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M&A in the Banking Sector: The Acquisition of Credit Suisse by UBS

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Abstract

This thesis studies the most important strategic and financial synergies sought when banks engage in Mergers and Acquisitions and tries to build an evaluation model to be employed in analyzing the value created by such complex transactions. This model will be then used to analyze the 2023 banking crisis, and in particular the Credit Suisse acquisition performed by UBS, with both a qualitative and a quantitative approach.

The qualitative approach is based on an analysis of the most important synergies and factors influencing M&A value creation, emerged from a review of past empirical studies, namely the external context. macroeconomic factors, improved products and services diversification, increased market power and the consequent impact on cost-efficiency, profitability, and financial stability.

The quantitative approach concerns the evaluation of the deal by using a standard even study methodology, but with different time windows observed, to reflect both the immediate stock price reaction around the day of the announcement of the deal, and the price performance of UBS with respect to its competitors in the last months of 2023, after the completion of the acquisition.

The results show a significant stock market return for UBS both in the very first days after the announcement as well as in the following months, following the encouraging quarterly financial results published by the bank itself. Moreover, the significant synergic benefits already achieved by the bank in terms of cost savings, push UBS towards a successful completion of the integration process of Credit Suisse, allowing for a long-term sustainable value creation for its investors.

Introduction

Value creation through mergers and acquisitions, and specifically bank M&As, is a topic that has extensively been studied in past literature, using different methodologies and datasets. Those differences are linked to the different purposes of the studies, which often aimed at assessing whether some value was created or destroyed for the shareholders of the involved institutions, analyzing large datasets containing different M&A deals over very different time horizons, also including crisis period and other turbulences that could have affected the market's performance. In most studies, however, researchers claimed that little or no value was created, or there was value creation for just one of the two parties involved. Furthermore, the large datasets employed allow to only give a general answer to the question of value creation, while each M&A deal is very different with respect to the others, as the reasons behind the deal, as well as its structure and execution, can differ from deal to deal. Therefore, the general results obtained from a large-scale study may not fit a single case of two merging banks, and it could be very interesting to analyze a single M&A deal to study the strategical and financial reasons behind the deal and the potential or realized value created from it.

For this reason, this thesis aims at identifying the most important synergic factors that banks look for when engaging in a M&A transaction, in order to construct an evaluation model which can be applied to analyze each bank M&A deal and can help in understanding the value created or destroyed from it. The model is then tested to see how the recent acquisition of Credit Suisse by its competitor UBS can reshape the banking industry in a moment of high economic uncertainty. By reviewing both past and more recent empirical research, it appears that the most important synergic benefits are achieved when banks engaging in M&A deals are able to both increase their market power with respect to their competitors and diversify their banking product offerings. Thanks to these improvements, merged banks can exploit a larger market share and therefore a wider customer base, which usually leads to improvements in revenues. On the other hand, the integration of the two banks' businesses can help both in decreasing the overall costs of doing business as well as improving and widening the range of products and services offered to banks' clients. Therefore, synergies in terms of bank diversification and increased market power can lead to significant cost-efficiency

improvements as well as revenue enhancements, boosting the profitability of the merged banks, improving the overall financial performance, and creating value for stakeholders.

Other than this more qualitative analysis on strategic and financial synergies, past research also employs the event study methodology to assess whether the value creation was reflected in the stock market performance of merged banks. In particular, many studies focused their attention on the reaction of stock prices around the announcement of the deal. Although this analysis is very interesting to assess the sentiment and the immediate reaction of the shareholders to the announcement of the transaction, event studies focused only on very short time windows give no information on the effective value creation of the deals in the subsequent months or years. It should be the case, in fact, that significant improvements in profitability brought by boosted revenues and decreased costs, combined with an increase in market share and diversification in products and services offered, should be reflected in stock price performance, and the merged entities should experience higher stock market returns with respect to other banking corporations. For this reason, it is interesting to apply an event study methodology also on longer time horizon, including the months or even years after the announcement and execution of the deal, to understand whether some financial performance improvements have been achieved, and if these results have been reflected also in stock market performance.

All the above must be carefully analyzed by taking into consideration the changes in the macroeconomic context, as external factors can deeply influence the final outcome of a M&A deal and can also be one of the leading causes of a bank seeking to merge with another, maybe because of financial distress and other difficulties that can pose a serious threat to the financial stability of the bank itself or, as in the case of Credit Suisse, to the stability of the whole financial system.

Therefore, the thesis is structured in two main parts. The first one starts with a more theoretical overview on mergers and acquisitions, highlighting the most common rationales lying behind these deals, the most important synergies sought in these deals, as well as other factors that can cause some difficulties to such complex transactions. The first part continues with a discussion on value creation through M&A, and an extensive review of both past and more recent literature on the topic, which highlights the most commonly used methodologies to assess value creation and the main results

achieved by researchers. The construction of the evaluation model concludes the first part of the thesis. The model puts together the analysis of external macroeconomic context as well as the potential increase in market power and bank diversification to assess the changes in profitability of the merged banks. Next, an event study methodology analyzes both the immediate stock market reaction at the moment of the announcement and the potential superior performance in the months following the conclusion of the deal.

The second part of the thesis is instead dedicated to the case study chosen, which is the 2023 banking crisis an in particular the acquisition of Credit Suisse by UBS. Therefore, the second part starts with a discussion on the macroeconomic and geopolitical context of the last years, which have caused many turbulences to the stability of the financial sector. Next, a focus on the 2023 banking crisis is provided, with a discussion on the failure of three US regional banks in the first months of 2023 and the contagion effect that has also caused Credit Suisse to risk bankruptcy. Then, a quick overview on the impact of such crisis on the whole banking system is provided, with an analysis of some of the Global Systemically Important Banks (G-SIBs) and their response both to the crisis and to the announced acquisition of Credit Suisse. Then, the final part of the thesis is dedicated to the application of the model to analyze the Credit Suisse acquisition.

The results show that UBS was able to acquire Credit Suisse at a very low price, because of the financial difficulties that the bank was experiencing, and thanks to the support of Swiss financial and governmental authorities, it was able to successfully acquire and integrate Credit Suisse's operations and business lines. Although this process is still ongoing and will take some years to be completed, quarterly financial results published by UBS throughout 2023 show interesting results on the synergic benefits already achieved and the costs saved, as well as accurate forecasts on future cost-efficiency and improved profitability. These encouraging results, combined with more favorable forecasted economic conditions, are also reflected in the stock price performance of UBS, which showed a significant positive return over its competitors both around the day of the announcement as well as in the last months of 2023. This leads to the conclusion that this deal has indeed created a significant value for UBS' shareholders in the first months, and even if the future performance is still uncertain, there are the prerequisites for further growth, and a successful integration, which will create the fourth largest banking corporation in the world.

1. Mergers and Acquisitions in the Banking Sector

1.1 Theoretical Framework on M&A

1.1.1 What is M&A?

In today's extremely globalized and dynamic economic environment, companies worldwide are always more focused on finding new ways to improve their competitiveness in both the domestic and international markets. This constant evolution and expansion allowed companies to upgrade their business strategies in order to react successfully to evolving economic conditions and to respond promptly to the changing needs of customers (Foti, 2020). Companies that look for expansion must decide between internal (organic) growth and external (inorganic) growth. Organic growth refers to the expansion of a company's operations through internal means, relying on its own resources and capabilities. This process is generally gradual and steady, it takes place over an extended period, and for this reason it is also usually sustainable over the long-term. On the other hand, it can also be very time- and resource-consuming and full of uncertainty. This is why many times companies opt for inorganic growth, which mainly involves the expansion of a company's operations with external means, for example through Mergers and Acquisitions. With inorganic growth it is possible to expand or enter in a new market in a faster way compared to organic growth, and it is also possible to create important synergies to increase the efficiency of the company itself (Bruner, 2004).

Mergers and Acquisitions (M&A) are strategic transactions in which two companies combine forces to form a single entity (Merger) or one company acquires another one (Acquisition); it is substantially a complete integration process between two or even more companies into one new company or corporation. These strategies have a huge impact on company's performance, and as a consequence it has an indirect effect also on all the stakeholders of the companies involved in the deal (Patimo, 2022).

Both transactions can serve various purposes, and the motivations lying behind M&A deals are different according to external economic circumstances and internal perspectives of the bidder and the target (Spanovic, 2021). Despite the differences among them, these operations are able to ensure very important results from a strategic perspective, that can furtherly stimulate the internationalization of companies. This means that, thanks to these transactions, it is possible for companies to gain new opportunities in new or existing markets, allowing them for a more structured

competition strategy both in domestic and international markets. Due to the impact that these deals usually have on global scale, they are also defined as instruments of macroeconomic renewal. Indeed, companies can quickly respond to changing market conditions by engaging in M&A if they cannot adapt to the new scenario with their own means. This shows that M&A activity is usually motivated by deep forces of change at work in an economy (Bruner, 2004).

1.1.2 How can we structure an M&A deal?

By looking at previous literature on M&A, it's clear that there is not a universal way to classify these transactions, and many researchers highlighted the characteristics that best suited their research. In this thesis, I would like to first distinguish between the possible types of M&A according to the kind of companies that engage in the deal and the markets in which they operate. After this first distinction, we will see another classification concerning the main rationales that lie behind these transactions, and after that we will conclude this first theoretical analysis with the most important synergies sought and the most common difficulties that managers can encounter when designing the deal.

Therefore, to understand the strategic meaning of M&A, we can distinguish between Horizontal, Vertical, Concentric and Conglomerate M&A. This classification is made according to which is the relationship between the companies involved in the transaction. Moreover, it makes possible to establish ex-ante the main rationale that pushed the management of the company to engage in such a transaction and it also simplifies the analysis of the kind of synergies that a company is looking for.

Horizonal M&As are related to companies with a similar field of activity, such as two major players in a specific industry. Therefore, the companies involved typically share similar characteristics, such as the production process, products or services offered, and supply chains. Among the various achievable results, we find market consolidation for the acquiring company (or the one resulting from the merge) and reduced competition in the market, increased revenues, geographical advantages, operational synergies and diversification of product offerings (Roberts et al., 2003). Moreover, companies engaging in horizontal M&As expect to eliminate some redundancies in the production and distribution of their goods and services, thus leading to some economies of scale.

This can also lead to a consolidation of the market presence of the company, and therefore a reduction in competition.

Vertical M&As occur when the acquiring and the acquired company operate at different stages of the supply chain for a given industry. This means that with vertical M&A we have an integration along the supply chain, and in some cases it is possible for the acquiring company to control the entire supply chain, from the acquisition of raw materials to the sale of finished product (Bhakirathan, 2021). This kind of deals embeds improvements concerning operational synergies, as well as a reduction in risks associated with external suppliers or customers in negotiations. This control over the supply chain also gives greater strategic control for the acquiring company, resulting in improved coordination and alignment of activities.

Concentric M&As are related to companies operating in complementary businesses. In this way, the acquiring company can increase the customer base by expanding the range of products and services offered. This is a case in which we speak about "concentric diversification" (Bhakirathan, 2021). This kind of deal also allows to capture some operational synergies by consolidating some redundant functions, especially in terms of technology and distribution channels; this allows to improve efficiency and reduce costs by exploiting economies of scale. The complementarity of the businesses involved may also allow the resulting company to significantly increase its customer base, consolidating its position in the market.

In the end, we also have *Conglomerate M&As*, in which two companies operating in completely unrelated businesses decide to merge. One of the main reasons behind the pursue of such deal is the diversification of the business portfolio of the resulting company, and in many cases, this is the best way to reduce the dependence of a given company on a single industry or market segment. In fact, the risks associated with industry-specific fluctuations are mitigated, resulting in better financial conditions, more sustainable long-term growth, and increased customer base.

1.1.3 M&A Rationales and Synergies

The primary goal of M&A is to create value for the involved companies and their stakeholders by leveraging synergies, expanding market reach, enhancing operational efficiency, and achieving various strategic objectives. M&A transactions are complex processes that involve financial, legal, regulatory, operational, and cultural considerations, and they can significantly impact the organizations, industries, and economies involved. Through M&A, companies can unite and forge strengths without necessarily losing their individuality; on the other hand, they can exploit the other company's strengths to create a new and better organization.

If we analyze the previous literature concerning M&A, it's clear how certain common rationales and drivers emerge, even though specific circumstances and goals of the companies involved in the deal might be very different. For example, the most important common rationale, as mentioned before, is value creation for shareholders. It means that the main purpose of all M&A deals is to create a condition in which the shareholders of the involved companies can increase the value of their investments in the medium-long term (Scaramella, 2017). On the other hand, as highlighted by Roberts et al. (2003), it is possible to divide M&A rationales in four main categories.

The first and most important rationale is the "***Strategic Rationale***", as the main drivers and synergies of M&A transactions are usually classifiable as strategic decisions. Indeed, the primary objective should be the acquisition of resources which are not transferable or, alternatively, very difficult to replicate (De Pasquale, 2022). This leads to a significant improvement of the company from a competitive perspective, and usually also to an expansion towards new businesses, products, or countries that can give a fundamental competitive advantage, fostering growth and profitability.

Next, we have "***Speculative Rationale***". Unlike the strategic one, which is based on a well-defined and concrete reasons, Speculative M&As often involve some elements that are surrounded by uncertainty and sometimes linked to market dynamics, such as the hope for an increased stock price on the market, or the exploitation of the profitability of a new market sector. It's very important to mention that these kinds of strategies are usually associated with high levels of risk, as market dynamics, investors' sentiment and other external factors can influence the deal, determining its success or failure.

The third macro-category is the "***Management Rationales***". This category is quite particular, as it is more related with the management of the bidding and target company. In fact, company's management plays a fundamental role in corporate choices such as expansion strategies through M&As, and as the literature suggests, many times managers' remuneration is closely connected to the firm's size rather than the profitability (De Pasquale, 2022). In other words, managers' personal interests play a fundamental role in the definition and execution of the deal, and sometimes this causes troubles for shareholders' investments in the company.

Last, we have "***Financial Rationales***". They are very important because in the majority of cases, companies engaging in M&A operations aim at improving their current financial situation and possibly their performance on the stock market. These financial necessities may arise from a loss of trust by shareholders due maybe to a misalignment in corporate strategy and the consequent loss of value. Financial rationales are strictly related with strategic ones; indeed, the strategic operations of companies are strictly linked with their financial performance and profitability.

The rationales described above relate to the synergies they aim to achieve. Synergies occur when the combined companies can generate more value together than they could individually. Some examples of the most important value-creating synergies are described below, and are applicable to almost every M&A deal.

1. **Market Expansion and Reduction of Competition**: through M&A, companies can expand their market presence, allowing them to gain access to new markets and customers segments. It's a great way to pursue internationalization of the business and reduce competition, and which leads to increased market share and pricing power.
2. **Diversification**: this kind of synergy is strictly connected with the previous one, as diversification can be achieved through market expansion. Diversification typically occurs whenever a company starts to operate in another business sector other than its current one. It allows to reduce dependence on a specific product or market and helps companies to spread risks and protect against economic downturns or fluctuations in particular industries. In other words, a diversified company or conglomerate can achieve the same benefits of an investors with a well-diversified portfolio of financial assets (Meli, 2021).

3. **Economies of Scale and Economies of Scope**: Economies of Scale involves a reduction in the average cost per unit of goods produced. This is possible through an increase in the production volume. On the other hand, Economies of Scope can be translated into savings for the company in terms of total costs, thanks to the production of a bigger variety of goods (Contu, 2021).

1.1.4 What makes a particular deal so complex?

It's important to note that not all M&A deals achieve immediate success, and there can be challenges and hurdles along the way. From previous literature we know that M&A transactions can be very complex and sometimes they come with a wide range of risks and challenges, which can end up in making M&A deals very complex and which may result in no value creation at all. In fact, firms must carefully select the targets of their acquisitions and possibly not to pay very high premiums for them. If the target company is selected wrongly, or if the premium is too high, then the likelihood of failure is high (Hitt et al., 2009).

Other than premium paid, other examples of the most common challenges and risks generally include:

1. **Integration Challenges and Cultural Differences**: post-merger integration can be one of the most significant challenges, as merging different processes, teams and systems can often lead to conflicts, inefficiencies, and disruptions if they're not correctly addressed, because of the different corporate culture and values.
2. **Financial Performance**: it is very easy when designing an M&A deal to overestimate synergies, and together with unexpected costs associated with the transaction and post-merger operational issues, this can translate into a poor financial performance and low value for stakeholders.
3. **Legal and Regulatory Hurdles**: M&A deals often require regulatory approvals, and navigating complex legal requirements can lead to delays, increased costs, or even the cancellation of the deal itself. Some of these hurdles might include antitrust and competition laws, foreign investments regulations, contractual agreements, tax implications and compliance with some industry-specific regulations.

4. **Information Asymmetry**: an unequal distribution of information between the two parties involved in the transaction can significantly impact the deal itself. For example, due diligence may uncover some hidden liabilities, legal disputes, financial problems, and environmental issues, which in turn have a significant impact on company's valuation, and this can result in protracted negotiations and sometimes in a breakdown of the deal.
5. **Economic Conditions and Market Reactions**: Changes in the economic environment, such as recessions, market downturns, as well as disruptions in the geopolitical scenario, can impact the deal's financial viability and timing. Also, the announcement of an M&A deal will affect the stock market, and this might result in shareholders' discontent or attempts for hostile takeovers.

To mitigate these risks, it's crucial to perform deep due diligence, involve experienced advisors, develop comprehensive integration plans, and communicate transparently with all stakeholders. Understanding potential challenges and having contingency plans in place can enhance the likelihood of a successful M&A deal. On the other hand, when the acquisition is unsuccessful, it may be wise to divest the acquired business other than continuing suffering financial losses. Divestures are quite common when acquired firms are performing poorly, and even if divestitures are essentially the reversal of a major strategic decision, they're quite common because of the high rate of failure that is associated with acquisitions (Hitt et al., 2009).

To sum up, we have seen the main characteristics of M&A deals, and we have discussed the main ways to classify them according to the type of companies involved, the rationales behind the deals, and the main kinds of synergies sought. Moreover, we have also underlined the main difficulties that it is possible to find in the design and implementation of such deals. Although these theoretical concepts might be well known, I believe that they might also be very useful when starting to analyze an M&A deal, as they can provide a general overview of the deal and a strong basis to develop further analysis.

1.2 Value Creation through M&A

As we have seen in the previous chapter, value creation is the most important goal when two banks engage in M&A operations. Therefore, we are now going to focus on how it is possible to create value in these complex transactions. We will see that, in general, past literature proposes different opinions on whether M&A truly creates value, both in short and in long-term. Indeed, although the banking industry has reached a significant level of consolidation through Mergers and Acquisitions, achieving economies of scale and scope, increasing market power, and improving financial performance, many researchers claim that M&A deals generate no value at all, while others affirm than some value might be created, but maybe just for the target company.

The goal of this chapter is therefore to go through the main findings of past literature, to understand how this kind of research was conducted and with which tools. Although some of the mentioned papers are not so recent, what matters the most to this research is the methodology they used to conduct their study. In fact, the aim is to collect all the most significant techniques and methodologies into a sort of "evaluation model", thanks to which it is possible to completely analyze an M&A deal.

This model will be then applied in the following chapters to evaluate, at least in a short-term horizon, the acquisition of Credit Suisse by UBS.

1.2.1 Literature Review

In most empirical studies, researchers mainly investigated on value creation through two kinds of methodologies: Operating Performance and Event Studies. Operating Performance mainly relates to the analysis of accounting data, with a specific focus on cost efficiency, increased revenues, and profitability, which are in turn the most important measures to assess the impact of the financial consolidation of the two entities. An Event Study measures the immediate and delayed effect of a specific event on the value of a security or a group of securities. Specifically, this method concerns an evaluation of market reaction to the announcement of an M&A transaction, which is usually translated in an appreciation of stock prices and therefore in an increase of wealth for the shareholders of the company.

Therefore, in the following, an extensive analysis of past literature conducted through these two methodologies is provided, and also a couple of different approaches will be illustrated. Although the final results are very dissimilar because of the sample used, the time horizon considered and the type of analysis performed, these methodologies can be exploited in building an efficient evaluation model that can be used to our purposes.

Operating Performance, Cost Efficiency, Profitability

Beccalli and Frantz (2009) used a dataset containing 714 M&A deals involving acquiring companies from EU, with target companies located in other world countries; these deals were performed between 1991 and 2005. Their goal was to analyze whether M&A operations are reflected in improvements in performance, analyzed both through cost and profit efficiency and standard accounting ratios, in a time window including 3/6 years pre-merger and 6 years post-merger. To perform their analysis, they mainly used two well-known accounting ratios to assess shareholders value creation or destruction, namely Return on Equity (ROE) and Cash-Flow Return (CFR). The authors found that M&A operations are usually associated with a slight deterioration in ROE, CFR and profit efficiency. On the other hand, they found a marked improvement in cost efficiency. The authors also point out that these variations in cost and profit efficiency are directly caused by the M&A operation and would not have occurred otherwise. Another interesting finding of this research concerns the geographical aspect, as domestic deals cost efficiency is found to be more significant than in cross-border deals, while profit efficiency stays unaffected in domestic deals, and diminishes in cross-border transactions.

A similar research was conducted by Vennet and Gropp (2003), who referred to a sample of 62 operations executed by banks in the EU, Norway and Switzerland between 1990 and 2001. In this case however, the focus given by the authors was an analysis of profitability and cost-efficiency in cross-border M&As, both considered as a motive to engage in M&A transaction and their improvement as a consequence of the deal itself. In the short period after the deal, the authors find a limited improvement in profit efficiency, and no improvement in cost efficiency. Their research also reveals significant differences in the cost and profit efficiency of the acquirer and target in the pre-deal phase.

Marques-Ibanez and Altunbas (2004) studied bank mergers that took place in EU and examined the impact of strategic similarities between bidding and target banks on post-merger financial performance. They compared the pre- and post-merger performance of a dataset of European banks that merged from 1992 to 2001. Their results show that, on average, bank mergers in the European Union resulted in improved return on capital and improved accounting profitability. Concerning domestic M&As, the authors claim that it could be quite costly to integrate institutions with different strategies in terms of loans, earnings, costs, and deposits. On the other hand, for cross-border M&As those differences of merging partners lead them to achieve a higher performance; on the other hand, diversity in their capital, cost structure as well as technology and innovation investments strategies are found to be counterproductive in terms of performance.

Pilloff (1996) analyzed a sample of 48 M&As of publicly traded banking institutions occurred between 1982 and 1991, examining both the impact of M&A on cost efficiency through simple accounting cost ratios as well as impact on profitability through ROE and ROA. General findings of this research suggest that mergers were not associated with any significant change in performance, and also shareholders' value change was quite small and not statistically significant.

Vennet (1996) studied the performance effects of acquisitions and mergers between credit institutions between 1988 and 1993, with the aim of assessing the efficiency and profitability of merging institutions through a comparison of pre- and post-merger ROE and ROA, which, according to the author, allows to assess the impact of the takeover. The results show that in domestic mergers between institutions of equal size, there are huge opportunities to reduce some redundancies and exploit synergies. Therefore, he found that the M&A event constituted a clear turning point for both profit levels and operational efficiency. Moreover, the author claimed that in cross-border acquisitions, acquired banks experienced a significant impact on efficiency; this result could be explained by the ability of the acquiring bank to transfer its managerial competencies and intermediation technologies to the target company abroad.

Altunbaş et al. (1997) examined the cost implications from hypothetical cross-border bank mergers in the EU following the claiming of significant cost savings expected as the result of the EU's Single Market Program for financial services. Actually, the authors suggest that large banks looking for economies of scale and scope through cross-

border takeovers should be very careful in the selection of their target, because their results show only limited opportunities for costs saving from big-bank mergers and indicate that such mergers are in fact more likely to result in an increase in total costs.

Berger and Humphrey (1992) analyzed M&As occurring in the 1980s involving banking institutions with at least $1 billion in assets. The authors estimated a cost function that allows them to consider two types of efficiencies: scale economics and X-efficiency. The latter is defined as the difference between the actual costs of a given financial institution and the minimum cost point on the frontier corresponding to an institution similar to the considered bank. The results show that, on average, there are no significant gains in X-efficiency, so the amount of market overlap and the difference between acquirer and target bank in terms of costs didn't affect efficiency in post-merger phase. The same conclusions were obtained with the analysis of ROA and Total Costs to Assets. However, the authors also claim that there is a potential for significant enhancements in overall efficiency through M&As if more efficient banks acquire less efficient ones. Additionally, due to diseconomies of scale, the combined entities generally performed slightly worse on average in a post-merger phase.

Similarly, Akhavein et al. (1997), using the same dataset as Berger and Humphrey, examined the efficiency and price effects of M&As by evaluating cost efficiency, profit efficiency and market power in pricing. The results suggest that there have been statistically significant improvements in profit efficiency associated with the so-called US "megamergers", while there have not been significant improvements for cost efficiency. Specifically, the authors found a 16% increase in profit efficiency, coming mostly from increasing revenues and from a shift in outputs in favor of loans, which are considered as a higher-valued product. Indeed, authors claim that the results obtained are consistent with the geographic diversification goal sought by megamergers, which are therefore able to reduce risks and diversify their products' portfolio, allowing for more profitable loans to be issued, and an increase in average profits.

DeYoung (1997) analyzed a sample of 348 mergers between 1987 and 1989, finding that around 58% of the analyzed sample generated small cost efficiencies, and even though some of these gains came from mergers involving insolvent targets, he claimed that around 61% of the solvent bank purchases also generated cost efficiencies.

Furthermore, the author indicated that mergers between equal-sized banks usually capture smaller than average cost efficiencies.

Ellahie et al. (2023) designed a measure to evaluate the quality of M&A operations using accounting figures. They defined the "Implied Return on Equity (IRI)" as the quantity of minimum improvement in ROE of the target company after the acquisition which is necessary for the acquirer to break-even with the cost of acquisition. The authors analyzed a sample of M&As covering from 1980 up to 2018, and their results showed that in general, IRI is not easy to obtain after the acquisition, and acquirer's ROE growth in the first years after the M&A is significantly lower in those transactions which implied high-IRI compared to deals with low-IRI. The authors also claim that a negative relationship exists between IRI and acquirers' performance post M&A in those deals in which there is too much overconfidence of the managers, or when synergies have been overestimated.

Duhita and Rizkianto (2023) used financial ratios such as ROE, Current Ratio, Debt-to-Equity Ratio, Earnings per Share, Total Asset Turnover, and many others to analyze corporate M&As between 2016 and 2021 in terms of Economic Value Added and Market Value Added. They used panel data regression and measured financial performance five years before and after the transaction. Their results show that, in general, ROE and Current Ratio are positively related with Economic Value Added, while other ratios as Earnings per Share impact negatively on Market Value Added. Some other ratios do not imply significant influence on both Economic and Market Value Added.

Borodin et al. (2020) analyzed the performance of European and American banks. Their study explored the influence of M&A transactions on a sample of 138 M&As between 2014 and 2018. The study was conducted by analyzing the correlation between the Return on Sales (ROS) and other financial ratios. Other than that, they also conducted a study on the impact of financial crisis on the performance of merged banks. Their main results show that those companies that were profitable before the transaction remained so also after the deal, even though a significant deterioration of the ROS took place. The same is true also for the ratio between EBIT and Total Revenues, which showed to be decreasing during the crisis for both EU and American banks. Therefore, these changes

in financial performance were mainly related to the effects brought by the crisis, while the impact of M&A on banks' performance was not significant.

Galariotis et al. (2021) examined M&As effects on Eurozone banking efficiency in the crisis period of 2007-2015 through the Data Envelopment Analysis (DEA). The data sample contained 43 commercial banks coming from eight European countries. Their results show that mergers and acquisitions affected in a negative way the level of efficiency of the analyzed sample, and therefore they claim that M&As are inefficient in improving the financial stability of the banking industry during crisis times.

Khushalani and Sinha (2021) studied the financial performance of Indian banks' before and after the mergers, analyzing financial parameters such as Capital Adequacy Ratio (CAR), Return on Assets (ROA), Net Profit Margin (NPM) and many others. The authors concluded that for every bank merger they analyzed, there were differences in performance of the mentioned financial parameters. Therefore, their conclusion is that the performance of banks was not significantly changes by M&A.

Finally, Cikovic et al. (2022) focused on the banking system of North Macedonia, and applied the DEA model to assess the economic efficiency of the industry as a whole and to determine the effect of M&As banking efficiency. The analysis has been focused on commercial banks in the period from 2007 and 2020. The results show a decrease in efficiency of the banking system during the analyzed period, and moreover, also M&A transactions show a decrease in bank efficiency compared to the pre-merger phase.

Event Studies

Cybo-Ottone and Murgia (2000) studied the stock market valuation of M&As in the European banking industry. They conducted an event study on 54 M&A deals in 14 European markets between 1988 and 1997. The authors found the existence of positive abnormal returns around the date of announcement and claim that, on average, at that time the size-adjusted combined performance of both the bidder and the target is statistically significant and economically relevant. These results are in contradiction with those concerning US markets. One possible reason highlighted by the authors could be the difference in the structure and regulations of EU banking markets, which are more similar to each other compared to the US one.

A more recent study conducted by Christopoulos and Vergos (2012) provided evidence on the effects of the largest bank-to-bank M&A deals between 2005 and 2011. The goal was to understand if M&As continued to be an effective means of capital allocation in periods of increasing risks and decreasing banking regulation. They conducted the research by computing abnormal returns, and they found that M&As are associated with high market returns for target companies, negative returns for bidding companies and positive joint market value returns. By computing Standardized Cumulative Abnormal Returns (SCARs), they also find that the gains for target banks are statistically significant.

Houston et al. (2001) studied the gains obtained from bank mergers. They analyzed a sample of the largest bank mergers from 1985 to 1996, and they found that, around the announcement of the merger, the market value of the acquiring bank declines, while the market value of the acquired bank increases. Furthermore, for the entire sample of 64 mergers, the authors claim that also the combined market value of the bidder and target on average slightly increases on the announcement of the transaction.

Scholtens and Wit (2004) used event study to investigate the effect of large bank M&A both in US and EU at the time of announcement. Interestingly, they both used a market index and a banking sector index to compute Cumulative Abnormal Returns (CARs). Their findings suggest a significant difference between the shareholders' value effects between EU and US M&As at the time of announcement. Indeed, while in Europe both bidding and target banks show positive CARs, in the US only target banks usually have positive CARs.

Campa and Hernando (2004) performed an analysis of shareholder value creation upon the announcement of M&As involving European Union firms between 1998 and 2000. By analyzing cumulative abnormal returns, the authors found that target shareholders receive on average a positive and significant cumulative abnormal return (ca. 9%) around the announcement of the merger. Conversely, cumulative abnormal return to shareholders of the acquiring firms is not significantly different from zero. These results are consistent with previous findings in literature reporting zero or negative return to acquiring firms. Moreover, the authors also claim that those mergers occurring in less regulated industries tend to generate higher value compared to heavily regulated ones. Regulated industries' value becomes even significantly negative in cross-border deals.

Tourani Rad and Van Beek (1999) used the event study methodology with daily stock market data to examine cross-border M&As between 1989 and 1996 from a list of European banks. Also, in this case target banks were found to experience a significantly positive abnormal return, while bidding banks did not experience significant abnormal returns. This result is consistent with those found for US market.

Lepetit et al. (2004) analyzed the stock market valuation of M&As among European and Swiss banks in a ten-year framework between 1991 and 2001. They performed an event study analysis examining the stock market valuation in terms of expected gains and risk effects. They also classified the deals according to diversification, geographical specialization, or activity, and they used a bivariate GARCH model to consider the variability of the beta coefficient when estimating abnormal returns. Their results show that, on average, there is a positive and statistically significant increase in the value of the target banks. They also claim that this positive market reaction is particularly significant for deals involving product diversification and geographical specialization.

Coming to more recent studies, Kellner (2024) investigated on short-term stock price reactions following the announcement of M&A deals in EU. The analysis included a comprehensive sample of M&As in Europe between 2010 and 2021, with distinguished countries and transaction forms in order to have a representative sample. The results confirm many of past empirical findings, showing that a strong price increase occurred for target companies, which showed both significant positive pre- and post-announcement returns. On the other hand, there was little evidence of acquirer's stock reaction.

Gigante et al. (2023) analyzed the period following the Financial Crisis of 2008, trying to identify the drivers of shareholders' value creation in M&As occurred in that period, in particular for those transactions involving commercial banks between 2010 and 2020. The study found positive abnormal returns for the acquirers, thus contrasting the majority of past research. These positive returns might have been caused, according to the authors, to some important features of the targets, in particular the ratio of non-performing loans (NPL). In fact, the paper reports that the market gave positive value to those targets with low NPL ratios and a balanced exposure to interest rate variability.

Kontonikas et al. (2022) analyzed bank M&As in Europe between 1998 and 2016. The authors underline the decreased competition and increased market concentration of the

European banking market after the financial crisis in 2008 and similarly to the previous study, also in this case the authors found positive gains for bidding banks. They also argued that these higher returns were associated with a substantial increase in long-term profitability. The authors claim that the improved performance is strictly linked to the exploitation of banks' market power, which is significant in those markets which are less competitive and more concentrated.

Kiosses (2023) studied bank M&As in the United Staes between 1986 and 2020 with a sample containing 3107 mergers. The goal of the author was to investigate on those factors that affected the financial performance of involved banking institutions. He used the event study methodology and estimated Cumulative Abnormal Returns (CARs) over different time windows around the date of the announcement. The results show negative shareholder value for the acquiring banks, both after few days from the announcement and in the long run. These results are reversed when the time window considered coincides with a period of higher economic policy uncertainty. In those periods, the author found significantly higher gains for acquirer company's shareholders compared to periods with lower uncertainty. Therefore, the author claimed that economic policy uncertainty is an important driver affecting both financial performance and the general outcome of banks' M&As.

Asiri and Hameed (2020) conducted a study to measure the reaction of investors to the announcements of bank M&As in Bahrain. The analyzed sample contained thirty transactions occurred between 2005 and 2017. The sample was used to conduct an event study, which showed little positive CARs for investors on the day of the announcement, whereas in larger event windows the cumulative abnormal returns were found to be negative. The study also highlighted how investors lost more money when the announcement was made directly by the target, while the loss was much lower if the deal was announced by the acquirer.

Alternative approaches

Other than the "standard" cost and profit efficiency analysis or event studies on stock prices' performance, some alternative methodologies have been proposed which do not take into account accounting data or stock market prices and are more centered on qualitative aspects.

Epstein (2005) focused his research on understanding what makes a merger successful, and which is the most appropriate way to evaluate this success. The author was able to find six determinants of merger success and he argues that these elements should be those on which future research should rely on instead of focusing on current stock prices and other measures of profitability, because this more comprehensive evaluation of the deal can lead to very different conclusions compared to stock price analysis, which often is not able to capture the true value of the deal. Moreover, he also points out that the failure in one of these factors can represent a severe threat to the achievement of merger goals. These six determinants are: Strategic Vision and Fit, Deal Structure, Due Diligence, Premerger Planning, Post merger Integration, External Factors. This paper is very interesting as it also provides a practical application of these factors on the merger of J.P. Morgan and Chase Manhattan Bank, occurred in 2000. It is important to underline that the alternative and comprehensive way of evaluating the deal provided by this paper allows to truly understand the strategic reasons behind a deal and allows to disaggregate the results of the merger from the current economic context, to understand which changes in company's value are effectively attributable to the merger itself. It is therefore a great way to start analyzing a deal from a qualitative perspective, and which can give us a comprehensive overview of the deal itself.

Another interesting point comes from the research of Pilloff and Santomero (1998), who affirm that M&As usually result in overall benefits to shareholders when the consolidated firm is more valuable than the sum of the two separate pre-merger firms. In other words, some synergies must have been achieved after the deal, and they mainly consider three areas as relevant to assess if this consolidation has been successful or not. The first one concerns Efficiency Improvement. Indeed, the authors claim that M&A allows costs to be lowered thanks to economies of scale and scope. Lower costs are likely to increase company's profitability and can help in financial growth in the medium-long term. Second, M&A gains can be translated in Increased Market Power. Higher market power means reduced competition and increased customer base, which allows for higher revenue streams and higher profits. Last, M&As usually enhance company's value by increasing the level of Bank Diversification, both form a geographical point of view and from a product offering standpoint. In fact, a greater level of diversification provides more stable returns to the company and lower volatility, which in turn could raise shareholders' wealth in the medium-long term. The authors

claim that any one of these three reasons is sufficient to claim that a deal has created some value.

1.2.2 An Evaluation Model for M&A in Banking

From the analysis of past literature is clear that, apart from a couple of interesting alternative methodologies, the majority of studies are conducted via event studies or cost- and profit-efficiency studies.

On average, many papers focusing on event studies did not reach statistically significant results in terms of shareholder's value creation. On the other hand, past studies concerning cost and profit efficiency found some interesting results, but with mixed evidence according to the dataset employed, the period analyzed, and the benchmarks used. Despite the contrasting results, these two methodologies have been widely used in the research about M&A and they also have been supported by both quantitative and qualitative results. Therefore, they represent the two main tools that have to be used when dealing with the analysis and evaluation of M&A activity between banks or other financial institutions.

Nevertheless, it is important to start from a more qualitative point of view to understand the perspectives and rationale lying behind the deal. In fact, as highlighted also in the first part of the thesis, the most important thing to do when analyzing such a complex transaction is to understand the strategical meaning of the deal and the possible synergies that could be achieved. The importance of these elements has also been highlighted in the previous paragraph by Pilloff and Santomero (1998), who claimed that value creation is driven by some fundamental strategic synergies such as efficiency improvements, bank diversification, and increased market power. While the first can be easily analyzed by looking at accounting and financial data, both bank diversification and increased market power need a different approach to be analyzed. The understanding of these three synergies will give us a general overview on the deal and could also give us some hints on the results we could obtain from the subsequent analysis. Furthermore, also Epstein (2005) provided an interesting way to analyze the general context of the deal, especially for what concerns the deal structure and the external factors.

Therefore, the analysis of the UBS-Credit Suisse case study will be conducted as follows. First of all, an overview of the general context will be provided, including a detailed analysis of the macroeconomic conditions and the geopolitical scenario in 2023. Next, a comprehensive description of the collapse of the bank will be provided, including all the influences that that caused Credit Suisse to lose so much value to need an immediate "lifejacket" to avoid default. The chapter will then end with a discussion of the effects of the acquisition on the global banking industry.

The last chapter will be instead dedicated to the evaluation of the deal. First, the transaction will be analyzed looking at both potential efficiency improvement achieved in the very short term, and the forecasted synergies in terms of increased banking power and bank diversification after the integration of Credit Suisse business divisions. This kind of analysis will be conducted parallelly to a discussion of recent quarterly financial results of UBS, which allow to assess which results have already been achieved and which goals are still to be reached, also according to future expectations concerning the macroeconomic scenario. In other words, this first analysis puts together the alternative analysis proposed by Pilloff and Santomero (1998), the external context analysis mentioned by Epstein (2005), and a brief financial results' analysis of the most recent quarterly reports.

The second part of the deal evaluation will be instead conducted through an event study methodology, to assess both whether UBS' shareholders experienced abnormal returns at the announcement of the deal, and the overall stock market performance of UBS' in the following months, also following the publication of financial results.

This multilateral analysis allows to both have information on investors' sentiment on the deal and the underlying financial situation of the banks after such a complex takeover. The results will therefore give some interesting insights on the future outcome of the deal itself, after the integration process is completed.

The last paragraph of this chapter will be centered on a more detailed description of the event study methodology and on the different steps to be taken.

1.2.3 Model Description: The Event Study

An Event Study is used to measure the impact of a specific event on the value of a security or a group of securities, by examining the response of stock prices around the announcement of the event.

An important advantage of Event Studies, as reported by MacKinlay (1997), is that it usually assumes rationality and efficiency of financial markets, and therefore the effects of an M&A should be immediately reflected into securities' prices; this makes the event study a quick and efficient methodology to assess whether superior performance has been created at the announcement of the deal.

Event studies can be very different among each other in the aim and the results according to the time horizon considered in the analysis. Short-horizon event studies examine a very short time window, from few hours to weeks, and allows to focus on the information that has been released and the immediate impact on securities prices. Nevertheless, some doubts have been raised concerning the statistical properties of these events. Long-horizon event studies are instead built on longer time windows and are always more used as they allow to assess the performance of very important corporate events such as M&As or IPOs. However, the longer time horizon considered also exposes the study to a higher sensitivity to the assumption made for the modelling estimation of expected returns.

Other than their traditional usage in the assessment of corporate events' impact on securities' prices, these kinds of studies are increasingly being used in verifying whether the relevant information is incorporated into securities prices immediately or with delay. In other words, they are used to verify if the *Efficient Market Hypothesis (EMH)* holds.

EMH was extensively analyzed by Fama (1970), who claimed that a market in which securities' prices fully reflect at any time all the available information is said to be "efficient". In M&A case, when a transaction is announced to the public, the market is provided with new information, and if EMH holds, shareholders' expectations related to this new piece of information should be immediately incorporated into stock prices. Therefore, the value created by the transaction is captured by an Abnormal Return (AR) for the stock in a short event window around the date of the announcement.

Abnormal Return is calculated by subtracting the expected return of the security from the realized return at time *t*, while Cumulative Abnormal Return (CAR) is calculated as

the total sum of all abnormal returns for a given security. Another interesting data is provided by Average Abnormal Return (AAR), which gives the average abnormal return gained by a stock in a period of *n* observations:

$$AR_t = R_t - E(R_t)$$

$$CAR = \sum_{t=1}^{n} AR_t$$

$$AAR = \frac{1}{n}\sum_{t=1}^{n} AR_t$$

The main rationale lying behind the adoption of ARs as evaluation tool with respect to Return on Equity, Return on Assets, Enterprise Value etc. is that ARs are considered as proxies of shareholders' expectations about future company's financial performance, provided that EMH holds.

The most commonly known papers that first employed event study methodology were the ones written by Ball and Brown (1968) and Fama et al. (1969). The basic event study has not essentially changed in time and requires various steps to be estimated properly.

1. It is very important to start by clearly identifying the event to be analyzed. It must be a real unexpected event which surprised the market, with an exact date.

2. The following step concerns the security, or the group of securities, to be analyzed. It is very important to select a sample of data with a suitable sampling frequency according to the availability and coherently with the goal of the empirical study.

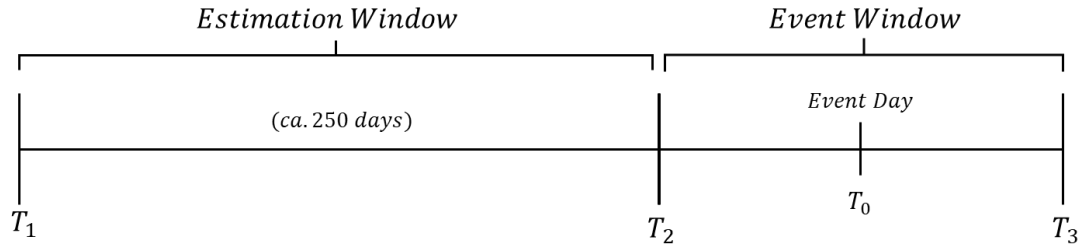
3. The next step is the determination of the period of time over which the impact of the event is observed and analyzed; as mentioned above, it's possible to adopt a shorter period of time if the goal is to understand how quickly new information are incorporated into securities prices, whereas longer periods of time allow to understand the effective informational efficiency of the market. In particular, both an event window and an estimation window must be taken into consideration.

    - The ***Event Window*** is a time window surrounding the exact date of the event, which is called event day and it's denoted by T_0. This time horizon can be

shorter or larger according to the kind of study to be conducted, as it's very important to select it carefully as it is the period of time in which the event is most likely to have a major impact on stock price. Usually, the event day is centered in event window, meaning that the same number of days or weeks is selected before and after event day; however, this interval can also be selected asymmetrically.

- The ***Estimation Window*** is an interval of time preceding the event day in which data on the price of the security and the relative market are available, that allows to estimate the parameters of the "Reference Model". The parameters estimated will be then used to compute Abnormal Returns in the Event Window. Looking at past literature, usually a 250-days' time window is used as an Estimation Window, and it is very important for it to not overlap with the event window, so that the returns in the event window do not influence the estimation of the parameters in the estimation window. Of course, the length of estimation window can vary depending on how many significant events might have affected stock prices; this means that, the longer the estimation window, the more the parameters are likely to be accurate, but also the higher the risk of influence on stock prices from other external events. The figure below shows the event study's typical timeline.

Figure 1: Time Windows Structure in Event Studies



4. The fourth step concerns the construction of the so-called "Reference Model", which is used to determine the expected (normal) return for the securities which are under analysis. Although the Market Model (MM) is usually employed, there are several possible alternatives which can be used according to the specific situation. These include, for example, the Capital Asset Pricing Model (CAPM), and the Fama-French 3 factor Model. The models are illustrated in the following page:

- **Market Model**:

$$R_{it} = \alpha_i + \beta_i * R_{mt} + \varepsilon_{it} \qquad (1)$$

Where:

- R_{it} is the return of the observed stock at time *t*.
- α_i is the intercept.
- β_i is the regression coefficient, measuring the sensitivity of R_{it} to R_{mt};
- R_{mt} is the return of the reference market at time *t*.
- ε_{it} is the error term, which is a random variable with expectation zero and finite variance.

- **Capital Asset Pricing Model (CAPM)**[1]:

$$E(R_i) = R_f + \beta_i(E(R_m) - R_f) \qquad (2)$$

Where:

- $E(R_i)$ is the expected return of the security.
- R_f is the risk-free rate coming from a "risk-free" security (usually a T-bill)
- β_i is the beta of the security.
- $E(R_m)$ is the expected return of the market portfolio.

- **Fama-French 3 Factors Model**[2]:

$$R_{it} - R_{ft} = \alpha_i + \beta_1(R_{mt} - R_{ft}) + \beta_2(SMB_t) + \beta_3(HML_t) + \varepsilon_{it} \qquad (3)$$

Where:

- R_{it} is the return of the observed stock at time *t*.
- R_f is the risk-free rate coming from a "risk-free" security (usually a T-bill)
- α_i is the intercept.
- β_i are the regression coefficients associated to each factor.
- R_{mt} is the return of the reference market at time *t*.
- SMB_t is a size premium ("Small Minus Big")

[1] See Fama and French (2004) for further details about this model.
[2] See Fama and French (1993) for further details about this model.

The reference model is very important as allows to compute the so-called "normal performance" for the returns of the securities. It is a crucial step for event studies. As mentioned before, the Market Model is among the most commonly employed, and relies on the normality assumption on the distribution of returns. Because of this strong assumption it is possible to relate the return of the security with the market portfolio return with equation (1).

5. The reference model is then used to estimate the parameters $\hat{\alpha}$ and $\hat{\beta}$ through some econometric analysis such as Ordinary Least Squares (OLS) or Maximum Likelihood Estimation (MLE); the parameters are then used to compute the expected return $E(R_t)$, which is then subtracted from the realized return R_t to compute Abnormal Returns. Similarly, also Cumulative Abnormal Return and Average Abnormal Return are computed. The computation is usually conducted on event windows of different lengths, to understand whether ARs were experienced in shorter or larger time windows; sometimes, even asymmetric event windows are used to assess stock performance just before or just after the event occurrence. Among the mostly used event windows there is [-20, +20], meaning that the event window includes twenty days before and after the event day to observe Abnormal Returns.

The event study methodology can have various applications in empirical finance and investments analysis. To the purpose of this thesis, it will be used to understand the stock market reaction to the announcement of the M&A deal between Credit Suisse and UBS. A positive abnormal return in the analyzed event windows with respect to the chosen reference market will represent value creation for UBS' shareholders. Moreover, analyzing such value created (or destroyed), can give powerful insights on the investors' sentiment towards the success or failure of the deal. It is therefore a crucial part of the evaluation of the transaction.

2. The Acquisition of Credit Suisse by UBS

2.1 Credit Suisse's Collapse and Impact on the Banking Industry

Credit Suisse (CS) represented one of the most important and largest banks in the world, founded in 1856 by Alfred Escher, an important Swiss businessman and politician. The main focus of this financial institution at the early stages of its existence was the financing of the fast-growing railway system in Switzerland. The success achieved in that project started to build the solid reputation and reliability of the bank, which was able then to expand its operations and, at the beginning of the 20th century, allowed CS to establish branches also in other European countries as well as in the United States. The growth of the company continued throughout the 20th century with the acquisition of other financial institutions (William, 2023). The solid reliability and well-known reputation for high quality services allowed Credit Suisse to rise as one of the major players in banking industry, global leader in Wealth Management, Investment Banking, and other financial services, with an innovative product portfolio.

While its strength allowed Credit Suisse to successfully overcome the difficulties brought by both the Great Depression in the 1930s and the Global Financial Crisis in 2008, the bank faced a significant number of challenges after the Covid-19 pandemic. Various scandals and financial problems brought a loss of trust in bank's shareholders and, in the first half of 2023, also because of the critical macroeconomic and geopolitical context, the bank suffered huge losses in its stock market value, which almost brought it to bankruptcy and raised some concerns about the stability of the whole financial system. In fact, as we will see in the following paragraphs, the world economy was suffering tight economic conditions mainly caused by the running interest rates and inflation, and the fall of Credit Suisse was at first considered by the public opinion as a case similar to the one of Lehman Brothers. Fortunately, thanks to the improved financial regulation after 2008 and thanks to the commitment of Swiss authorities, Credit Suisse was saved from bankruptcy, and on the night between March 19th and March 20th, 2023, the acquisition of Credit Suisse by UBS for CHF 3 billion was finally announced to the public[3]. According to some researchers, this operation also saved the whole financial system from an uncontrolled chain reaction that could have brought the world economy into another global financial crisis. Therefore, the deal between UBS and Credit Suisse is for sure one of the biggest and most important banking unions in

[3] See: Noonan et al. (2023), https://www.ft.com/content/ec4be743-052a-4381-a923-c2fbd7ea9cfd

history, and the goal of the following sections is to analyze this transaction under various perspectives, to understand both the value created for the shareholders of the involved parties and the impact of such acquisition on the whole banking industry and the global economy.

This chapter will continue with an analysis of the macroeconomic and geopolitical scenario in which the acquisition took place. Next, a deeper discussion on the collapse of Credit Suisse is provided, with an analysis of the main internal and external causes of such loss in value. The last part of the chapter will be focused on the impact of this crisis on the banking industry, with an outlook on the stock market performance of some of the most important banking institutions worldwide.

2.1.1 Macroeconomic and Geopolitical context

To start the analysis on the global economic scenario, it is important to mention the Covid-19 pandemic. Following the spreading of the virus, many countries decided to adopt drastic policies to contain infections, such as lockdowns. During these periods, economic growth essentially stopped, and the world economy fell in a severe recession in 2020 and 2021. To fight the critical economic conditions, central banks started to lower interest rates (Ozili, 2023). The more favorable economic conditions stimulated the economy and led to rises in inflation starting from 2021, both in emerging markets and in advanced economies, with levels well above the 2% target imposed by Central Banks (CBs) in normal times. Furthermore, the beginning of 2022 saw the outbreak of war between Russia and Ukraine. The economic sanctions imposed on Russia by other world's countries caused shortages in energy sources, which is one of the main exports for Russian economy, and higher commodities' prices. As a consequence, inflation continued to rise to unprecedented high levels for many countries, and Central Banks were forced to set higher interest rates, slowing down the economic growth, in an attempt to reduce the level of uncontrolled inflation.

Figure 2 and Figure 3 give a very clear snapshot of the above. Figure 2 plots the level of Inflation Rates in United States, Switzerland, and European Union starting from 2020. The green horizontal line is the 2% target inflation level, which is usually the goal that CBs try to achieve to maintain economic stability. Figure 3 instead plots the evolution of short-term interest rates in the same period for the same countries.

Figure 2[4]

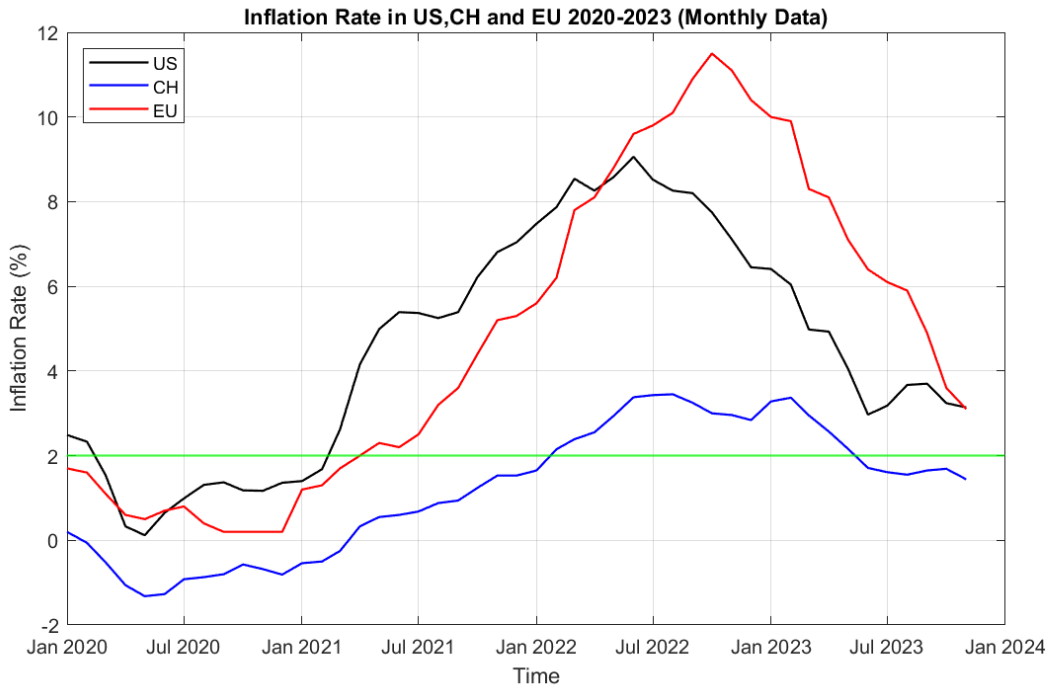
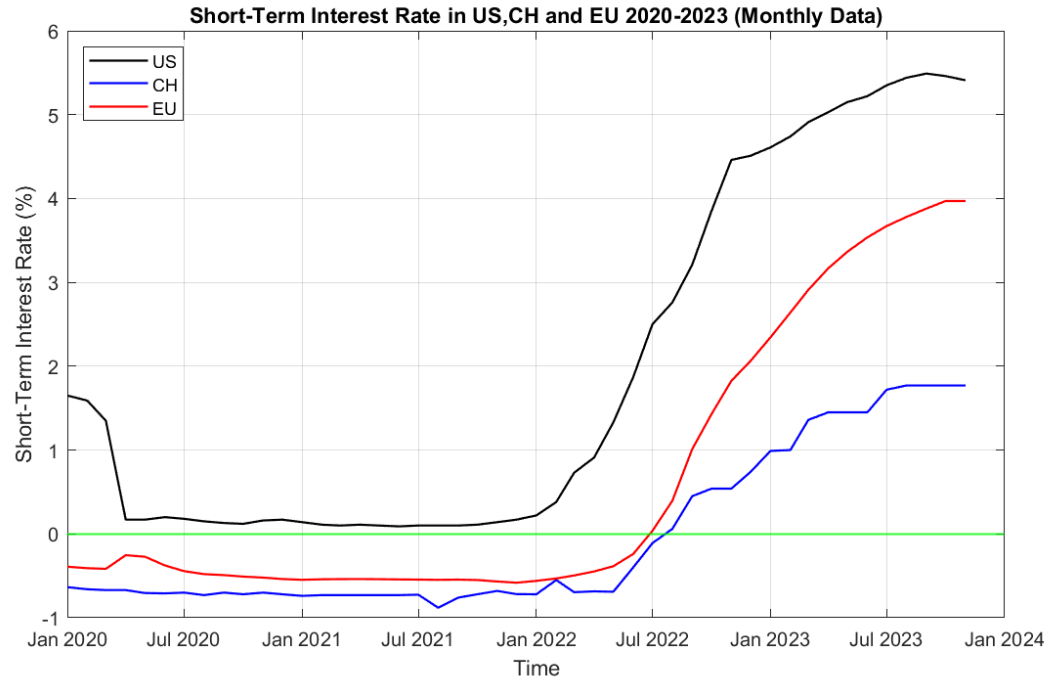


Figure 3[5]



[4] Data Source: OECD Data https://data.oecd.org/
[5] Data Source: OECD Data https://data.oecd.org/

From these figures, it’s clear how CBs wanted to give a strong stimulus to the economy in the aftermath of the Covid-19 pandemic, while at the beginning of 2022 a tightening policy was introduced to fight running inflation. However, the Russia-Ukraine war had a stronger impact on the world economy with respect to changes in monetary policies, because of the higher prices and shortages of commodities and energy sources, leading to further increases in inflation, which arrived well above 11% in EU in 2022.

It's interesting to note how both Inflation Rate and Short-Term Interest Rates remained very low in Switzerland compared to EU and US. From OECD Economic Surveys 2022, it emerges that inflation actually remained negative in 2020 up to April 2021, because of safe-haven pressures on the Swiss franc. Also, in 2022 inflation stayed just above 2%, because of a less-pronounced profit margin expansion with respect to other countries (UBS Annual Financial Report, 2022).

2.1.2 Banking Crisis and Credit Suisse’s Collapse

According to Kiki et al. (2023), banking crises have some common features, even though they are usually caused by different factors; in fact, they usually have their roots in unsustainable macroeconomic policies and market failures, which often translate in very large costs for society. This is exactly what happened in 2023, when the Central Banks decided to increase interest rates to slow down economic growth after the recession caused by the pandemic, and to contrast the rising inflation. Furthermore, the future expectations of rising interest rates increased the fear among investors that those banks with higher exposure on long-term government bonds, especially in the US, would have some difficulties in repay their obligations; this fear caused a bank run and an outflow of deposit from those banks, causing an unprecedented liquidity crisis that brought to the collapse of four banks (Ozili, 2023).

The first bank to collapse was *Silicon Valley Bank (SVB)*, a regional bank based in the United States which mainly focused on technology startups. The main reason behind the largest bank failure since the subprime crisis in 2008 lies behind the aggressive monetary policy introduced by the FED, and the poor investment management strategies of the bank itself. Between 2020 and 2021, while the tech industry was growing, clients of SVB deposited huge amounts of money into the bank, which decided to invest mainly into mortgage-backed securities (MBS) and US treasury bonds, as interest rates were

low at that time (Essia and Ehiwario, 2023). However, this is a well-known mistake in banking, which concerns short-term borrowing and long-term lending of resources; this kind of strategy is profitable if and only if interest rates remain low, otherwise it can represent a very risky situation for both the bank and its clients, as it poses serious doubts on the long-term financial stability of the bank itself. Furthermore, it is important to remember that the price of a bond and the interest rate are inversely related: if price increases, the interest rate decreases and vice versa. Therefore, as the FED started to increase interest rates, the price of the bonds in SVB's bonds portfolio started to decline and very soon fell under their true market value. The bank, in fact, was forced to sell a lot of its securities and incurred into very large losses, raising various doubts about bank's financial health. Moreover, higher interest rates also represented a problem for SVB's clients, which incurred in higher costs for borrowing funds for their operations. For all these reasons, SVB's clients started to withdraw their deposits, and the stocks of the banks also expected a significant fall. The bank finally collapsed on March 10th, 2023.

Signature Bank was the second financial institution that collapsed, following the bank panic around the failure of SVB. In fact, Signature Bank was just a sort of "victim", and was immediately shut down by the Federal Deposit Insurance Corporation (FDIC), which was severely worried by a possible contagion effect that could have caused significant damage to the whole banking system, and possibly to a systemic collapse (Ozili, 2023).

A very similar scenario is the one concerning *First Republic Bank*, a US regional bank which was mainly focused on high-net-worth individuals, and which was significantly affected by FED's monetary policy on interest rates and the consequent effects on both SVB and Signature Bank. Despite a liquidity injection of $30 billion obtained by US's biggest banks, First Republic's quarterly report published at the end of April 2023 not only showed poor results achieved in terms of earnings, but also highlighted withdraws for $100 billion in the first quarter of the year, more than half of the bank's overall deposits. Investors realized the bad financial health of the bank and started to sell off the shares of the bank, which lost more than 98% of their value between March and April 2023. In response to this critical situation, FDIC took the bank under receivership and sold it shortly later to JP Morgan Chase (Dinh, 2023).

Even though 2023 crisis started and developed mainly among US regional banks, negative sentiments concerning the global economic and financial stability started to spread, and many investors started the selloff of other banks' shares, worried by the possible contagion effect, including the shares of *Credit Suisse*. The Helvetic bank experienced significant tumultuous events, starting from the Global Financial Crisis in 2008 up to some major scandals and criminal investigations in 2021 and 2022 (Valiante, 2023).

During the subprime crisis in 2008, Credit Suisse, like many other financial institutions, was active in trading of mortgage-backed securities (MBSs) as well as collateralized debt obligations (CDOs), which in turn were linked to subprime mortgages. At the peak of the crisis, the bank lost more CHF 8 billion, with severe consequences on financial performance of the bank. In 2011, CS faced various allegations of helping tax evasion of US clients, who held various financial assets in Swiss bank accounts. The bank was pleaded guilty and had to pay $ 2,6 million fine. In 2021, the bank suffered heavy losses due to its high exposure on Archegos Capital Management, a family office specialized in private investments. The company operated through a high-leverage strategy and mainly invested in equity. Following financial turmoil in 2021, the company had to face some margin calls and finally resulted in liquidation. As a consequence, CS lost around $ 5,5 billion. Between 2020 and 2021, other than financial troubles caused by Covid-19, Credit Suisse also received allegations for failing to prevent money laundering, concerning Mozambique's government debt as well as to Bulgarian cocaine-trafficking, which mainly caused reputational damages to the bank other than fines for hundred million dollars[6].

In 2023 however, the situation became so critical that an emergency takeover from UBS was necessary to avoid the bankruptcy of a fundamental financial institution, designated as one of the "Global Systemically Important Banks" from the Financial Stability Board. The problems for Credit Suisse started to arise at the beginning of March 2023. At that time, Silicon Valley Bank was experiencing an outflow of deposits of $42 billion, and the FDIC decided also to shut Signature Bank, hoping to avoid the contagion effect. Alongside this critical scenario, Credit Suisse had to delay the publication of 2022 Annual Financial Report, because the U.S. Securities and Exchange Commission (SEC)

[6] Source: Leuenberger, F., 2023, "*Banking on the Edge: The Credit Suisse Story of Ambition, Risk and Ruin*"

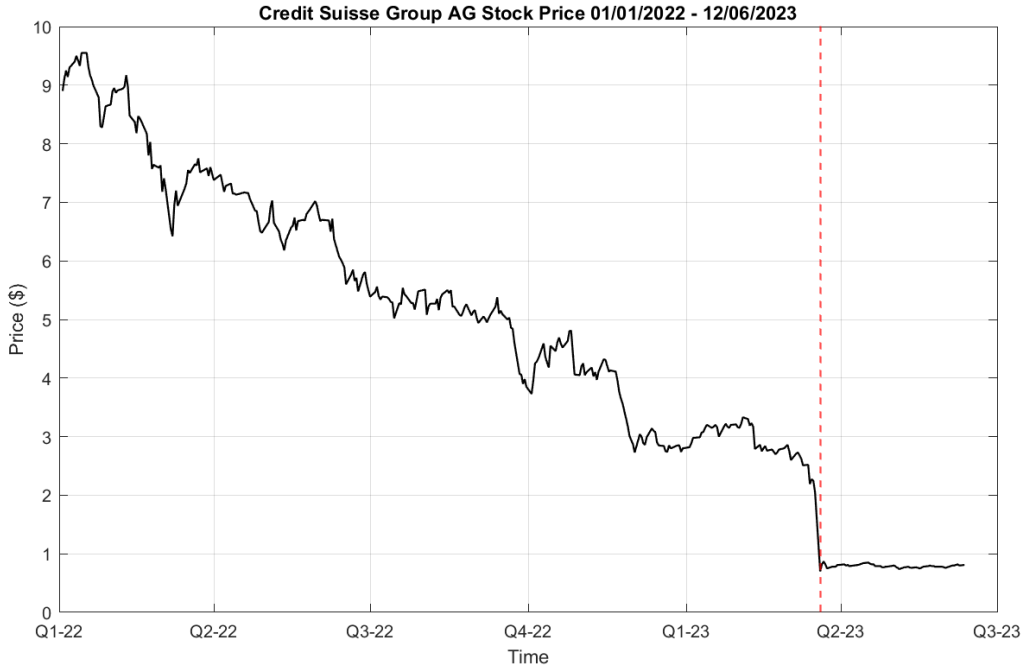
requested some clarifications concerning past Cash Flow Statements from 2019 and 2020. This delay in the publication, however, was perceived as a very bad signal for banks' investors, which were deeply concerned by the troubles in financial system in the US, and therefore feared that the financial position of Credit Suisse could be critical. This fear was confirmed a few days later, with the publication of the Report[7], which highlighted the bank's "material weaknesses" in their financial reporting which could have represented the exposure to some regulatory investigations, sanctions and therefore the expense of a significant amount of resources. Thus, the Annual Report raised even more doubts from investors towards the financial health of the bank, and as a consequence the stock price plunged significantly (Valiante, 2023).

In order to survive the plunge in stock price, Credit Suisse needed an injection of capital, but its largest shareholder, Saudi National Bank, could not give any more capital because of a regulatory restriction for banks to own more than 10% of the capital of other banks, and even though this fact was due by an external restriction, the markets interpreted it as a refusal to help the Swiss bank. As a consequence, even more negative sentiments concerning the health status of the bank started to spread, with depositors withdrawing about $35 billion in three days. The bank fell into significant financial distress, losing another 24% in its stock price value.

The only solution for the bank's survival turned out to be a takeover by UBS, which was promoted by Swiss National Bank, Swiss Federal Council and the Swiss Financial Market Supervisory Authority (FINMA). It was the first time since the Global Financial Crisis that a systemically important bank has been rescued to avoid bankruptcy (Shikha and Kapsis, 2023). The price of the acquisition was around CHF 3 billion, around half the stock price of Credit Suisse on the 17th of March 2023, which is plotted in Figure 4 and is represented by the red vertical dashed line.

[7] "UBS Annual Financial Report 2022" https://www.ubs.com/global/en/investor-relations.html

Figure 4[8]



The acquisition was accomplished also thanks to the massive liquidity injections and loss guarantees provided by Swiss financial authorities, as well as the wipeout of CHF 16 billion in Additional Tier 1 (AT1) bonds of Credit Suisse, ordered by FINMA. AT1 bonds are considered a relatively risky form of junior perpetual debt which is used to enhance the resilience of banks during periods of economic stress and provide a layer of loss-absorbing capital to be used in some critical situations. The introduction of this kind of financial instrument dates back to the Global Financial Crisis in 2008, and they were thought as a layer of protection for banks between equity owners and non-insured depositors.

The case of AT1 bonds of Credit Suisse is indeed very interesting, as it is the first time that a systemically important bank to write down such liabilities to avoid a formal resolution. In normal times, AT1 obligations can be wiped out in two cases: the first one concerns situations in which there has been a violation in capital requirements, in particular when Common Equity Tier 1 capital (CET1) goes under a pre-specified threshold. The second case instead concerns situations of restructuring or resolution of the bank when public support is involved, as banks' creditors should absorb some of the costs related to the resolution before public funds are employed. However, both

[8] Data Source: LSEG Refinitiv

situations did not concern the financial difficulties of Credit Suisse, which reported a CET1 ratio above the minimum threshold for solvability, and even in the second case, AT1 bonds were wiped out before the remaining equity capital, which allowed shareholders to preserve a total of $ 3 billion[9]. What happened with Credit Suisse AT1 bonds can be probably explained by a particularity of Swiss Banking Law, which allows the financial regulator (i.e., FINMA) to convert bank obligations partially or totally. This power has allowed FINMA to completely write off AT1 bonds of Credit Suisse for $ 16 billion, while the remaining $ 3 billion equity capital was preserved and acquired by UBS.

The merger between UBS and Credit Suisse for sure represents one of the most important banking unions in history, resulting from a rescue deal to avoid a systemic banking crisis that could bring the entire banking industry into severe financial distress. According to Böni et al. (2023), the merger had a significant impact on the wealth of shareholders and bondholders of both banks. Today, UBS group represents the fourth-largest bank by assets, with more than $5 trillion in Assets under Management (Walker, 2023).

[9] Source: Molteni, *Algebris Investments* (2023), "*Il curioso caso dei bond AT1 di Credit Suisse*"

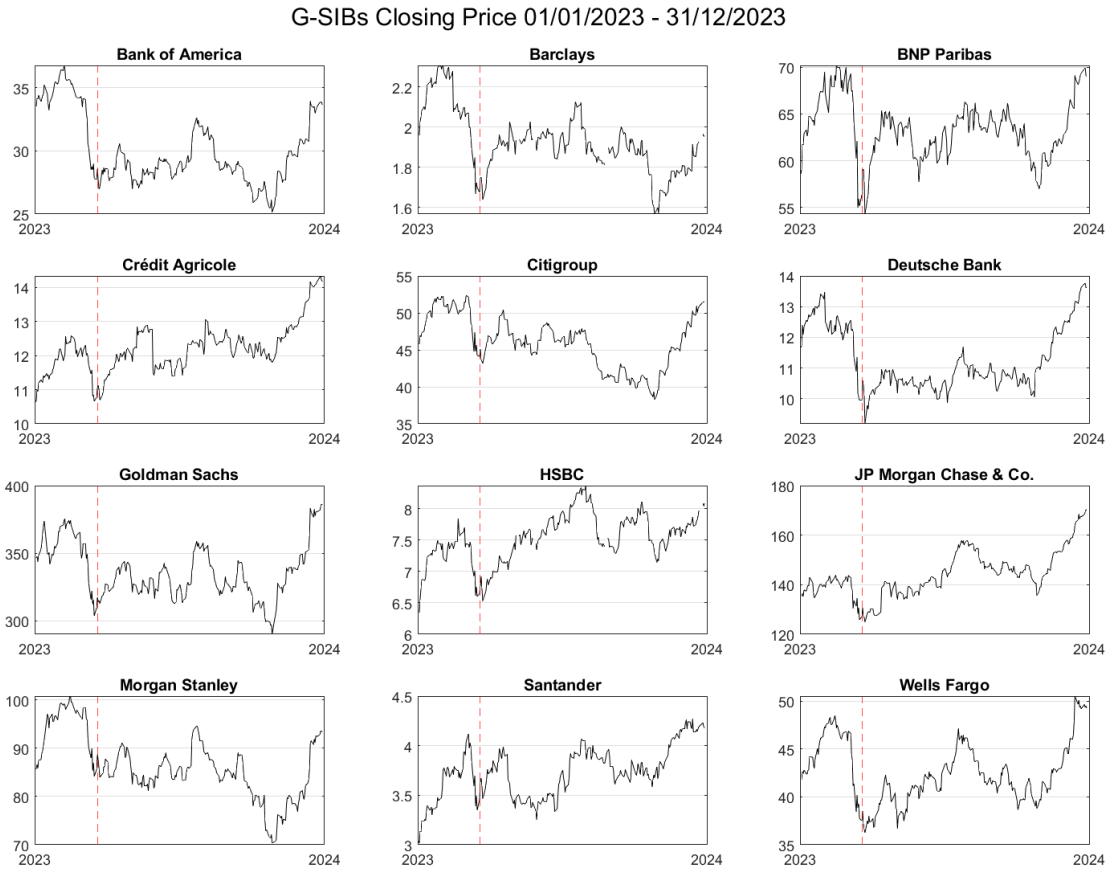
2.1.3 Impact on the Banking Industry

The collapse of SVB, Signature Bank, First Republic Bank and the subsequent takeover of Credit Suisse by UBS has triggered uncertainty and panic in the whole banking and financial sector, and since it represents a critical component of the "economic machine", a crisis in the banking industry can always bring a significant harm to the correct functioning of the global economy (Pandey et al., 2023), especially on the stock market, which reflects investors' confidence in the financial system. This impact is particularly strong during periods of high economic stress, with effects being mostly harmful for smaller banking institutions, which usually have less diversified assets and product portfolio and tend to have a higher exposure on fewer financial instruments. This is why the failure of SVB has caused bank runs in both Signature Bank and First Republic Bank among the others, posing serious doubts and uncertainty on the soundness of the world's financial sector.

Therefore, it is fundamental to understand which were the effects of the 2023 crisis on the most important banking institutions around the world, and how it has impacted on their financial situation. For this reason, in Figure 5 the stock prices of twelve of the most commonly known banks taken from the list of Global Systemically Important Banks of 2023 (G-SIBs) are plotted. The Figure allows to clearly see how the banking crisis occurred in March 2023 posed worrying doubts on the possibility of a contagion effect not only among regional banks, but also among the most important banking corporations worldwide. In each graph, a red dashed line shows the last available data before the announcement of the takeover of Credit Suisse by UBS.

All the considered banks experienced significant negative returns in the period right before the announcement of the acquisition because of the market turmoil that was caused by the failure of US regional banks. Right after the announcement of the deal, however, it's clear from the plot that the financial sector regained some confidence from investors because another global financial crisis was avoided thanks to the commitment of Swiss government and financial authorities and UBS. This shows the interconnectedness of the world's most important banking institutions and highlights even more how important it is to preserve the financial soundness of the whole financial industry, as sudden changes in geopolitical framework or macroeconomic policies can significantly harm weaker banks and can result in an uncontrolled contagion effect.

Figure 5[10]



These results are confirmed also by some recent empirical studies. Martins (2023) highlighted that for the 100 largest European listed banks, there were significant negative abnormal returns around the date of the announcement of the SVB failure and UBS-Credit Suisse deal, especially for those banks with a lower degree of financial health and with higher amounts of uninsured deposits. Similarly, Kraus and Some (2023) studied the connectedness of global banks analyzing the impact of Credit Suisse's takeover on other global banks, finding that there has been a contagion effect, which has quickly stopped after the takeover announcement. The study also shows how important the intervention of financial regulators is and how it can contain and possibly stop financial crises with new regulations and decisions.

[10] Data Source: LSEG Refinitiv

Another study published by Yousaf et al. (2023) analyzed the collapse of SVB, and showed that while there have been significant negative abnormal returns for many US equities, cryptocurrencies and global banks, while some other markets such as fiat currencies, energy markets, metals and other commodities have been substantially unaffected by the crisis. This gives an interesting insight on how the different markets reacted and provides useful information for investors, showing that is such a situation, many markets were substantially ignored by the crisis, therefore they could represent a solid alternative to safeguard investors' money in crisis periods.

To sum up, in the aftermath of the Covid-19 pandemic, expansive monetary policies have been introduced by Central Banks around the world, with very low interest rates aimed at stimulating economic growth. While this policy turned out to be successful at the beginning, in 2022 things started to change from a geopolitical level, with the outbreak of the war between Russia and Ukraine. The economic sanctions imposed on Russia from Europe and United States actually resulted in a shortage of energy resources, increased commodities' prices, and unprecedented high levels of inflation. To fight the running inflation, Central Bank started to raise interest rates always more, and some regional banks from US, with high exposure on government long-term debts, saw their investments losing value and investors withdrawing their funds. From this crisis, three regional banks failed and also a systemic bank like Credit Suisse almost hit bankruptcy. The contagion effect could have caused another global financial crisis, which was avoided thanks to the commitment of UBS and Swiss institutions, which resulted in the most important banking acquisition in modern history, and which created of the fourth-largest banking corporation in the world.

2.2 Application of the Evaluation Model

The goal of this chapter is to empirically analyze the takeover of Credit Suisse by UBS, highlighting the value created for UBS' shareholders. As remarked in the previous chapters, past literature suggests both qualitative and quantitative methodologies to understand under different perspectives the profitability of an M&A transaction.

For this reason, following the model outlined in the previous part of the dissertation, the analysis of the deal will start by looking at the benefits achieved by UBS from a more qualitative perspective, checking if there was some degree of bank diversification achieved as well as increased market power. This more qualitative analysis will also be complemented by a discussion on quarterly financial results reported by UBS in 2023, which already highlight some interesting results concerning the synergies achieved and the costs optimized during the first phases of the integration process. Next, a more quantitative analysis is provided, conducted through a standard event study methodology, but with multiple time windows considered, which allow to understand the reaction of the stock market both around the announcement of the deal and in the last months of 2023. This second part of the analysis and the different time windows considered allows to understand if some value has been created for banks' shareholders, or if maybe the market just tried to exploit some momentum around the announcement of the deal.

2.2.1 Increased Market Power, Bank Diversification and Profitability

Increased market power and bank diversification are two of the main drivers of M&A success among banks, as highlighted previously in the literature review. They represent one of the main components which leads to improvements in revenues, cost-efficiency and profitability. Analyzing the extent to which a M&A deal provides significant synergies from these perspectives allows to have an overall insight on the opportunities lying behind the deal itself. On the other hand, external market conditions can significantly impact, both positively and negatively, the ability of banks to achieve those synergies.

Despite the macroeconomic and geopolitical challenges brought by the outbreak of the war between Russia and Ukraine in 2022, and the consequent deceleration of both equity

and bond markets, increased commodities prices and higher inflation, UBS was able to deliver value to both its clients and shareholders thanks to its globally diversified business, with very strong market positions in US, Switzerland, EMEA and Asia-Pacific. The bank registered a net profit of $7.6 billion for 2022, with a market capitalization of $56.9 billion and a Return on Common Equity Tier 1 Capital (RoCET1) of 17%[11].

The bank continued with the same high performance also at the beginning of 2023, and as reported in their 1st Quarter Report of 2023[12], UBS Group CEO Sergio Ermotti claimed that the bank's "*solid underlying performance and strong inflows demonstrate that UBS is a source of stability for its clients during periods of significant uncertainty*". Furthermore, even though it has to be considered as an "emergency rescue", the acquisition of Credit Suisse has also represented a great strategical opportunity for UBS, which hopes to strengthen its position not only as universal banks in Switzerland, but also as a global wealth manager, with ca. $5 trillion in invested assets, operating in the most attractive growth markets. This significant consolidation of its market power can help UBS in bringing long-term sustainable value for its investors through efficiency improvements and product diversification that will allow the Swiss bank to scale up its leading position in all its business divisions[13].

Other than Global Wealth Management and Asset Management, which attracted more than $ 40 bn of new money in Q1 2023, UBS also planned to reinforce its competitive position in its Investment Banking division, by reducing the risk and resource redundancies of Credit Suisse IB division and by accelerating the strategic goals linked to the Global Banking and Research division. The objective was to remain strategically aligned to those capabilities and products sought by bank's institutional, corporate and wealth management clients. This division should account for approximately 25% of the whole Group's Risk-Weighted Assets (RWAs), and the overall combination of UBS and Credit Suisse, with all the complementarities and synergies achieved, is expected to generate an annual rate of costs reduction of more than $8 billion by 2027.

[11] Source: "UBS Annual Financial Report 2022", https://www.ubs.com/global/en/investor-relations.html
[12] Source: "UBS Q1 2023 Financial Report", https://www.ubs.com/global/en/investor-relations.html
[13] Source: "Creating sustainable value | UBS Global", https://www.ubs.com/global/en/our-firm/creating-sustainable-value.html

In the second quarter of 2023, UBS registered a record profit before tax of $29.2 billion, resulting from the complete acquisition of Credit Suisse, occurred on June 12th. This remarkable result was possible also thanks to the liquidity support and guarantees offered by Swiss National Bank during the takeover, which have been already repaid almost totally during the second quarter of 2023. UBS was able to maintain a strong capital position and continued to deliver value to its stakeholders after the full acquisition thanks to the reduced costs and economies of scale achieved, which allowed for a better resource allocation and targeted investments necessary for future growth of the Group[14].

The third quarter of 2023 saw UBS reporting a loss before tax of $ 255 million, which primarily reflects an increase in operating expenses coming from the full acquisition and consolidation of Credit Suisse operation. This increase is also visible from the 99,6% cost/income ratio. Despite the net loss, the bank continued to execute the integration strategy of Credit Suisse operations at a fast pace, and started to make important progresses for what concerns the risk-reduction and cost saving. By the end of 2026, in fact, the bank aims to achieve a gross reduction in the overall expenses of $ 10 billion with respect to the combined cost base of UBS and Credit Suisse at the end of 2022[15].

To conclude, the fourth quarter of 2023 reported very encouraging results for the completion of the integration plan, as the bank achieved a $ 4 billion gross cost savings and a $ 6 billion reduction in RWAs with respect to the combined cost and asset structure of Credit Suisse and UBS at the end of 2022. Despite this, the results reported an operating loss before tax of more than $ 750 million, and a cost/income ratio above 105%. The positive side concerns a 35% increase in revenues with respect to Q4 2022, mainly due to the consolidation of Credit Suisse revenues, which again shows how it is possible to increase market power and diversify the customer base by acquiring an important competitor.

In 2023, therefore, UBS was able to efficiently start the integration of Credit Suisse business division despite the critical macroeconomic conditions. At every quarter, the bank was able to report significant cost savings and scale economies improvements, and even though some other financial figures reported losses, the overall picture suggest that

[14] Source: “UBS Q2 2023 Financial Report”, https://www.ubs.com/global/en/investor-relations.html
[15] Source: “UBS Q3 2023 Financial Report”, https://www.ubs.com/global/en/investor-relations.html

UBS was able to start to create value almost immediately after the acquisition of Credit Suisse. This was possible because of several factors. First, the price paid for the acquisition was very low, as UBS paid around CHF 0,50 per share of Credit Suisse, which sums to more than $ 3 billion. This price is however very low, as Credit Suisse had lost almost all its market capitalization in the days preceding the deal, and therefore the value of the remaining equity capital was very low. This resulted in a very important opportunity for UBS to acquire an historic competitor for a ridiculous price and with enormous synergic potential. Second, the guarantees offered by Swiss government and financial regulators, as well as the wipe out of Credit Suisse's AT1 bonds, gave to UBS the necessary liquidity to absorb a great amount of losses after the acquisition.

The goal of the bank for the following years is to optimize the combined business division of UBS and Credit Suisse and achieve a higher degree of scale economies and capabilities while still providing sustainable long-term growth[16]. By 2026, the whole Group expects a sharp reduction of the underlying cost/income ratio, which should be maintained around 70%, creating the capital capacity to engage in investments aimed at enhancing the growth of the bank and achieve high scale economies. These investments should allow the bank to deliver a RoCET1 of 15% by 2026 and of 18% by 2028.

More specifically, all the business divisions aim to achieve specific tailored objectives. Global Wealth Management aims at exceeding the $ 5 trillion in invested assets in the following five years, also with an underlying cost/income ratio of 70%, which will result in $ 200 billion of net new assets annually; the same holds for Asset Management, which aims at achieving 70% cost/income by 2026. The Investment Banking Division aims at reaching a ROE of 15% (on attributed equity capital) while employing at most 25% of UBS' RWAs. Personal and Corporate Banking wants to cut costs even more, achieving an underlying cost/income ratio of 50% by 2026.

It's clear how all the business divisions mainly aim at reducing the overall expenses related to their respective business. This is because cost-efficiency is one of the major synergies that can be reached after a M&A and can significantly impact the overall profitability of the company. In fact, while increasing revenues usually imply also some extra costs associated to them, reduction of expenses can be reached by the combined entities through the exploitation of scale economy and the elimination of redundancies

[16] Source: "UBS Q4 2023 Financial Report", https://www.ubs.com/global/en/investor-relations.html

in common businesses, improving the amount and quality of services provided at a lower cost, increasing the margins and therefore profitability. As both UBS and Credit Suisse are global leaders in Asset Management, Investment Banking and Wealth Management, the combination of their business lines will probably result in significant synergic gains for UBS Group, which will therefore increase its market position among the biggest banking corporations, diversify its product offerings by exploiting the capabilities acquired by Credit Suisse, and also improve both the cost-efficiency of the overall group and the amount of revenues, because of the broader customer base.

Are the above results feasible? The question is not trivial at all. In fact, bank's assumptions and expectations on the future economic outlook must be taken into consideration when analyzing financial statements and forecasts, so a deeper analysis is needed.

According to UBS' forecasts, Central Banks are expected to lower short-term interest rates in 2024, even if the magnitude and timing of such interventions are still very uncertain because of the ongoing tensions in Middle East and Eastern Europe, which can highly influence the path covered by inflation rates[17]. On the other hand, UBS has already proved that during high uncertainty periods it managed to successfully survive and provide value to its stakeholders, even with a very difficult integration process ongoing. In fact, the bank still expects improvements in profitability in all its business division.

According to the International Monetary Fund[18], there are encouraging signals for global economic growth above 3% for both 2024 and 2025, with higher forecasts compared to the ones provided at the end of October 2023. Moreover, inflation rates are falling faster than expected in most regions, as a consequence of the restrictive monetary policies introduced throughout 2022 and 2023. It is therefore very likely that, in those countries where the inflation is quickly falling to the target level, Central Banks will slowly start to adjust interest rates levels to a less restrictive stance, as the following graphs show:

[17] Source: "UBS Q4 2023 Financial Report", https://www.ubs.com/global/en/investor-relations.html
[18] Source: "World Economic Outlook Update, January 2024", International Monetary Fund, https://www.imf.org/en/Publications/WEO/Issues/2024/01/30/world-economic-outlook-update-january-2024

Figure 6

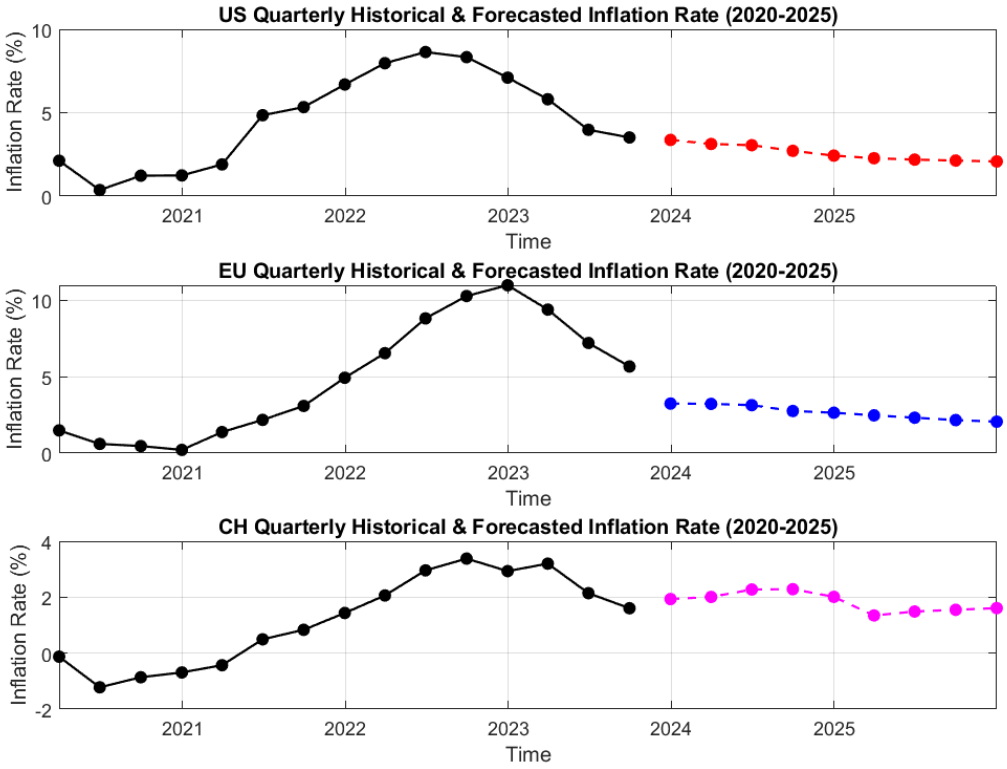


Figure 7

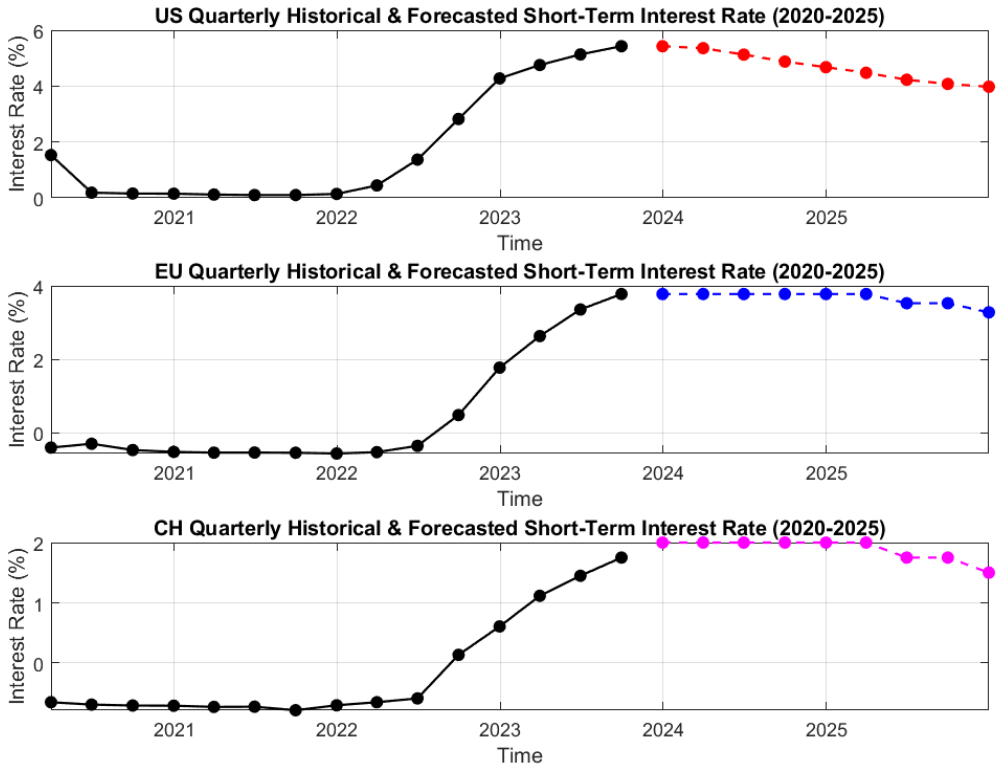


Figure 6 and Figure 7 show the evolution of historical quarterly inflation rates and short-term interest rates in the US, EU and Switzerland (CH) starting from 2020[19]. The colored dotted lines show a forecast of quarterly future values of these fundamental economic indicators for 2024 and 2025. From the graphs it's clear that the global economy is starting to recover from the financial difficulties emerged after the pandemic and the outbreak of the war in Eastern Europe. Both EU and US expect to reach their target inflation rate in 2025, and also interest rates are following a similarly decreasing pattern. Switzerland, instead, is already experiencing inflation levels around 2% and actually expects lower rates in 2025.

More specifically, IMF reports that global inflation is expected to decrease from the annual 2023 average of 6,8% to 5,8% in 2024 and 4,4% in 2025. This estimate of decreasing inflation should be applicable to almost 80% of world's countries. In addition, advanced economies (as the ones plotted) should experience a faster decline in inflation with respect to other emerging and developing countries, with a 2% decrease in inflation only in 2024, reaching a level slightly above the 2% target. With these favorable conditions, therefore, most central banks are expected to lower interest rates in the near future, even though the timing is still unknown. These changes in economic conditions will therefore also influence UBS' ability to reach its integration objectives, cost-savings, and long-term sustainable growth.

It is interesting to note that, according to UBS' analysts, a parallel shift in yield curves by +100 basis points (i.e., 1%) could lead to a combined increase in annual net interest income of approximately $ 1.8 billion in the first year after such a shift. Of this increase, approximately $ 1.1 billion, $ 400 million, and $ 100 million would result from changes in Swiss franc, US dollar and Euro interest rates, respectively[20]. On the other hand, a parallel shift in yield curves by -1% could lead to a combined decrease in annual net interest income of approximately $ 1.9 billion in the first year after such a shift, divided into similar currency contribution as above. Therefore, increases in interest rates could represent a profit improvement for UBS, while the more favorable economic conditions resulting from decreased interest rates can give a significant stimulus to the overall economy, and the Helvetic bank could more likely reach its cost-efficiency objectives by the established deadlines. In other words, UBS could profit in both cases, no matter

[19] Data Source: OECD Data https://data.oecd.org/
[20] Source: "UBS Q4 2023 Financial Report", https://www.ubs.com/global/en/investor-relations.html

what the Central Banks will do in the future, but for a smoother and faster integration of Credit Suisse's business lines, more favorable conditions are needed, as they can provide higher long-term sustainable value to shareholders.

These are of course estimates, which can also be radically influenced by both upside and downside risks. For example, inflation itself could fall at a faster rate than the predicted one, giving a further boost to the economy. Moreover, the further development of Artificial Intelligence (AI) is expected to provide a significant boost to company's productivity and profitability, especially for advanced economies, which are the most likely to quickly adopt such technologies.

More specifically, in recent years AI is being tested and implemented in several areas, and it's evolving rapidly into a transformative technology with an enormous potential for productivity and efficiency improvement not only for companies and banks, but also for people's everyday life. Concerning banks, they have been historically early adopters of new technologies and innovations. For instance, ATMs and other IT applications such as online banking have significantly simplified those repetitive tasks, and made bankers to focus on other banking services and practices[21]. Moreover, after the Covid-19 crisis, the digitalization of processes in all industries has grown exponentially, and new technologies such as AI have increasingly transformed the way companies do business. For this reason, investments in AI in the last years have been constantly increasing, from $ 24 billion globally in 2018, to $ 50 billion in 2020, and are expected to arrive at $ 110 billion in 2024[22]. This is because the introduction of AI in banking is expected to give a significant boost to banks' cost reductions, efficiency, and productivity, while also improving the quality of services offered to customers, who will be able to autonomously perform some simple and repetitive tasks with a more customized experience. For example, it is possible to apply AI in either front office and back-office operations, as well as in risk management, trading and portfolio management practices or regulatory compliance practices[23]. Specifically, AI can be used in identifying fraudulent transactions, as well as in customer support practices, marketing chatbots and smart wallets, which simplify daily operations of customers, and offer a higher degree of security. A more interesting application concerns the implementation of AI systems

[21] Source: Kaya (2019), https://www.dbresearch.com/
[22] Source: OECD Report: "*Artificial Intelligence, Machine Learning and Big Data in Finance: Opportunities, Challenges and Implications for Policy Makers*" (2020)
[23] Source: Kaya (2019), https://www.dbresearch.com/

to assist the client in loan and credit decisions, as well as in portfolio management practices, ensuring a record-high degree of process automation which furtherly improves the efficiency of bank's operations reducing human error and timing[24]. In other words, it is necessary for banks to start adopting these new technologies and be "AI-first" to remain competitive on the market, as the falling costs for data acquisition and storage, as well as continuous advancements in technology and the evolution of traditional financial services, can improve bank's ability to boost revenues, lower costs and thus achieve fundamental profitability goals and discover new opportunities on the market[25].

On the other hand, some downside risks such as the war between Israel and Gaza, the attacks in the Red Sea, and the conflict between Ukraine and Russia still represent a non-negligible threat to the world's economic stability. In fact, Middle East currently provides more than a third of the world's oil export, and almost 15% of total gas exports. Similarly, the Red Sea is a strategically fundamental spot for global sea trade, and tensions in that area are already causing peaks in transportation costs and delays. Therefore, a worsening in the current geopolitical situation can lead to significant turbulence and possibly to another worsening of economic conditions worldwide.

Summing up, the low price paid for the acquisition, as well as the liquidity guarantees provided by government authorities allowed UBS to successfully acquire Credit Suisse and start a complex integration process which has already provided some interesting synergic results. The bank was able to report in its quarterly reports cost-savings and improvements in revenues, also showing how its business divisions are already increasing their market power globally and how they intend to cut their respective business-related costs. This means that, although the deal has been officially concluded on the 12th of June 2023, the bank has already been able to create financial value for its stakeholders and expects to cut several billions in costs in the next three to five years, maintaining a high level of profitability. Having said so, it is clear that progresses in Credit Suisse's integration in UBS' business and improvements in bank's performance cannot be measured linearly in the following years, but at the end of such delicate process, UBS will be able to provide a broader product offering, while reinforcing its financial strength in all of its divisions and affirming itself once more as one of the

[24] Source: Umamaheswari et al. (2023), "*Role of Artificial Intelligence in the Banking Sector*"
[25] Source: McKinsey & Company Report: "*AI in banking: Can banks meet the challenge?"*

greatest banking corporations worldwide. Moreover, even though the current macroeconomic and geopolitical scenario can still influence the development of the deal, the process of business integration and product and customer diversification can ensure UBS a great performance even in uncertain times, as it has been demonstrated by financial data so far.

The combination of the two banks will therefore bring both increased market power to UBS and diversified banking products, while maintaining a solid capital structure and financial health, creating long-term sustainable value, and increasing the trust of customers. The value created so far is therefore expected to increase in the following years, and if this is actually the case, also investors' sentiment should be positive towards UBS' performance. Therefore, analyzing the stock market performance not only around the day of the announcement, but especially in the months following the conclusion of the deal, it should be possible to see whether this long-term value created by the bank was effectively perceived by the market. Thanks to the event study methodology, it is possible to understand the impact of financial results obtained so far as well as the future expectations reported by the bank itself. As the bank reported positive financial results, reduction in the overall costs as well as improved revenues and increased market share, it's reasonable to expect positive abnormal returns.

2.2.2 Event Study for Stock Market Performance

As described in section 1.2.3, Event Studies are aimed at assessing the impact of a specific event on the value of a security or a group of securities. To perform an event study, it's therefore necessary to look at the response of stock prices around the public announcement of the event. To understand such behavior, abnormal returns are calculated with respect to the expected return of a security for a given period. Expected returns are in turn obtained by a pre-specified reference model, such as a Market Model, CAPM or other multi-factor models such as those studied by Fama & French.

Methodology Description:

To analyze the stock market reaction to the takeover of Credit Suisse, the Event Study methodology was applied using a Market Model as a reference to compute expected returns. The dataset and the computations are described in the following paragraph.

The market model relates the return of a security to the return of a market portfolio (i.e., a reference market) with the following a linear relationship:

$$R_{it} = \alpha_i + \beta_i * R_{mt} + \varepsilon_{it}$$

Where:

- R_{it} is the return of the observed stock *i* at time *t*.
- α_i is the intercept.
- β_i is the regression coefficient, measuring the sensitivity of R_{it} to R_{mt}.
- R_{mt} is the return of the reference market at time *t*.
- ε_{it} is the error term, which is a random variable with expected value equal to zero and finite variance.

To perform the computation, the MSCI World Banks Index has been used as a reference market. It is a subset of the broader Morgan Stanley Capital International World Index, and it is a sector-specific stock market index composed of large and mid-cap stocks of companies classified in the Banks Industry group across 23 Developed Market Countries[26].

[26] See: https://www.msci.com/

For this study, Log-Returns have been calculated starting from the historical prices of both UBS and the reference market. To compute them it is sufficient to take the logarithm of the relative change of the price of a security from one period to another, as the following formula shows:

$$R_t = \ln\left(\frac{P_t}{P_{t-1}}\right)$$

The same methodology has been used to compute both the Log-Returns for UBS (denoted by R_t) and the Log-Returns for the reference market (denoted by R_{mt}).

To understand the relationship between the stock performance of UBS and the reference market, the OLS methodology has been used to estimate the parameters α and β in the model above. Following past empirical research, a 250-days (i.e., one year) estimation window is usually employed (see section 1.2.3 above). It is important to use a large estimation window to obtain an accurate estimate of the aforementioned parameters, which in turn express how the observed stock relates to the reference market. In this particular scenario, however, more variables have to be taken into consideration. In fact, adopting the "standard" 250-days' time horizon, the estimation window should go from February 2022 to February 2023, as the month of March 2023 will be used in the event window and therefore cannot overlap with the estimation. In February 2022, however, the war between Russia and Ukraine started, and according to Martins et al. (2023), who studied the short-term impact of the beginning of the conflict on the stock market for a dataset of the 100 largest European listed banks, there was a significant negative stock price reaction around the outbreak of the war, also with a broader impact on global economy with respect to other conflicts, because of the economic sanctions imposed on Russia which had serious consequences also on other countries. For this reason, in this study a slightly shorter estimation window is used, in order to exclude from the computation the adverse stock market reaction which followed the outbreak of the war, and which could impact the estimation of the parameters and give less accurate results. The estimation window therefore goes from 21/03/2022 to 16/02/2023, and comprehends 230 daily observations.

The estimated parameters α and β (denoted by $\hat{\alpha}$ and $\hat{\beta}$) are then used to compute the expected return for the observed security, which will be subsequently compared to the realized returns, obtaining the abnormal returns as follows:

$$AR_t = R_t - E(R_t) = R_t - (\hat{\alpha} + \hat{\beta} * R_{mt})$$

In the following passage, Cumulative Abnormal Returns are obtained by summing the Abnormal Returns over the time window observed:

$$CAR = \sum_{t=1}^{n} AR_t$$

where *n* is the number of observations in the time window.

Following what has been proposed by Cybo-Ottone and Murgia (2000), multiple event windows have been employed, allowing to understand the effective impact of the event both in a shorter and in a longer time frame. First, the event window will take into consideration the so-called "symmetric daily event-windows", which consider daily observations for the same number of days both before and after the event itself. The analysis will start by looking at a [-20, +20] event window (i.e., twenty days before and after the event), then other four event windows are analyzed, namely [-10, +10], [-5, +5], [-2, +2], and [-1, +1].

Other than symmetric windows, also some "asymmetric event-windows" will be employed, focusing on the stock market reaction both before and after the event day (denoted by *t*), but separately. These time windows will be both daily and monthly, divided as follows:

- *Asymmetric Daily* (before the event): [-20, *t*], [-10, *t*], [-5, *t*], [-2, *t*], [-1, *t*]
- *Asymmetric Daily* (after the event): [*t*, +1], [*t*, +2], [*t*, +5], [*t*, +10], [*t*, +20]
- *Asymmetric Monthly* (after the event): [*t* + 5 month], … , [*t* + 9 months]

Therefore, four different sets of CARs will be obtained, providing insights on both the immediate reaction of stock markets at the moment of the announcement of the acquisition and on the stock market performance in the last months of 2023, also following the quarterly financial results published by UBS throughout the year.

Discussion on Results:

The tables[27] below report the results for the computations described in the previous pages. The first table shows the Cumulative Abnormal Returns for the Symmetric Daily Event Windows, while the second, the third and the fourth one represent the Asymmetric Daily and the Asymmetric Monthly Event Windows respectively:

Table 1: Symmetric Daily Event Windows

Time	CAR (%)
[-1,+1]	7,55
[-2,+2]	7,05
[-5,+5]	4,07
[-10,+10]	5,98
[-20,+20]	3,34

Table 2: Asymmetric Daily Event Windows (post-deal phase)

Time	CAR (%)
[t,+1]	10,44
[t,+2]	8,55
[t,+5]	4,40
[t,+10]	6,61
[t,+20]	1,85

Table 3: Asymmetric Daily Event Windows (pre-deal phase)

Time	CAR (%)
[-20,t]	3,81
[-10,t]	1,69
[-5,t]	1,99
[-2,t]	0,82
[-1,t]	-0,57

Table 2: Asymmetric Monthly Event Windows

Time	CAR (%)
t + 5m	6,98
t + 6m	12,92
t + 7m	9,28
t + 8m	8,13
t + 9m	12,44

[27] Source: author's own computations

The tables show a positive stock market reaction to the announcement of the acquisition of Credit Suisse, and this result goes against most of the past empirical literature, which claimed that many times the acquiring company was not able to generate abnormal returns.

The results of the event study conducted with symmetric daily event windows are reported in Table 1, which shows that UBS obtained positive cumulative abnormal returns above 7% both in the [-1, +1] and in the [-2, +2] windows, which represent the nearest days around the day of the announcement. The results are still positive even if larger time windows are considered. In fact, the positive cumulative abnormal returns are still visible in [-5, +5], [-10, +10], [-20, +20], showing the positive sentiment of UBS' investors after the acquisition, with a CAR of 4,07%, 5,98% and 3,34% respectively.

This aspect is even more evident by looking at Table 2, which summarizes the results for daily event windows in the post-deal phase. In this case, therefore, only the days following the announcement are considered, and the first observation coincides with the day of the event. UBS gained a positive CAR of more than 10% in the two days after the deal, and this positive trend continued up to ten days after the deal, with a cumulative abnormal return of 8,55%, 4,40%, and 6,61% in the [t, +2], [t, +5] and [t, +10] respectively. These data show that, on average, the banking industry reacted more slowly with respect to UBS' investors at the announcement of the deal. A possible explanation might be the uncertainty that surrounded the whole financial industry after the collapse of US regional banks in that period, which has spread the fear of a widespread contagion effect that could have brought another global financial crisis.

It is also interesting to note that, on average, UBS was able to obtain higher returns compared to the reference market also in the pre-deal phase, as it is reported in Table 3. An explanation of this positive result comes from the solid underlying results and positive liquidity of the bank even in uncertain market conditions, which have also been reported in UBS Q1 2023 Financial Report[28]; in fact, the diversified business model of the bank and its capital-generation ability allowed UBS to be a source of stability for customers and part of the solution for the critical economic conditions.

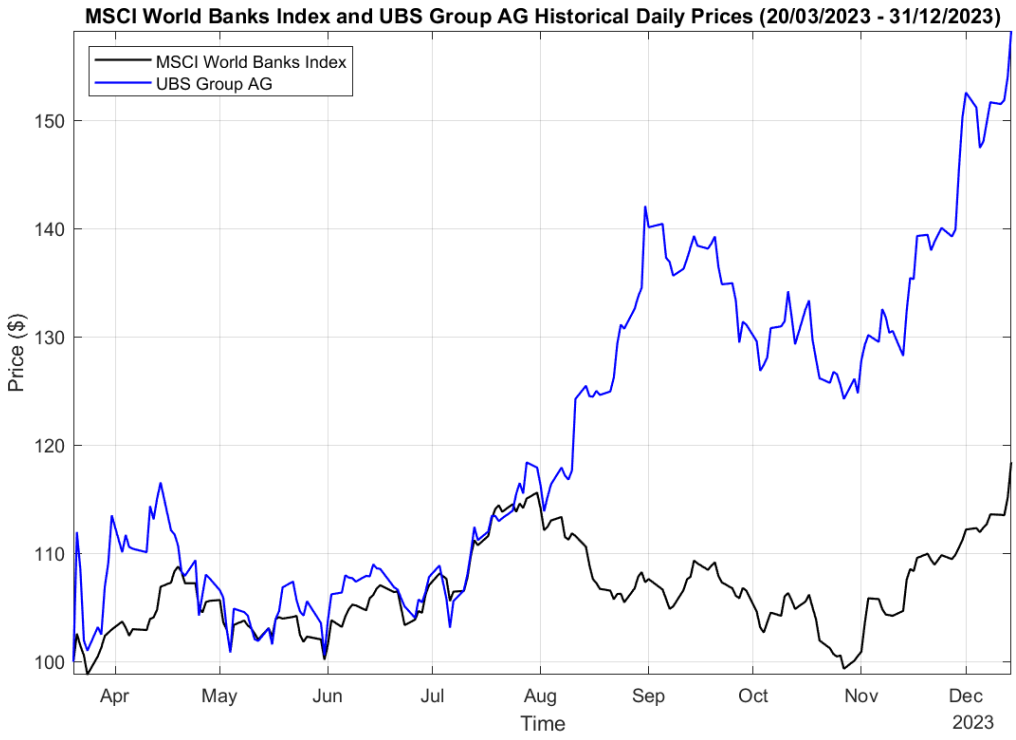
[28] Source: "UBS Q1 2023 Financial Report", https://www.ubs.com/global/en/investor-relations.html

An even more interesting result is the superior performance the bank achieved with respect to the reference market in the months following the acquisition. The time windows considered are those starting from the day of the announcement and ending in the last months of 2023. In particular, results are provided from [t + 5m], which includes all the daily observations up to the publication of UBS Q2 2023 Financial Report, occurred at the end of August 2023, up to [t + 9m], which represents all the daily observations starting from the event day up to the end of 2023. In the UBS Q2 2023 Financial Report[29], the bank reported a record $29,2 billion Profit Before Taxes after the full acquisition of Credit Suisse. The bank also started to implement the process of integration of CS' business divisions, achieving some significant synergic gains and scale economies. Table 4 shows the asymmetric monthly event windows, and from the data it is clear that UBS reached very strong positive cumulative abnormal returns in the last five months of 2023. A 6,98% CAR was achieved in the first five months after the acquisition, showing the early progresses obtained by the bank and the positive sentiment of investors towards the financial stability of UBS and the belief towards a positive final consolidation of the engaged banks. Therefore, this result proves that abnormal returns obtained by UBS around the day of announcement were not related to some sort of momentum strategies by some speculative investors, but reflected an overall positive sentiment both towards the outcome of the deal and towards an improvement of the global financial stability after the crisis that has affected the banking industry. From [t + 6m] onwards, CARs likely reflect the stock market reaction to the publication of Q2 and Q3 results. The synergies achieved in terms of cost-savings, revenue improvements and increased market power are strongly reflected in UBS' stock performance, which registered significant cumulative abnormal returns of 12,92% in the six months after the announcement. CARs were maintained also in the following months, as suggested by the other results reported in Table 4, which show UBS' significant positive abnormal performance with respect to the reference market of 9,28%, 8,13 % and 12,44% in the [t + 7m], [t + 8m] and [t + 9m] event windows respectively.

[29] Source: "UBS Q2 2023 Financial Report", https://www.ubs.com/global/en/investor-relations.html

Figure 8

Figure 9



It's easy to visualize this abnormal performance also graphically, by looking at historical prices of UBS and MSCI World Bank Index in that period, as shown in the two figures in the previous page[30]. The first one shows the performance of UBS' stock and the MSCI World Bank Index separately, while the second one plots the two historical prices together starting from the day of the announcement, appropriately re-scaled to be compared and draw some interesting conclusions. More specifically, Figure 9 has been obtained by indexing the first observation of both UBS and MSCI World Bank Index to the value of $100, and then the subsequent values have been computed according to the historical daily returns of the two securities. Even though the two separate plots in Figure 8 already give an idea on the different stock price pattern, the indexed series plotted in Figure 9 provide even more insights on the financial stability and profitability of the bank with respect to the reference market in the second half of 2023, in which the encouraging quarterly financial results gave more confidence to investors on the outcome of the takeover. This graphical perspective therefore confirms the results showing the superior performance reported by UBS with respect to the reference market in Table 4.

Summing up the results, it is clear that UBS experienced a series of significant cumulative abnormal returns in 2023, both around the date of the acquisition and in the months following the deal. In general, the financial stability and the diversified business portfolio of UBS allowed the Swiss bank to stay ahead of its competitors during a period of high financial turmoil, and this is confirmed by the results reported in Table 3, showing a better performance of UBS with respect to the reference market in the days preceding the announcement of the deal. The stock market has then welcomed very positively the acquisition of Credit Suisse, which was seen as the only possible solution to avoid a systemic banking crisis. CARs around the day of the announcement were well above 7%, but some doubts could come to mind concerning the possibility for speculative investors involved in some momentum strategy, trying to exploit a bull market phase. These doubts are rejected if longer-term results are considered. For instance, even 10 days after the announcement, CAR was still above 6%, but most importantly, the abnormal performance registered in the months following the

[30] Data source: LSEG Refinitiv;

conclusion of the deal confirm that the positive sentiment of investors was linked to a perception of long-term value creation.

It is very interesting to note that the results achieved by this study are in stark contrast with respect to past literature, which mainly found out that in bank M&A deals, almost no value was created, especially for the acquiring company, while for the target some little value was sometimes observed. There are two co-existing explanations to this result, and both played a crucial role in the positive outcome of this acquisition. The first explanation to this result is that since both the macroeconomic and geopolitical scenario of 2022 and 2023 had significantly impacted the financial stability of many important banks worldwide, also leading to the failure of three regional banks in the US, investors feared that a contagion effect could have brought another global financial crisis. Therefore, the markets likely reacted very positively to the announcement of the takeover of Credit Suisse as they considered as the unique way to save global financial industry from another long-lasting recession. Moreover, the foreseen ease of monetary policy from Central Banks, as well as technological improvements in artificial intelligence and IT solutions is likely to impact even more positively on worldwide banking industry growth and profitability. The second possibility is that the superior performance achieved in the last months of 2023 is very likely a result of the positive financial performance of the bank after the completion of the acquisition and symptom of the interesting synergic savings already obtained in the early stage of the integration process of Credit Suisse's operations in UBS' business divisions.

It is therefore clear that this M&A deal has represented an unprecedented opportunity for UBS, and it has undoubtedly created value for bank's stakeholders. It is also clear that the value which is visible through the analysis of financial statements, and which is forecasted for the next years, has been reflected in the stock market performance of the last months. Therefore, this proves that analyzing a M&A deal through financial statements analysis, looking for evidence of increased market power, product diversification, as well as scale economies and revenue improvements is an effective starting point to assess value creation. Such value, if it exists, will be then reflected into stock market performance. Otherwise, evidence of costs savings without significant stock market returns might not be so long-term oriented, and will not impact financial stability of banks involved, while positive stock market performance on its own might just represent some momentum.

Final Considerations

The research conducted by this thesis highlighted the most important strategic and financial synergies that banks look for when engaging in M&A transactions, and which in turn are drivers to provide long-term value to their shareholders. In particular, banks engaging in M&A should always look for synergies which allow them to improve their cost efficiency, increase revenues and achieve a larger customer base, boosting bank's profitability. Therefore, analyzing a specific transaction under this perspective, also considering the relative macroeconomic scenario, can give significant insights on the success of the deal, at least in the near future. The same success can be easily checked by looking at the stock market reaction of the involved banks, as the behavior of stock price reflects the sentiment of investors and of the market in general. If the deal creates value for the companies involved, then the stock price should reflect this value with some abnormal returns with respect to a reference market, not only around the announcement of the deal, but especially in a longer time period, such as the months following the completion of the deal itself.

For this reason, this thesis argues that both a qualitative and a quantitative evaluation is necessary to provide a comprehensive analysis of a specific deal. The qualitative evaluation concerned the analysis of external macroeconomic factors and strategic and financial synergies such as increased market power, bank diversification and cost efficiency. The quantitative part, related to the stock market reaction, has been conducted with a standard event study methodology, conducted over different time windows to assess the stock performance over different horizons.

To the purpose of this thesis, the above methodology has been used to discuss and analyze the acquisition of Credit Suisse by UBS, which probably represents the most delicate and complex bank M&A from the subprime crisis in 2008, and which can also represent the beginning of a new era for the global banking industry.

Concerning the qualitative analysis of the deal, the first step was the discussion of the macroeconomic and geopolitical framework of 2023, which was found to be a consequence of the financial uncertainty brought by Covid-19 pandemic and the war between Russia and Ukraine. The results of this preliminary analysis showed that, in order to fight the running inflation caused by economic sanctions imposed on Russia in

2022 and the consequent shortage of energy sources and commodities, Central Banks started to raise interest rates. This restrictive monetary policy continued throughout 2022 and the beginning of 2023 and had a tremendous impact on those banks with high exposure on governmental securities. This caused liquidity issues, significant losses, and bankruptcy for three US regional banks, which also caused a significant contagion effect also on other global systemic banks, such as Credit Suisse, which was already in a turbulent financial situation and had then to be acquired by UBS in an attempt to avoid bankruptcy, which would have probably caused the spread of another global financial crisis such as the one in 2008.

The analysis continued by analyzing the financial performance of UBS, reported in quarterly financial statements of 2023. The results showed that, even in 2022, UBS was able to provide positive value to its shareholders thanks to its globally diversified business portfolio and its capital-generating capabilities. The same positive results were registered throughout the first quarter of 2023, when the acquisition of Credit Suisse was announced. The solid profitability of UBS, combined with the liquidity guarantees provided by the Swiss government, the wipeout of $ 16 billion AT1 bonds of Credit Suisse, and the very low price paid for what remained of CS' equity capital, allowed UBS to successfully acquire its competitor and absorb a very large amount of losses, while starting to integrate the business division of the two banks already in the second quarter of 2023. According to UBS' forecasts, in the next years the bank is expected to save dozens of billions in business costs, while increasing the revenue stream thanks to the improved business portfolio and customer base globally. All the business divisions of UBS, therefore, expect not only to drastically cut operating expenses, but also to consolidate their business position all over the world. In the following years, UBS is expected to become the fourth largest bank by assets, managing more than $ 5 trillion.

The quantitative part of the study, as mentioned above, was conducted through an event study. The goal of this second part of the analysis was to understand whether the value created by the acquisition, which was identified by some synergic gains in terms of economies of scale and increased market share, was also reflected in a positive sentiment of the market towards the completion of this deal. A significant abnormal return found with respect to a reference market would represent a confirmation of such theory.

To this purpose, the stock market return of UBS was compared to a reference market (i.e., the MSCI World Bank Index). In a first stance, the comparison involved different daily event windows surrounding the announcement of the deal, to understand the stock market reaction and investor sentiment in the very short-term. The results showed a positive cumulative abnormal return even after 20 days from the announcement. This result is a consequence of the difficult economic conditions of the first quarter of 2023, which saw the collapse of many US regional banks, and which led to a contagion effect also on the stock prices of other banks, spreading the fear of another global financial crisis. Following this short-term analysis, the event study was also conducted over the following months of 2023, showing significant positive cumulative abnormal returns between 6% and 12%. These results confirm the encouraging results published by UBS in the quarterly financial statements, which reported synergic gains and costs savings even after few months from the completion of the acquisition, and with forecasts of multi-billion savings in the next three years. Therefore, this result confirms that the positive financial performance resulting from the synergies achieved after the deal are reflected also in the stock price of the bank.

In conclusion, it is possible to affirm that the acquisition of Credit Suisse has created value for UBS' shareholders, for a variety of reasons. The solid financial position of UBS was able to sustain the costs of the takeover, which however occurred with favorable conditions for the acquirer. Furthermore, the internal capabilities of UBS allowed to start the integration process of the business divisions of the two banks quickly and efficiently. The synergies gained in terms of cost savings and increased market share, combined with more favorable economic conditions forecasted for the following years, will create the fourth largest banking group in the world.

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