FIG in Focus

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Welcome to FIG in Focus

This newsletter is part of Adeva Partners continuous learning platform.

The Demise of Credit Suisse: Lessons Learned

The aim of these articles is to better understand "what went wrong" at Credit Suisse to enhance our analysis and help us make better informed investment decisions.

The failure of Credit Suisse in March 2023 was the first-ever failure of a Globally Systemically Important Bank (GSIB) under the post-2008 resolution regime. It raised wide-ranging questions: Did the Swiss resolution regime work 'as intended'? Are liquidity regulations effective?

In this issue, we examine what happened to Credit Suisse in three parts:

1. Corporate Culture and Risk Management: What role did the bank's corporate culture play in the series of risk management failures?
2. Stable Funding: What can we learn from the speed of the deposit run on the bank?
3. Resolution: What insights can we glean into the riskiness of AT1 securities?

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1. Corporate Culture: Was Culture the Root of Credit Suisse's Problems?

Corporate culture can be regarded as the "way we do things around here". Culture will infuse an institution's individuals in a way that they may not even be aware of themselves. The "way we do things" also fundamentally applies to risk management. Santander's former Chairman, the late Emilio Botin, built the bank from a medium-sized Spanish regional bank to a global giant. He regarded risk management as the "bedrock of any bank's foundation". In doing so he set the "tone from the top" in establishing a corporate culture that took risk management seriously.

A strong risk management culture has the following fundamental qualities:

- **Risk management is part of the organization's fundamental business activities.** We have all heard stories of organizations where risk management was regarded as "the business prevention department". Such cultural attitudes regard risk as a hurdle to be overcome, or even worse, circumvented. Only by making risk management part of everyone's day job can a true risk management culture be infused throughout a business.
- **Vigilance:** An organization's risk management must constantly measure and monitor its risk levels in relation to its strategic objectives via its risk appetite. This applies as much to the risks it has acquired historically as it does to new risks it is considering.
- **Adaptive:** We live in a world where regulation, politics, financial conditions, economics, and even culture constantly modify the levels of risk that an organization faces. Unless the risk management system adapts to its environment, it will become less effective. This means that a risk management culture must have an inbuilt "radar system" that allows it to identify environmental changes and calibrate or adapt risk management accordingly.
- **Openness and transparency:** In large organizations, the flow of information can be hindered by poor governance, political motives, or inadequate systems. In risk management, this can be the source of problems as (a) risks remain hidden resulting in much larger remediation costs or, (b) the organization fails to learn from its past mistakes and repeats the loss.
- **Lead from the top:** An organization will take cultural cues from its senior leaders. Botin's quote above is a formal statement that risk management was of high importance within the firm, but the way that leaders actually act will send potentially even more powerful cultural signals which have the potential to override formal creeds.

Credit Suisse's annual reports describe a risk culture in which all these principles are incorporated. However, the reality of the last few years' events show that the bank's actual risk management culture, at an operating level, was substantially different from that described in the bank's annual report, and therefore presumably as described in its internal policies.

EXAMPLES OF FAILIURE IN RISK MANAGEMENT

In the various incidents, which ultimately lead to the bank's demise, we can observe several examples where the bank's risk management culture as described was at odds with what was actually occurring on a day-to-day basis:

- The so-called **"Tuna Bonds" scandal**, in which Credit Suisse arranged loans for the Republic of Mozambique totalling USD 1.3 billion. The loans were nominally to finance state-sponsored fisheries projects. However, it was subsequently found that up to USD 137 million of funds were unaccounted for, including some USD 50 million of deliberately concealed incentives for Credit Suisse bankers. Credit Suisse was eventually fined USD 450 million by UK and US regulators for failing to manage the risk of financial crime. At the time of these transactions (2012-16), many of Credit Suisse's international competitors were being heavily fined for exactly the same failings. Credit Suisse's risk management culture had clearly failed to (1) adapt its business practices to the regulatory environment and, (2) maintain risk levels in operational risk that were commensurate with its risk appetite.
- Between 2017 and 2021, Credit Suisse invested USD 10 billion of client funds in UK supply-chain financing firm **Greensill Capital**. When Greensill entered bankruptcy in 2021, Credit Suisse's clients suffered an estimated USD 2.6 billion (26%) loss. An investigation into the loss by the Swiss Financial Market Supervisory Authority (FINMA) found that the bank had made "partly false and overly optimistic" statements to the regulator regarding the funds' exposure to Greensill and found that on one occasion, a senior manager at the bank over-ruled the concerns of an internal risk manager who had pointed out red flags. This scandal shows lack of openness in the bank's risk management culture, and in its dealings with the regulator". In over-ruling risk management red flags, we have evidence that risk management lacked the political power within the firm to oppose senior management when conflicts arose. This demonstrates that risk was regarded as a hurdle and was not the primary concern for decision-makers within the firm.
- This theme of risk being over-ruled is continued in the **Archegos hedge fund collapse**; Credit Suisse lost ~ USD 5 billion on margin loans and brokerage positions. Initial compliance concerns over the Archegos' founder, Bill Hwang, relating to previous misconduct (insider trading) in Hong Kong were overruled by management. As the hedge fund encountered problems, margin calls requested by risk management were also overruled by relationship managers who deemed the collection of additional collateral not to be in the best interests of the bank. The bank's internal report into the failure concluded that lessons from previous hedge fund failures had been identified, but had not been incorporated into risk management, showing a cultural lack of adaptivity to its environment. Finally, Credit Suisse's senior management only became aware of the problems at Archegos when it was too late. This may further indicate a problem with cultural openness but is also attributed to wider issues with the bank's identification and quantification of risks.

EXAMPLES OF FAILIURE IN RISK MANAGEMENT - continued

- **Executive behavior** sets the tone in a firm: A few of episodes involving the bank's most senior executives demonstrate behaviors that display not so much difference in cultural tone, but a complete tone-deafness. In March 2020, then-CEO Tidjane Thiam and COO Pierre-Olivier Bouee were forced to resign after an investigation found the bank hired private detectives, on Bouee's instruction, to spy on its former Head of Wealth Management after he left for arch-rival UBS. In January 2022, Credit Suisse Chairman Antonio Horta-Osorio resigned after a nine-month tenure when an internal investigation found that he had breached Swiss and UK Covid quarantine rules to attend the 2021 Wimbledon Tennis Championships. Both conduct risk incidents resulted in ridicule and reputational damage for Credit Suisse.

Conduct and reputation risks are probably the two risks in which culture can have the most significant impact on organization-wide risk levels.

The incidents discussed above provide very public evidence that Credit Suisse's senior executives had failed to appreciate the importance of "Tone from the Top" or that their actions would send a powerful cultural signal with the potential to override formal cultural creeds.

Lessons Learned

- **Too little too late:**
  In the 2022 Annual Report, Credit Suisse's new management was at pains to point out that every single employee had been subject to risk cultural training during the year. However, by that stage, with its reputation damaged beyond repair, the bank was haemorrhaging deposits from investors who had simply lost confidence in the bank.
- **Don't ignore the message:**
  Time and time again, the bank's risk management failures were brought into the public domain. We must not pay lip service to the importance of reputation. It provides useful insights into how an investment is likely to perform.

2. Stable Funding - Credit Suisse Deposit "Run": Was it typical and does it merit a recalibration of LCR and NSFR rules?

Like most bank failures, the collapse of Credit Suisse was triggered by the loss of depositor confidence. Over the course of 2022 and Q1 2023 all sources of funding were dramatically reduced; its customer deposits showed the most spectacular fall. From the end of 2021 until the takeover by UBS at the end of Q1 2023, Credit Suisse lost ~ 58% of total customer deposits. Did the composition of the bank's deposit base render it particularly vulnerable to a deposit "run"? We must also ask; why didn't the Basel liquidity metrics, introduced after the 2008 Financial Crisis, stand up to its first real test?

DEPOSIT COMPOSITION

Stability of funding is a key component to a bank's credit standing. We know that retail deposits are "sticky", but few banks provide a meaningful deposit breakdown to assess the risk profile of the deposit base. On the right is an overview of Credit Suisse's public disclosures; deposits are segmented by product type (**figure 1**), and by client, part of the bank's Liquidity Coverage Ratio (LCR), (**figure 2**). These do not provide much insight into the potential liquidity risk inherent in this funding.

Figure 1: Credit Suisse: Deposits by Type Dec. 2021

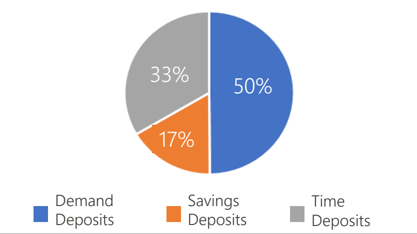
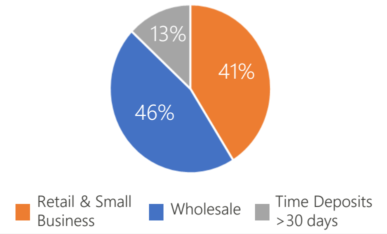


Figure 2: Credit Suisse: Split of Retail vs Wholesale Dec. 2021



The LCR disclosure, however, does give some interesting additional information regarding the bank's retail and small business deposits. None are classified as "more stable" despite at least some of these certainly being covered by Switzerland's, and potentially other countries', deposit insurance schemes. As other Swiss banks do report deposits under "more stable", we deduce that the classification of Credit Suisse's deposits must be due to the relationship and product criteria which are also necessary for this treatment under the LCR.

This may be due to the sourcing of deposits from Credit Suisse's extensive wealth management business, leading to the treatment of deposits as effectively "brokered". Whatever the reason, it points to an additional dimension of risk within the retail deposit base.

We can infer from the bank's LCR disclosure (**figure 2**) which segments deposits due within 30 days. The segmentation is divided into; retail & small business and wholesale customers (although deposits >30 days are excluded).

This infers that retail and small business customers actually comprise 41% of amounts due within 30 days when all products are included. It also indicates that only 13% of deposits are due after 30 days, meaning that most of the time deposits in **figure 1** are only short-term placements and are also likely to be wholesale in nature.

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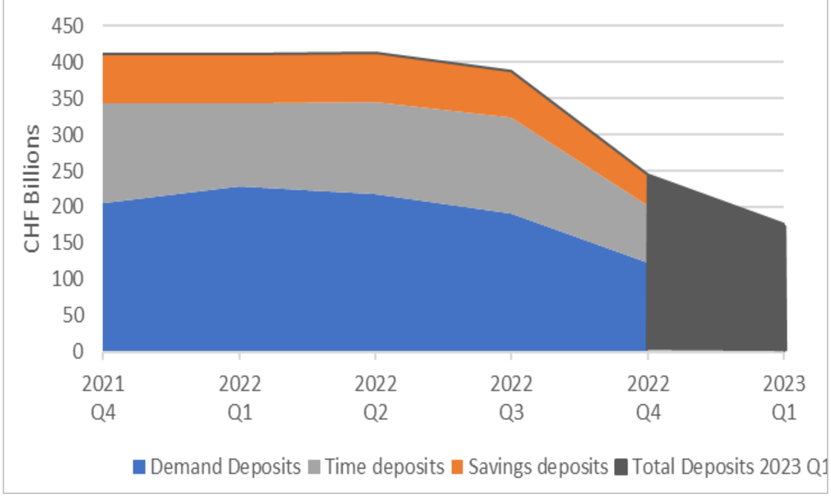
PERFORMANCE OF DEPOSITS UNDER STRESS

Credit Suisse lost 58% of its overall deposits over 6 months, from 2021 Q4 to 2023 Q1.

Figure 3 illustrates the timing of the run on the bank's deposits by product. This appears to have begun in demand deposits in Q2 2022, accelerating in Q2, before spreading to all classes of deposits in Q4 2022, when 40% of deposits at the end of Q3 were lost. No product disclosure is available for Q1 2023 when a further 28% of deposits were lost.

Figure 3: Credit Suisse: Deposit Run-Off 2022



Figures 3 & **4** illustrate how the run spread to all product groups, regardless of perceived risk by Q4 2022. This supports our earlier hypotheses that;

(1) time deposits were all fairly short-term in nature, and

(2) the run-off of savings deposits points to Credit Suisse's retail deposits being less stable than we would normally expect due to the nature of the bank's relationship with or products held by these customers.

Figure 4: Quarterly run-off rates by product	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2022 Q1-Q4	2023 Q1	Overall 2021 Q4-2023 Q1
Demand deposits	10.8%	-4.6%	-12.2%	-35.8%	-40.4%	N/A	N/A
Savings deposits	-0.7%	1.5%	-5.8%	-32.5%	-35.9%	N/A	N/A
Time deposits	-15.8%	9.5%	4.7%	-40.7%	-42.8%	N/A	N/A
Total deposits	**0.0%**	**0.3%**	**-5.9%**	**-36.9%**	**-40.5%**	**-28.2%**	**58%**

Even allowing for any idiosyncratic risks of Credit Suisse's funding base, the run-offs observed during Q3 2022 are extraordinary. That the bank survived for a further 3 months despite the loss of >40% of its primary funding source in 2022 is testament to the resilience of the rest of the bank's balance sheet.

INSIGHTS FROM CREDIT SUISSE'S LIQUIDITY COVERAGE RATIO

The ability of a major bank to withstand such a degree of punishment is almost certainly due to improved quantitative liquidity requirements introduced as part of Basel 3. The Liquidity Coverage Ratio was introduced in 2015 with the explicit objective of making banks resilient to short-term stress. It requires banks to hold high-quality liquid assets greater than the effect of a defined 30-day stress test including run-off of funding sources, draws on contingent obligations, increased collateralization requirements, and stressed cash inflows. Deposits are stressed according to the run-off rates, compared to Credit Suisse's peak run-offs from their regulatory disclosures (**figure 5**).

Figure 5: Credit Suisse peak quarterly run-offs vs LCR assumptions	LCR run-off % (30 days)	Q4 2022 Credit Suisse run-off
Stable retail deposits	3% or 5% *	N/A
Less-stable retail deposits	10-20% **	23%
Wholesale: operational deposits	25%	26%
Wholesale: non-operational deposits	40%	39%

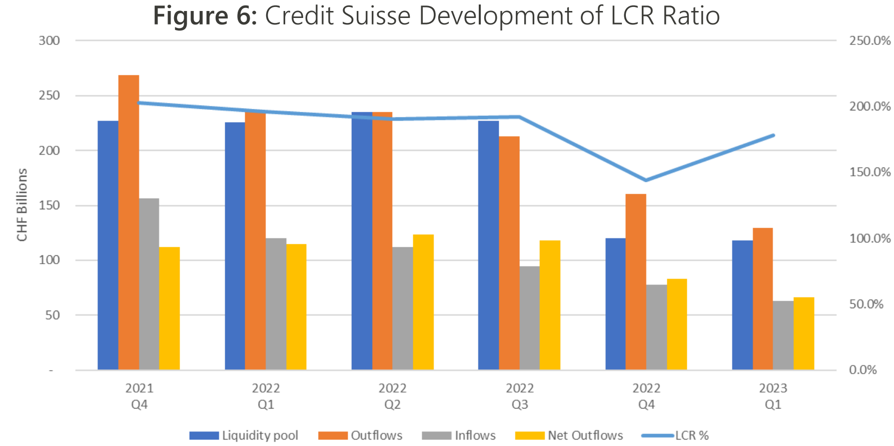
* Depending upon the terms of the relevant deposit insurance scheme.

** Depending on relationship and product characteristics. Credit Suisse had an average run-off of 12.6% in this category at the end of Q3 2022.

Despite the additional stress caused by the excessive run-off of retail products, Credit Suisse was able to report an LCR well in excess of 100% throughout the period of stress (**figure 6**).

The ratio only dropped below 150% in Q4 2022 when almost half of the bank's liquidity buffer was consumed by the stress on deposits and other sources of funding.

Figure 6: Credit Suisse Development of LCR Ratio



Lessons Learned

Although we are comparing a 30-day Basel run-off with a quarterly "actual" for Credit Suisse (in the absence of timing within Q4 of the actual run-offs), two clear messages stand out:

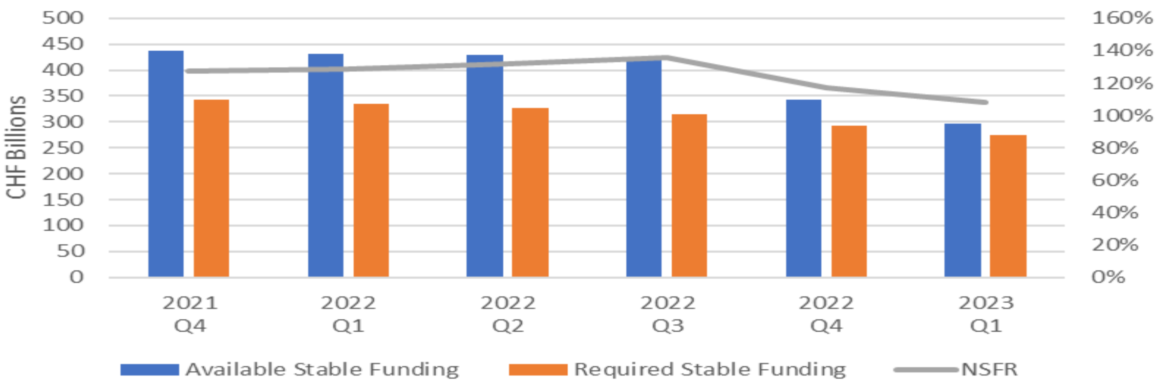
- The less-stable retail run-offs are clearly higher than the LCR run-off of 12.6% reported by Credit Suisse at the end of Q3 2022.
- Wholesale non-operational and operational deposits were close to the LCR figures, albeit over an entire quarter.

CREDIT SUISSE NET STABLE FUNDING RATIO

The Net Stable Funding Ratio (NSFR) was unveiled as part of Basel 3 back in 2010 but has taken until 2022 to be implemented in many jurisdictions due to wrangling over its methodology. In essence, the NSFR attempts to ensure that the bank's balance sheets are funded with liabilities of appropriate stability in relation to the assets financed. This is done by applying coefficients to assets based on their liquidity (a higher coefficient means less liquid) and to liabilities based on their stability or "stickiness" (a higher coefficient means more stable). The idea is that if you have *less* liquid assets such as loans, you need to fund these with *more* stable funding such as retail deposits. The ratio is intended to complement the short-term nature of the LCR, by addressing funding stability to a one-year time horizon.

As with the LCR, Credit Suisse remained in compliance with the minimum NSFR requirements throughout 2021-2 (**figure 7**), although the ratio continued to decline into 2023 due to the continued deposit run. The decline in the ratio is driven primarily by the reduction in stable funding compared to modest reductions in required stable funding from asset reductions, such as securities and Lombard loans.

Figure 7: Credit Suisse NSFR 2021-23



The long-term nature of Credit Suisse's issues offers an opportunity to benchmark the NSFR assumptions against the actual levels of stable funding provided by the bank's deposits. We have taken this from Q1 2023 back one year to encompass the entire stress period (**figure 8**).

Figure 8: Credit Suisse Peak Q1 22-Q3 23 vs NSFR Stable Funding Assumptions	NSFR Stable Funding %	Credit Suisse Actual
Stable retail deposits	95%	N/A
Less-stable retail deposits	90%	64%
Wholesale: operational deposits	50%	58%
Wholesale: non-operational deposits	50%	48%

This shows again that it was Credit Suisse's retail deposits that suffered a greater degree of stress than the Basel ratios, whilst wholesale deposits were more or less in line.

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Lessons Learned

Conclusions and Lessons Learned:

- The run-off rate of Credit Suisse's retail deposit base exceeded 36% over the entire stress period - much higher than would be expected. We attribute this additional risk to either product or relationship characteristics which also disqualified its deposit base from being classified as stable under Basel regulatory classifications.
- Although the higher inherent risk of the retail deposit base was reflected in both LCR run-off rates and NSFR available stable funding rates, the actual stability performance of Credit Suisse's deposits was far less than was reflected in either of the regulatory ratios. This would imply that coefficients applied to less-stable retail funding for both the LCR and NSFR may need to reflect higher run-off rates where additional risk factors exist.
- By contrast wholesale operational and non-operational deposits performed in line with the LCR and NSFR assumptions.
- Overall, Credit Suisse would appear to be an endorsement of the Basel liquidity regime. The high LCR ratio at the start of the stress period (>200% in Q4 2021), was no doubt instrumental in enabling Credit Suisse to continue to meet its liabilities as the liquidity buffer was consumed by funding outflows in Q4 2022. Similarly, the NSFR remained above minimum levels despite the outflow of retail funds at this time.
- Should liquidity regulations be reformed to reflect the experience of Credit Suisse? There is an argument to adjust run-off and available stable funding coefficients for higher-risk retail deposits. However, an alternative view is to ask: What would this achieve? Credit Suisse's reputation had become so damaged that arguably it had just become a matter of time before the bank's funding base became so degraded that it would not be able to continue in business. In such circumstances would more stringent liquidity regulation only put off the failure for a few more weeks or months? Additionally, more stringent liquidity regulations are not cost-free and come at the expense of lower profits, reduced lending capacity and ultimately capital availability.
- Finally, current resolution rules almost always make liquidity failure the default trigger for the resolution to begin. Further strengthening liquidity requirements and therefore pushing out the point of resolution may mean that ultimately there is less of the bank to save. This would be contrary to the objectives of most resolution regimes which aim to preserve the flow of credit to the real economy at minimum cost to the public purse.

3. Resolution - Credit Suisse Bail-in

The failure and takeover by UBS of Credit Suisse in March 2023 was the first truly significant road test of loss-absorbency requirements established for bank capital as part of Basel 3 and of the global approach to bank resolution implemented over the last decade. In both cases, regulators and investors are less than satisfied with the outcomes.

Swiss regulators claim that the CHF 16 billion of additional tier 1 (AT1) securities bailed in as part of the takeover were not useful as "going concern capital". Conversely, AT1 investors are now engaged in legal action vs. regulators and the Swiss Government on the basis that they had been unfairly treated. In this article, we explore the reasons for their respective issues and what this tells us about the fundamental difficulties of any major bank resolution.

CAPITAL LOSS ABSORBENCY

The Financial Crisis of 2007-9 exposed the weaknesses of bank capital regulation under Basel 1 & 2. As well as having an insufficient amount of capital, the quality of capital was a major issue. Quality of capital refers to the ease with which losses can be imposed upon holders of capital instruments. For example, losses can be easily imposed on ordinary equity holders by restriction of dividends and negative net income reducing shareholder's funds via accumulated profit and loss.

For other capital classes, however, loss absorption was much more difficult. The capital regime at the time implicitly relied on the legal insolvency hierarchy. However, this involves terminating the economic activities of the bank, impacting the real economy as well as potentially transmitting systemic risk to other banks. These twin effects inexorably led to the "Bailouts" of 2007-8.

Basel 3 sought to address this problem by requiring loss-absorbency contractual triggers into all new AT1 and Tier 2 instruments. There are typically 2 triggers in AT1 bonds: a CET1-based trigger (typically 7%) and a "non-viability event" trigger (effectively a regulatory trigger). In the failure of Credit Suisse, the Swiss National Bank (SNB) observed that the AT1 bonds had to be bailed in using the "Point of non-viability trigger" (PoNV) as Credit Suisse's CET1 ratio remained well above the 7% trigger level throughout the crisis. This meant that AT1 could not be bailed-in until Credit Suisse was on the point of failure, rather than use the bail-in as a means of shoring up the CET1 ratio to restore confidence in the bank and avoid a failure.

The SNB's observations are no surprise. At Adeva we have argued for a decade that given the nature and timing of most bank credit losses, capital ratio triggers are fundamentally lagging indicators. In any case, the high levels of buffer and Pillar 2 capital required now by most banking regulators mean that the 7% CET1 trigger of AT1 instruments is well below the level at which a bank would be able to normally operate, meaning that the formulaic CET1 ratio trigger would unlikely ever be breached in a typical bank failure.

CAPITAL LOSS ABSORBENCY - continued

Hence, when AT1 instrument bail-in was eventually tested, it would always be via the non-viability clause. The definition of non-viability clauses varies between jurisdictions, but typically cover insolvency, loss of operating licenses, liabilities greater than assets, and inability to pay liabilities as they fall due. It is the last of these, implying a lack of liquidity, which is the stress point in the overwhelming majority of bank failures, including Credit Suisse.

Bank Regulators are therefore faced with the unenviable task of waiting until a bank is about to collapse for lack of liquidity before bailing in the AT1, which is one of the few actions they are able to take which have been able to stop the liquidity panic in the first place.

A premature or unnecessary bail-in could also expose them to legal action from bondholders, another feature of the Credit Suisse failure.

BONDHOLDERS LEGAL ACTION

Credit Suisse's Additional Tier 1 bondholders suffered a 100% loss on CHF 16 billion of instruments and have commenced legal action against both the Swiss banking regulator FINMA and the Swiss Government. Interestingly, the case is brought under Swiss constitutional law where the constitution;

(a) requires public bodies to act in "good faith and in a non-arbitrary manner", and that

(b) "restrictions on fundamental rights [including rights to property] must be proportional".

At the center of their claim is that whilst the AT1 bondholders were wiped out via a 100% "haircut", the equity holders received CHF 3.0 billion in UBS shares. Although this represents a 90% loss on the equity value one year previously, it did more or less recompense equity holders at the then-market value. This is controversial as it effectively switches the legal creditor hierarchy in favor of ordinary equity over preference equity (to which AT1 bondholders belong).

However, should this be viewed as an anomaly, or the way that AT1 bail-ins were envisaged to operate? Credit Suisse's AT1s were part of its so-called "recovery layer" designed to restore the bank to its minimum capital levels based on a CET1 trigger. Indeed, for many years bank's investor presentations explicitly showed AT1 bail-in as an integral part of returning the bank to a minimum solvency position and avoiding the need to enter resolution. One assumes that as part of a "recovery," equity would retain some value whilst, in this scenario, AT1 bondholders subject to haircuts would be wiped out. I am reminded of a colleague many years ago who argued against investing in such instruments on the basis that "spreads did not justify being subordinated to equity at the action of a regulator".

BONDHOLDERS LEGAL ACTION - continued

The wipeout of the AT1 holders has sent shudders of concern through bank-convertible bond markets. In the European Union, the European Banking Authority, European Securities and Markets Authority, and Single Resolution Board issued a joint statement to emphasize that they disagreed with the Swiss decision and would respect the creditor hierarchy in future resolution decisions. This emphasizes the SNB's point about AT1 effectively being "gone" concern capital: If you want to bail in AT1, it has to be done at the point of non-viability, and if you want to respect the creditor hierarchy that means wiping out equity.

One might conclude that AT1 bail-in can only ever realistically be part of the resolution and might actually make that process more likely as it would induce a sell-off of equity, which the European Authorities have said will be worthless in such a scenario, causing a further breakdown in liquidity.

As to the bondholder's claims that they were unfairly treated, one might take a look at Credit Suisse's CHF 35 billion CET1 at the end of 2022 and ask where the losses are going to come from that would justify creating an additional CHF 16 billion of loss-absorbing reserves via the bail-in?

However, that isn't the question facing the resolution authority at the point of bail-in. At the point of non-viability, the choice is between resolution and disorderly failure. Disorderly failure for a globally systemically important bank like Credit Suisse could have unleashed a financial crisis that would make the fall of Lehman Brothers look like a tea party. Indeed, there is no guarantee that even if resolution is undertaken, a crisis can be averted. Bail-in, in a case like Credit Suisse, must therefore address financial stability first and ask questions about whether the bail-in was proportionate and reasonable afterward.

If the question of proportionality is secondary to financial stability, how are the rights of creditors to be protected? The European Bank Recovery & Resolution Directive explicitly links any resolution action to fundamental property rights by the doctrine of "No creditor worse off." This means that no creditor must suffer a loss greater in resolution than the loss resulting from a theoretical "disorderly failure", measured by the estimated valuation of assets and liabilities in each scenario. For deeply subordinated creditors such as AT1 bonds, it is difficult to envisage circumstances in which the disorderly failure scenario would ever generate losses of less than 100%.

However, the constitutional legal challenge by Credit Suisse bondholders is similar to that taken by subordinated bondholders bailed in at 100% following the failure of Dutch bank SNS Reaal in 2013. In this case, shareholders and Tier 2 bondholders were bailed in at 100% and took legal action that their fundamental property rights had been infringed. Although the shareholders were found to be entitled to zero compensation, independent experts found by a process of ex-post valuation that the subordinated creditors were entitled to compensation of EUR 800 million, around 48% of the book value of the instruments at resolution.

Conclusion

Our conclusions from the resolution bail-in of Credit Suisse are as follows:

- Capital-based triggers on contingent capital were highly unlikely to be breached, leaving the PoNV trigger as the only effective means to trigger conversion to equity.
- The SNB is substantially correct in observing that the limited circumstances in which it can operate the PoNV effectively means that Additional Tier 1 is only loss-absorbing for the principal in a "gone concern" scenario. This means that the recovery bail-in scenario was never realistic.
- The residual value in the ordinary equity is a reversal of the insolvency hierarchy, but this was what investors have been signing up to for a decade, based on recovery scenarios.
- A rigid imposition of the creditor hierarchy may make a resolution outcome more likely as the implied zero value of equity could impact a failing firm's funding and liquidity.
- The wipeout of the AT1 holders may be excessive from a loss-absorption perspective, but this was not the problem the SNB was trying to address at the point of failure. Systemic risk is a much greater concern, making "excessive" bail-ins the de-facto outcome of failures.
- Holders of bailed-in liabilities are therefore likely to continue to have to rely upon ex-post recovery based upon fundamental property rights-based remedies. Given the time that this may take, this has important implications for the risk premiums which investors demand on these instruments.

Author: **Andrew Berry**