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The Certificate of Bank Treasury Risk Management

The Changing Business Landscape: Balance Sheet Management Priorities for Resilient Banks

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Banks come in very many different shapes and sizes.

In the 2020s there are banks that offer a sophisticated digital-only service with not just financial products accessible via their "app" but also the goods and services of partner firms in different industries. At the same time, there are banks that do not offer any kind of digital service via desktop internet or app at all, and whose customers continue to interact with it via physical branch, post and/or telephone. Innovation, together with efficient and helpful customer service, are the preserve of only some banks.

And yet...

In countries around the world both these types of banks, together with a larger number that fall somewhere in between these two extremes in their business model and operating infrastructure, continue to thrive. And to generate "P&L".

A cursory observation of the banking sector in any one country will quickly show that different types of banks can remain viable through well-received customer service, rather than innovation and rapid growth of market share. And of course in many countries there are also well regarded and successful banks that have, since the turn of the century, demonstrated digital and data-analytics innovation, and rapid growth in market share, and are now thriving.

In essence, what we are saying is that we are unaware of any bank, in any country, that has failed because it did not innovate. Or did not adopt a mobile app. Bank failures, in general (there are always exceptions[1]), occur because of capital erosion arising out of credit default losses and/or sudden loss of liquidity because of an unexpected and unforeseen stress event. This was observed in 2007-09 and again in 2023. Generally banks fail because of old-fashioned reasons like getting their capital management or their liquidity management wrong. Not all banks need to innovate to maintain viability. But they do need to ensure their balance sheets are robust and not at risk of failure due to ALM mismanagement.

Back to basics: asset-liability management (ALM) discipline

In the first quarter of 2023 the US banking sector was hit by the sudden failure of three reasonably large but non-systemic banking institutions: Signature Bank, Silicon Valley Bank (SVB) and First Republic Bank. SVB particularly seemed to stand out as a failure of good old-fashioned ALM risk management principles.

The bank had built up a portfolio of long-dated US Treasury and US Agency Mortgage bonds which, by the end of 2021, constituted over 60% of balance sheet assets. Remember this was not customer business. From 2022 the US Federal Reserve began raising interest rates, which caused the "fair value" (FV) of the bond portfolio to fall. (This rise in rates was described in some circles as being "unprecedented" as well as very drastic – see Figure 1 – but in fact as Figure 2 shows, the rise in rates was neither without precedent and nor particularly volatile when compared to earlier rate rising cycles – see Figure 2).

1 One of the authors was a gilt-edged market maker sitting next to two recent former employees of Barings plc when that firm imploded due to the fraudulent and unprincipled actions of a "rogue trader" there.

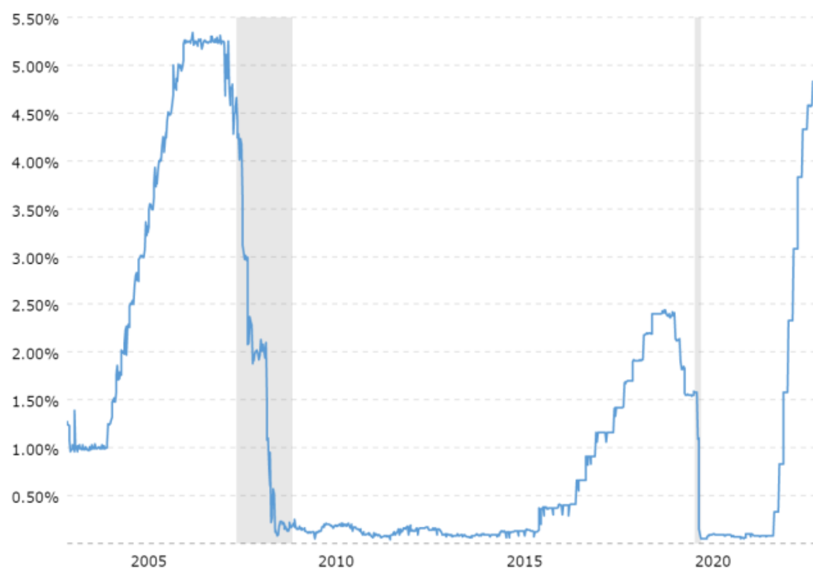


Figure 1: Fed Funds Rate: 20-year view
(Source: ICAEW)

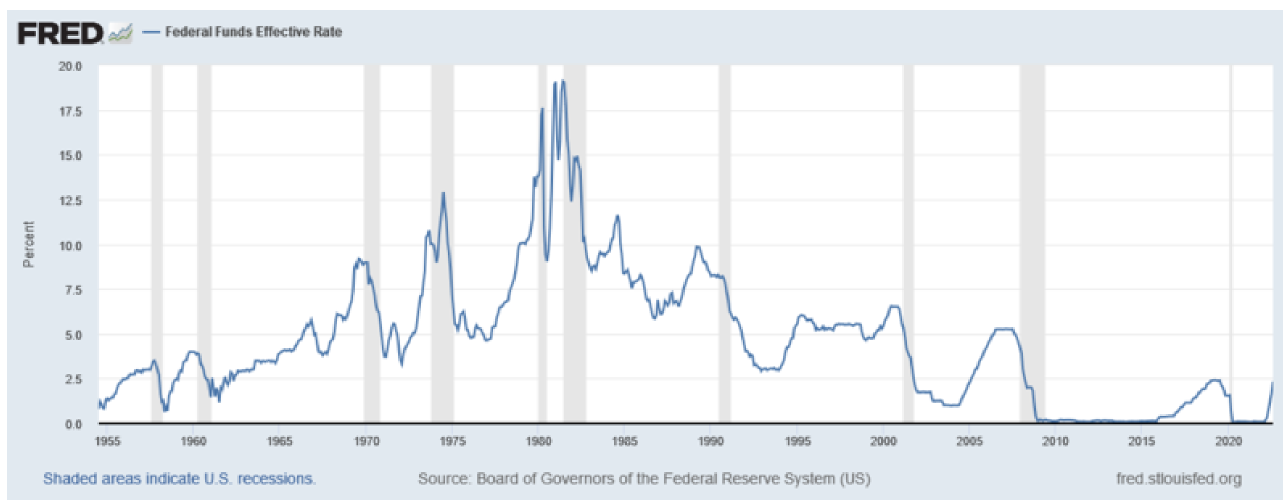


Figure 2: Fed Funds Rate: 60-year view
(Source: ICAEW)

Unlike UK and EU banks, SVB being a non-systemic bank in the USA was not obliged to follow Basel III guidance on managing interest-rate risk in the banking book (IRRBB), so had left the unrealised FV risk both unhedged and not capitalised for.

But was that relevant? IRRBB risk management is a discipline that is at least 40 years old in banks, if not older, and its basic tenets pre-date, by some considerable time, the supervision guidance published by Basel or any regulator.[2] Not managing the IRR of such a large, long-dated bond portfolio was a failing on the part of the bank (particularly its asset-liability committee or ALCO), not the regulator.

As word of the large unrealised losses sitting on SVB's balance sheet became known, confidence in the bank was eroded to the extent that this triggered a bank run. This run could not be withstood, causing the US Federal Reserve to order the winding up of the bank a few days later after the run started.

2 One of the authors was managing IRR for the short-dated Gilts book he was running at Hoare Govett Securities during 1994-1997, using "DV01" as his key IRR risk exposure metric. The DV01 a metric is conceptually very similar to the "EVE" metric described in the Basel guidance on managing IRRBB.

Was this an instance of a bank failing due to interest rate risk exposure being unsustainable?

To the authors, no, it wasn't. The "original sin" of SVB was its funding structure. This was a failure of liquidity risk management, with the catalyst exposing this failure being the rise in US interest rates.

SVB exhibited what in the UK the regulator calls "Pillar 2" liquidity risk: it had a very concentrated funding structure. Its deposit customers were concentrated excessively in what the UK FSA used to call "Type A" depositors, namely:

- Large corporates, often non-bank FI entities
- High proportion of "uninsured" deposits

These are not to be considered as "stable" funding. Figure 3 illustrates the high concentration of a certain type of funding of the three failed US banks.

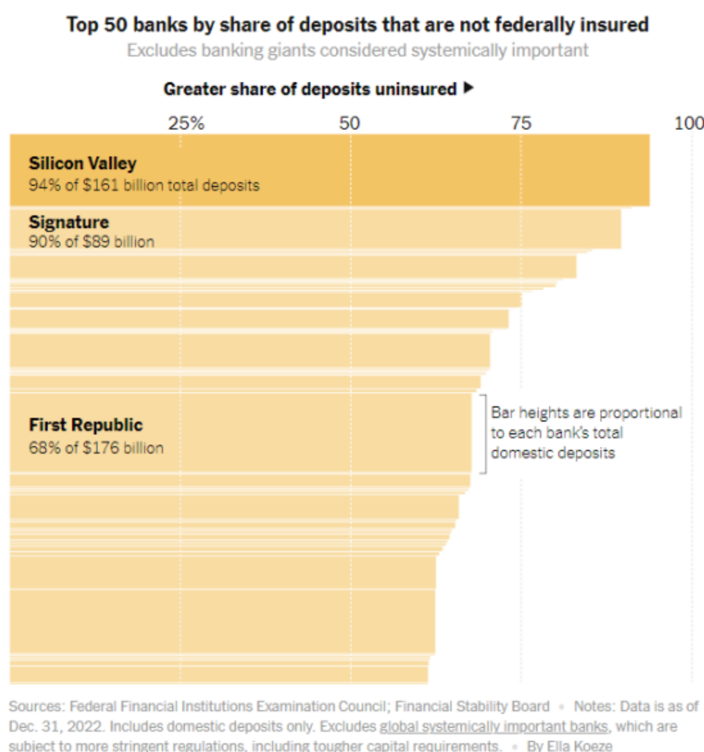


Figure 3: Share of uninsured deposits
(Source: ICAEW)

But let us take one step back.

In the UK we have the concept of "Pillar 2 liquidity" guidance from the regulatory authority (PRA). Amongst other things, this addresses:

- those risk types addressed by the pre-crash FSA "ILAA" regime not covered by the Basel III Liquidity Coverage Ratio (LCR)
- those risk types not covered by LCR and not previously covered by ILAA.

These include:

- funding maturity mismatch beyond a 30-day tenor (up to 90 days minimum)
- concentration of funding.

There is no "Pillar 2" or equivalence for non-systemic banks in the USA; this is relevant but of course not any form of excuse!

SVB exhibited a high concentration of funding:

- concentration by depositor type (essentially large corporates and mainly non-bank financial institutions)
- concentration by contractual maturity (approximately 70% of the bank's non-equity liabilities was comprised of instant access "call account" deposits)
- concentration by product type

Furthermore, SVB was not obliged to report the Basel III liquidity metrics NSFR and LCR (although we note that SVB's LCR at the time it attempted a Rights Issue, shortly before its demise, was ~71%. This is some way below the 100% Basel III minimum).

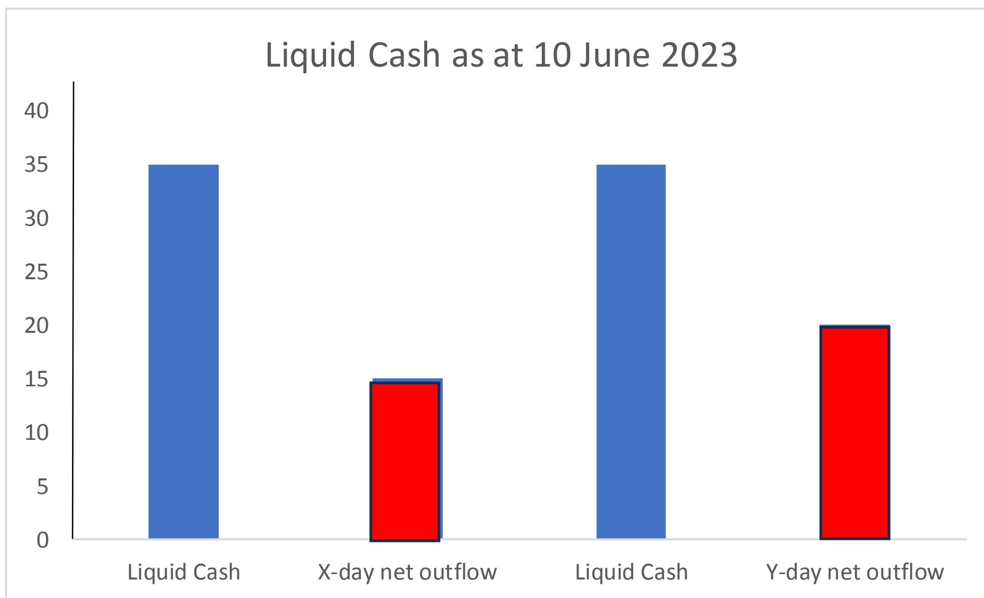
In other words, SVB was singularly very heavily exposed to a bank run, in a way that a bank with a less concentrated funding structure would not be. Once the bank run started, the bank was doomed. Concerns about its large unrealised FV losses was the catalyst that exposed it's flawed funding model.

The SVB case study highlighted the existence of "social media risk", and its potential negative impact with respect to liquidity risk management. The bank suffered a $35bln outflow in under 48 hours. The speed of transmission in the social media age is considerably higher than that observed in previous bank runs. It is clear that negative social media commentary "spread like wildfire" and hastened the elimination of confidence in the bank.

Basel's "liquidity coverage ratio" (LCR), termed "Pillar 1 liquidity" by the UK regulatory authority), risk metric does not capture this risk type. Adapting what he first observed being implemented in 2023 at Nubank, a digital "neo bank" domiciled in Brazil, the Author concludes that the mitigant to this risk, particularly for banks that have a more concentrated funding structure, is a 7-day, or 3-day LCR metric alongside the regulator 30-day one. But, here "LCR" stands for "Liquid Cash Ratio" because the numerator has been changed so that is composed of instantly liquid cash only - including cash held at other banks (bank deposits are not eligible for the liquid assets portfolio (HQLA) numerator in the Basel LCR).

The denominator In our "LCR" would be the worst-case stress outflow in the first 72 hours, based on the bank's own assumptions and hypothetical stress scenarios.

This "LCR" would be reported in graphical form as shown at Figure 4.



The assumptions behind this outflow number are key…

Figure 4: Liquid Cash Ratio short-term liquidity metric

In the authors' view this remains – as it always has been – a key challenge for banks for the next decade: maintaining balance sheet viability in an era of "social media risk" and ensuring continuous liquidity and continuous confidence in the bank over the cycle and throughout any market wide stress events.

Concentration in funding is perhaps the most significant "Pillar 2" liquidity risk:

- concentration by product type (EG., instant access deposits)
- concentration by customer type (EG., large corporates or non-bank financial institutions)
- concentration across tenor points (EG., overnight contractual tenor)

Banks that exhibit funding concentration – not uncommon when they are "challenger banks", "neo-banks" or banks with a narrower customer franchise – would benefit more from the "3-day Liquid Cash Ratio" (LCR) measure. This measure is a response to "social media risk". It isn't a panacea, and it isn't an alternative to sound overall asset-liability management discipline. It certainly isn't a metric that is meant to address all ALM risks! But it is part of the mitigation of this new social media risk.

To conclude, keeping the basics of banking ALM discipline always at the forefront of all a bank's risk management processes and activities – something SVB signally failed to do – remains a key challenge for banks for the next decade.

Risk culture

In the first edition of "The Principles of Banking" (Wiley 2012) Choudhry had this to say about risk management frameworks:

"The risk management principles we have discussed in this book are identical whichever way one looks at them: be it from a shareholder-value perspective, hedging or fair-value perspective, regulatory requirement perspective or societal well-being perspective. It is important for bank management to incorporate them into their strategy and practice, even if they think that other banks are ignoring them."

By the time of the second edition (2022), this text was replaced with the following:

"These words remain relevant in 2022, and I daresay will be in 2032 or 2122. But what I have learned since the first edition was published is this: it is easy, very easy, to write these things in a Word or PowerPoint file. It is even easier to say them, and easier still to stand up and present them to an audience, because no-one will disagree with you. The challenge lies in actually doing them. Making them happen. Making them reality. That is the problem that bank managers face – how to make real, in practice and in their day-to- day business, what is written down in policy statements and governance frameworks."

For the authors, this is "Risk Culture": actually doing what you say to your stakeholders you will be doing. (Granted, the concept is defined differently, and in more orthodox manner, in other publications).

In the authors' opinion, the failure of Credit Suisse – a globally systemically important bank (G-SIFI) – was due primarily to the failure of the bank's risk culture.

Like SVB, Credit Suisse suffered from a loss of confidence in the institution that caused the Swiss National Bank to force CS to sell itself to UBS for the "bargain price" of CHF 3bln (USD 3.25bln). But unlike SVB, this loss of confidence hadn't been caused by a bank run. It manifested itself in other forms (one of these was the spike in the bank's credit default swap (CDS) price, as shown in Figures 5 and 6).

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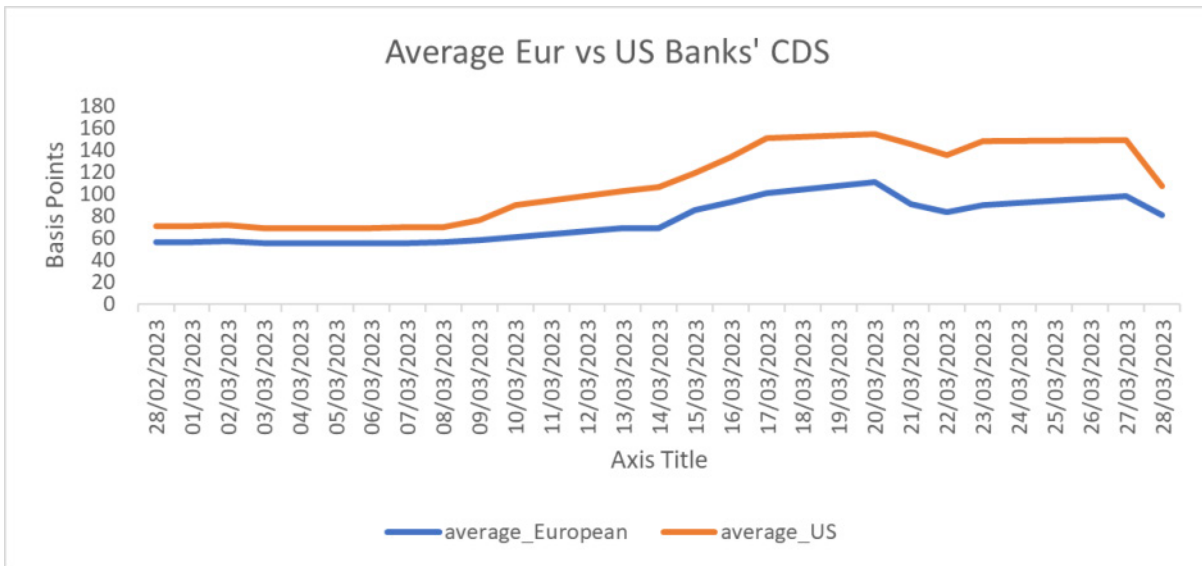
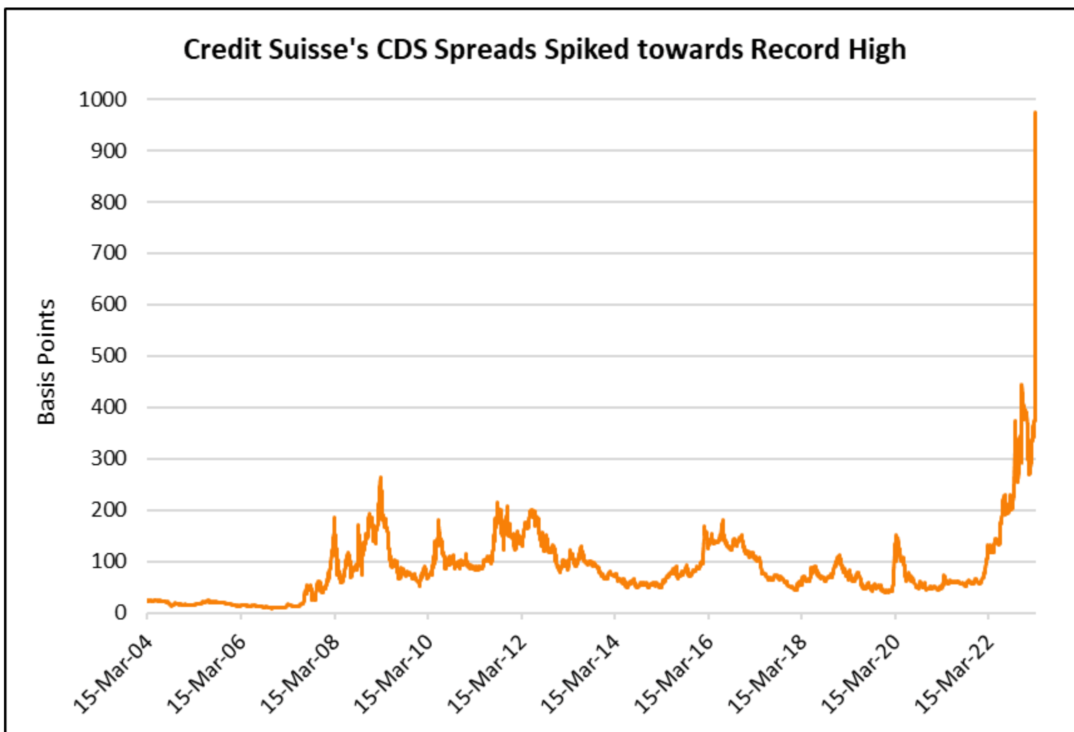


Figure 5: Average European bank CDS price in March 2023 ~80 basis points
(Source: Mario Cerrato, University of Glasgow)



Source: Bloomberg, BondEvalue

Figure 6: Credit Suisse CDS price March 2023
(Source: Bloomberg)

What caused this erosion of confidence in a firm that was over 160 years old?

Clearly the bank, as a G-SIFI bank, had very developed risk management frameworks. It had the comprehensive, detailed paraphernalia of risk management processes that is evidenced by lines of defence, policy statements, considerable regulator oversight and prescriptive guidance. It was not operating, and had not been operating, in anything like a lax, or laissez-faire environment. No G-SIFI bank has been doing that since 2008.

And yet the bank had been lurching from one embarrassing mistake to another during this same time period. Type “Credit Suisse fines” into a search engine and it is singularly noteworthy how many law-breaking transgressions the bank had been found guilty of across a large number of multiple national jurisdictions (Figure 7 is a random sample).

- **The Prudential Regulation Authority (PRA) announced that it has fined Credit Suisse International and Credit Suisse Securities £87 million for significant failures in risk management and governance**
  - Google Search, 24 July 2023
- **Credit Suisse fined $388mn over Archegos collapse**
  - Financial Times, 24 July 2023
- **Credit Suisse to pay EUR 238 million fine in France to settle Fraud probe**
  - Le Monde, 24 October 2022
- **Credit Suisse bank found guilty over money laundering charges**
  - BBC, 27 June 2022
- **Credit Suisse fined £147 million for serious financial crime due diligence failings related to loans**
  - Financial Conduct Authority, 19 October 2021
- **Credit Suisse fined $2.5 billion after pleading guilty to U.S. tax charge**
  - Reuters, 24 May 2014
- **Credit Suisse agrees to forfeit $536 million in connection with violations of the International Emergency Economic Powers Act and New York State Law**
  - Office of Public Affairs, U.S. Department of Justice, 19 June 2009

Figure 7: Credit Suisse random sample of fines
(Source: Google search)

What must the operating control and management be like at a bank that is seemingly unable to avoid lurching from one crisis after another?

Our answer is a simple one: it was a failure of risk culture. The bank had all the trappings of a solid risk management framework in place. It simply wasn’t actually observing it.

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Conclusions

Banking is, first and foremost, confidence. A loss of confidence will lead, very quickly, in a loss of viability which leads inevitably to failure and resolution. It is clear that the Board and senior executive at Credit Suisse were unable – or possibly unwilling – to address the kind of risk management environment that enabled the bank to lurch from one bad news story to another. Yet the author can attest personally to the fact that, optically, and on the surface, a G-SIFI bank's "risk management framework" will be as comprehensive and all-encompassing as any that one would observe anywhere, at any bank.

The components of an RMF in a bank are straightforward and generally not complex to implement
What the events of 2023 have demonstrated is that simply having an RMF in place, while necessary, is not sufficient to prevent bank failure. For an RMF to be effective, and to prevent failure for firm-specific reasons, its operation must be undertaken within an environment that promotes and fosters effective risk culture. This is much harder to write about than the theory.

In theory the RMF at Credit Suisse was fit for purpose. In practice it wasn't.

Recommendations

We suggest the following for consideration by any bank:

1. Only individuals who have demonstrated an observable, peer-confirmed track record of commitment to implementing a sound risk culture in banks should be elevated to positions of seniority in banks

2. Act on and make real the bank's formal risk management policies:
    - Simplicity, succinctness and clear language at all times, in policy documents and process maps
    - Senior executives must lead from the front in building a team culture that emphasises a shared goal. Remuneration policy is part of this
    - Clear, accurate and succinct MI that is actually read by all senior execs
    - Genuine technical knowledge and expertise exhibited by the C-suite and the Board Directors
    - Governance framework (committee structure) that is effective and reviewed as such regularly

3. Embed risk management processes into the firm's daily practice through an effective risk culture

4. Embedding the role and influence of 2nd Line of Defence and 3rd Line of Defence within the business, and act on their recommendations!

5. 3LoD should be internal to the firm and not outsourced, so that they are better aware of the actual risk culture of the bank

We also suggest a regular assessment of the adequacy of the risk culture in a bank. A positive risk culture includes the following attributes:

- Open communication is supported and encouraged (at Google this is referred to as "Psychological Safety": an environment where all employees feel that they are able to speak freely, and challenge constructively, without fear of negative impact on their career prospects);
- Employees at every level appropriately consider and manage risk as an intrinsic part of their day-to-day role, considering risk in any decision made, and taking responsibility for risks and controls;
- "Tone from the top"; (see "psychological safety" above);
- Accountability
- Effective communication and challenge.

The "Tone from the top" is very important: we should be confident that:

- the leadership promotes, monitors, and assesses the risk culture of the bank; considers the impact of culture on safety and soundness; and makes changes where necessary.
- relevant employees at all levels understand the bank's core values and its approach to risk, are capable of performing their prescribed roles, and are aware that they are held accountable for their actions in relation to the bank's risk-taking behaviour.
- there is effective communication and challenge, and an environment of open communication and effective challenge is promoted in which decision-making processes encourage a range of views; and an environment of open and constructive engagement.

How can we embed the right "risk culture" in banks?

The answer is not "more regulation". Regulation is not culture; it is process and bureaucracy. (This is not to diminish its vital role and importance in ensuring systemic safety).

In the author's view, these two things will help:

- We adopt a view that "we are ALL risk managers." Managing risk is not the role of only the 2LoD or Compliance department

- And to reiterate: only individuals who have demonstrated a track record of commitment to implementing a sound risk culture in banks should be elevated to positions of executive seniority in banks

Ultimately, what speaks to the right "risk culture" is the author's oft-quoted exhortation:

The first principle of good banking... is to have principles.

Authors

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