnerable to downturns.

The deals provide significant insights into how banks can leverage acquisitions to stabilize the financial sector, expand strategically and manage risks. A takeover from another bank can help in restoring confidence to both depositors and the banking sector, while assuring continuity in the services and minimizing rescuing costs. In each deal, the acquiring banks focused on improving their liquidity profiles, with support from FDIC in some cases, and diversifying their portfolios to reduce concentration risk. Strategic synergies, technological integration, and cost savings were central to the success of these M&As, positioning the acquiring banks to capitalize on new opportunities while mitigating risks. In conclusion, these M&A deals exemplify the importance of strategic alignment, risk management, and diversification in navigating crises.

This thesis aims to provide a comprehensive understanding of the U.S. banking crisis, with a focus on the critical role of bailout takeovers in rescuing failing banks, restoring confidence, and mitigating the broader negative impacts on the financial system. Key factors contributing to the bank failures were emphasized, including asset-liability mismatches, overreliance on uninsured deposits, the role of social media and digital banking in accelerating bank runs, and risk mismanagement coupled with ineffective supervision.

By employing a case study approach, the thesis offers a practical and detailed analysis of the events, providing insights that can be applied to similar future crises. While the conclusions drawn are specific to the cases analyzed, they offer valuable lessons on potential areas for intervention. However, it is important to note that the causes and effects identified may not universally apply to future scenarios.

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