

Comparative Analysis of the 2008-2009 Financial Crisis and the Current Banking Crisis

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ABSTRACT

In the aftermath of a series of banking failures, we examine the unraveling of Silicon Valley Bank (SVB), Credit Suisse, and Deutsche Bank, among other players, delving into the causes, consequences, and lessons learned. These crises were fueled by factors including systemic risk, poor risk management, scandals and exposure to volatile sectors. The interplay of interest rates and risk management proved pivotal, exposing SVB's inability to adapt. As Credit Suisse grappled with long-standing management issues, its AT1 bonds were obliterated after its rescue merger with UBS, while Signature Bank's reliance on uninsured deposits and risky ventures led to a massive deposit withdrawal, and Deutsche Bank's multibillion-euro tax evasion among other scandals translated into poor performance. Similarly, First Republic's collapse marked the largest bank failure since the 2008 crisis, prompting JP Morgan's emergency acquisition. These incidents underscore the need for new management policies and preparedness in safeguarding financial institutions.

The History of Financial Crisis

Reinhart and Rogoff (2008a) conducted a historical analysis of financial crises from World War II to the great financial recession. They cataloged crises over eight centuries across 66 countries. They discovered key indicators of an impending crisis: asset price inflation, rising leverage, current account deficits, and slow economic growth. Reinhart and Rogoff (2009) also outlined three distinctive post-crisis economic traits: significant asset market collapses, profound output and employment declines, and substantial increases in government debt due to reduced tax collections and countercyclical fiscal policies, including bailouts. The authors analyzed major systemic crises since the post-World War era, finding an average real housing price decline of 35.5% over a six-year span. The average systemic crisis lasted around 5 years, with an average 7% point unemployment increase requiring about 4.8 years for recovery. They observed an average 9.3% contraction in real GDP, taking about 1.9 years to recover, and an average 86% government debt increase three years after the crises.

Contemporary scholars such as Metrick and Schmelzing (2023) have examined 2,000 government interventions or bailouts across 138 countries spanning 750 years. They used diverse mechanisms including guarantees, lending, restructuring, and capital injections. Among the 880 banking crises analyzed, about 52% were identified as "systemic". While a consensus on the definition of "systemic risk" is lacking, Acharya et al. (2017) emphasize a crucial distinction: systemic risk affects the stability of the entire regional or domestic economy and financial system. In contrast, institution-specific risk or idiosyncratic risk—where a bank failure within a well-capitalized system doesn't impose an externality on the economy—is a distinct type of risk.

Regarding risk management, risk measurement has primarily revolved around models like Value at Risk (VaR), concentrating on idiosyncratic risk. However, limitations, particularly in its parametric version (Jorion, 1997), have been observed. On the other hand, measurement of systemic risk is still in the developmental stage, embracing various

approaches from financial networks to econometrics. As elucidated by Tarullo (2014), most systemic risk metrics have adopted the expected impact or expected shortfall methodology. This approach assesses the capital injection required to decrease the likelihood of a financial institution's failure, which otherwise could trigger significant adverse effects on the economy and the entire financial system. In essence, it quantifies the economic value of government support in the event of a systemic event.

Silicon Valley Bank

Silicon Valley Bank (SVB) specialized in serving VC-backed life science and technology companies in Silicon Valley and beyond. Its uninsured deposits were predominant due to its client base, consisting of innovative startups with intellectual capital but minimal fixed assets or stable income sources. The bank largely invested its remaining treasury funds in long-term government securities. However, the Federal Reserve's series of interest rate hikes in response to the U.S. and global inflation crisis disrupted SVB's plan. The bank's management hadn't accounted for short-term liquidity needs (*Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank*, n.d.).

As interest rates climbed, SVB experienced a deposit outflow, leading to a liquidity crisis. To cope, the bank had to liquidate many bond holdings at substantial losses. According to the Federal Reserve's review of SVB's failure, risk mismanagement, particularly regarding interest rate and liquidity risks, was the primary cause. The bank prioritized short-term profits without factoring in contingency funding capacity (*Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank*, n.d.).

In an urgent move on March 8th, 2023, SVB sold long-term debt securities at a loss to raise capital. This action triggered depositor concerns, leading to a massive \$40 billion withdrawal the following day. With an anticipated continued trend and about 85% of deposits vanished, senior management expected the bank's imminent collapse. As a result, the California Department of Financial Protection and Innovation (CDFPI) took control of SVB on March 10, 2023. At the time of its March 2023 failure, SVB held an estimated \$212 billion in assets (*Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank*, n.d.). Even with the FDIC intervention and expanding the insurance protection up to \$250,000 per account, it was estimated that more than 90% of its depositors' accounts surpassed that amount (Metrick and Schmelzing, 2023).

First Republic Bank

On May 1st, 2023, JP Morgan issued a press release disclosing its emergency acquisition of First Republic Bank after its collapse and subsequent takeover by the Federal Deposit Insurance Corporation (FDIC). The acquisition encompassed First Republic's substantial loan portfolio worth \$173 billion and deposits totaling \$92 billion, which included both uninsured and insured funds (*JPMorgan Chase Acquires Substantial Majority of Assets and Assumes Certain Liabilities of First Republic Bank*, n.d.). Reuters (2023) reported that First Republic's failure marked the largest bank collapse in the U.S. since the 2008 financial crisis when Washington Mutual crashed.

JP Morgan's emergency acquisition of First Republic Bank incurred a cost of \$10.6 billion. This move granted JP Morgan full control over the assets of the San Francisco-based bank and access to its affluent clientele. As a result, JPMorgan now owns over 10% of all deposits in the United States. According to Reuters sources, the ongoing banking crisis can be attributed to an extended period of low-interest rates followed by a rapid increase in interest rates by the Federal Reserve (Murdoch et al., 2023).

Signature Bank

Prior to its crash on March 12th, 2023, Signature Bank was already under scrutiny by the Department of Justice due to an estimated one-fourth of its deposits originating from crypto-related firms and nearly 90% of deposits being

uninsured (Goldstein, 2023). The FDIC assumed control of the bank shortly before its impending collapse, which occurred two days after SVB's intervention. SVB's failure led to a \$10 billion deposit withdrawal in a single day at Signature Bank, equivalent to 20% of the bank's deposits. This incident marked the third-largest bank failure in US economic history (The Economist, 2023).

The FDIC report attributed the bank's failure primarily to the contagion effect of SVB and inadequate risk management practices, particularly in handling crypto deposits without sufficient controls and metrics. Despite initially gaining popularity as a hub for crypto businesses through a dedicated payment network, most of its deposits came from entities such as law firms, accounting firms, and real estate companies (Goldstein, 2023). Starting from 2023, Signature Bank held an estimated \$110 billion in assets under management, making it the 29th largest bank in the United States (Buchwald, 2023).

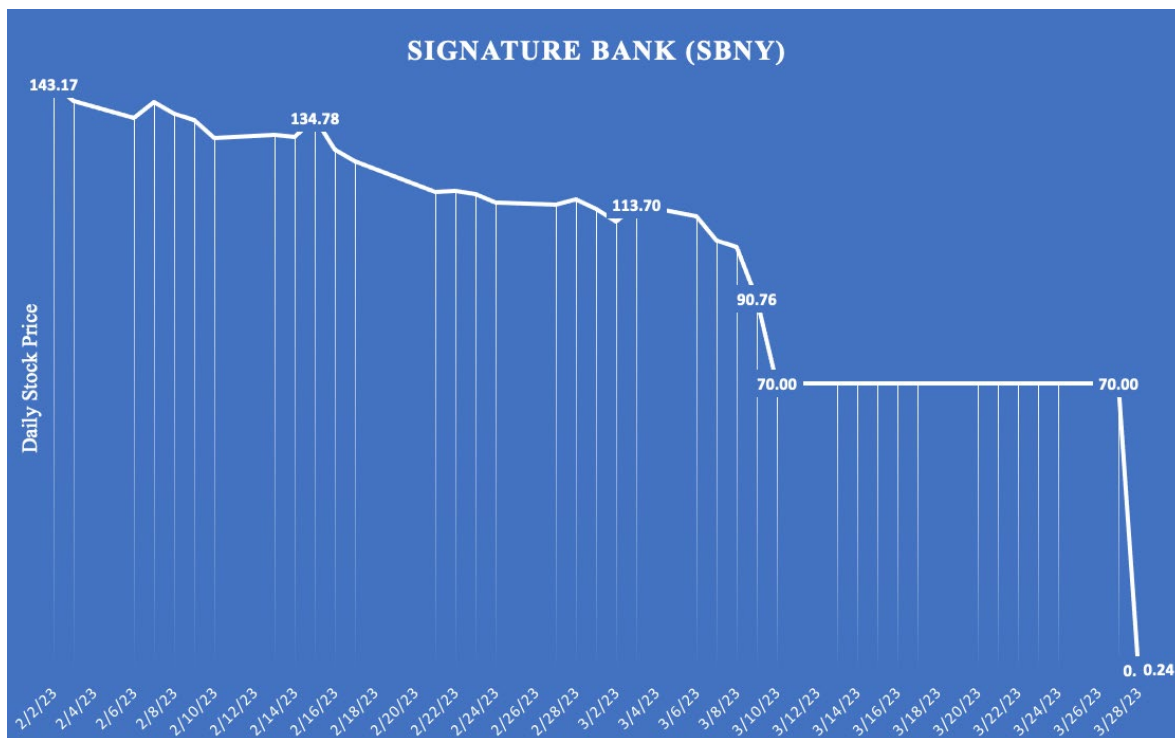


Figure 1: Signature Bank (SBNY) daily closing prices at NYSE from February 2nd 2023 to March 31st 2023.

In Figure 1, Signature Bank (SBNY) incurred a loss of value of -51.1% from February 2nd, 2023, to March 28th, 2023, before its closure by the FDIC. As pointed out by Son (2023), the bank's downfall was anticipated due to the ongoing investigation that had been initiated.

Credit Suisse

The Swiss National Bank (SNB) played a pivotal role, acting as an intermediary between UBS and Credit Suisse to orchestrate the latter's rescue, marking the largest bank bailout since the 2008 financial crisis. On March 19, SNB extended approximately \$200 billion francs in guarantees to UBS for the acquisition of Credit Suisse at a closing value of 3 billion francs. UBS offered 0.76 of its shares for each Credit Suisse share (Metrick and Schmelzing, 2023; Illien, 2023). Established in 1856, Credit Suisse was compelled to merge with UBS to avert potential collapse in the Swiss banking system and the global capital markets.

Valbuena and Eidenmuller (2023) from Oxford University emphasize that Credit Suisse's CHF 16 billion in Additional Tier 1 (AT1) bonds, known as "CoCos," were entirely wiped out. In contrast, shareholders were granted approximately \$3.25 billion in UBS shares as part of the bailout arrangement. AT1 bonds, also called contingent convertibles, comprise a type of debt integrated into a bank's regulatory capital. These bonds can be transformed into equity during stress scenarios, such as when a bank's tier 1 capital ratio falls below a predefined threshold, serving as a buffer prior to default (Meredith, 2023). However, AT1 bondholders did not receive any UBS shares in exchange, resulting in substantial losses amounting to billions of dollars.

In the initial quarter of 2022, Credit Suisse encountered a substantial outflow of deposits amounting to nearly \$150 billion. The downfall of Credit Suisse was notably expedited when its largest shareholder, the Saudi National Bank, holding nearly 10% ownership, announced on March 15, 2023, its decision to refrain from supplying extra liquidity to the bank. This sent an extremely adverse signal to the market about the bank's condition (Valbuena and Eidenmüller, 2023).

Unlike abrupt bank runs as witnessed with SVB, Credit Suisse's collapse is attributed more to persistent mismanagement over time and a string of scandals. These include the Archegos debacle resulting in a \$5.5 billion loss, involvement in the Greensill scandal, manipulation of FX markets by Credit Suisse traders, bribery of government officials, money laundering, and even corporate espionage involving a former CS executive, among other issues (Valbuena and Eidenmüller, 2023).

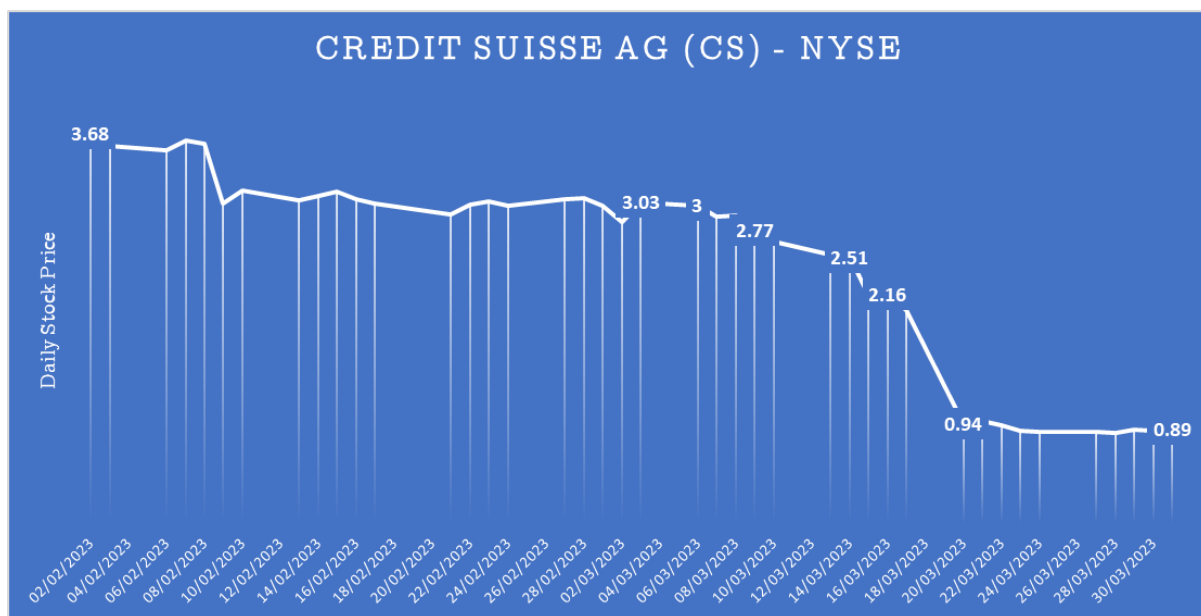


Figure 2: Credit Suisse AG (CS) daily closing prices at NYSE from February 2nd 2023 to March 31st 2023.

As observed in figure 2 Credit Suisse stock lost an aggregate value of -75.82% from February 2nd 2023 to March 31st 2023. So even though the failure of SVB, among other American banks, caused a contagion effect in the global financial system, Credit Suisse' decline was already in process for several scandals and bad corporate practices as the cases mentioned previously.



Figure 3: Credit Suisse 5-Year EUR CDS daily closing prices at NYSE from March 2020 to May 2023. Graph taken from Investing.com

Regarding Credit Suisse's five-year credit default swaps (CDS), the pinnacle hit an extraordinary 1274.9 bps on March 27th, 2023, as observed in figure 3, just before its emergency merger with UBS. Credit Suisse's insurance risk surged by a staggering 769.12% from April 3, 2020, to March 27th, 2023, reflecting the perceived risk of losses on their unsecured debt.

Deutsche Bank

Deutsche Bank has faced a substantial decade-long decline, resulting in considerable reputational damage, a case similar to that of Credit Suisse. Its stock price has plummeted by 65%, total assets have contracted by a third, revenues have dipped by 25%, dividends now stand 73% below the 2012 level, and fines totaling at least 14 billion euros have been paid (Storbeck, 2022). Concurrently, as SVB and other US banks, along with Credit Suisse, faltered, a contagion effect reached Deutsche Bank, Germany's largest lender. Parallel to Credit Suisse, Deutsche wasn't plagued by liquidity issues but was mired in various scandals, encompassing money laundering, tax fraud, and corporate espionage. In one instance, a German bank engaged in a multibillion-euro tax evasion scheme called "cum-ex," entailing an impending penalty of nearly 60 million euros, shared with Bank of New York Mellon and Germany's Warburg Group (Reuters, 2022). Another notable case was the 2017 money laundering transactions that transpired under the bank's oversight, enabling sham trades to move \$10 billion out of Russia through ghost entities. For this lapse, US and UK authorities fined the bank \$630 million for inadequate controls (Saudelli, 2019). To remedy the situation, the board appointed Christian Sewing as CEO in 2018 to rectify the bank's tarnished reputation (Sims, 2022).



Figure 4: Deutsche Bank Aktiengesellschaft (DB) daily closing prices at NYSE from February 2nd 2023 to March 31st 2023.

As depicted in Figure 4, Deutsche Bank (DB) stock experienced a cumulative loss of -26.49% from its peak on February 17th, 2023, to its lowest point on March 24th, 2023. This decline resulted from the collective panic triggered by the crashes of both SVB and Credit Suisse within that month. DB's five-year credit default swaps (CDS) price surged beyond the 200 bps threshold in the final week of March 2023, reaching its highest levels since the Covid pandemic in 2022 (Kowsmann & Hirtenstein, 2023), and surpassing it.



Figure 5: Deutsche Bank Aktiengesellschaft (DB) 5-Year EUR CDS daily closing prices at NYSE from February 2020 to April 2023. Graph taken from Investing.com.

DB's five-year credit default swaps (CDS) (figure 5) surged to 171.81 bps in March 2020 during the pandemic's peak and have now escalated to 205.12 bps as of March 24th. This marks a 145% increase in Deutsche Bank's insurance risk from March 6, 2020, to March 24th, 2023, reflecting investors' heightened risk aversion in the worldwide and European financial markets.

Discussion

Nassim Taleb (2012) asserts that the 2008-2009 financial crisis resulted mainly from a blend of agency issues, moral hazards, and risk surpassing due to misplaced confidence in financial risk models like Value-at-Risk (VaR). The Black Swan author highlights that to avert a similar crisis, no level of regulation and bureaucracy would suffice without altering financial institutions' incentives. Taleb, aligned with other academics, advocates for institutions like banks to have "a skin in the game," sharing a substantial portion of costs with clients in dire scenarios. He crucially notes that financial risk models that faltered in the crisis notably failed to capture "tail risks" or extreme events in probability theory. Increasingly intricate regulation often compounds risk modeling complexities in the intricate financial market. Furthermore, scholars such as Reinhart and Rogoff (2009) conclude that deposit insurance likely prompts excessive

risk-taking among banks, given the anticipation that the insurance corporation will absorb significant losses upon failure—a phenomenon often dubbed "too big to fail."

Rather than imposing increasingly higher regulations on otherwise relatively safe securities compared to many business ventures, regulators should focus on reducing leverage, increasing equity ratios, or holding common shareholders liable for penalties in case of bankruptcy. Many countries hold civil engineers accountable, even during catastrophic events like earthquakes, by imposing jail time for building collapses. Similarly, bank shareholders carry a significant societal responsibility and should be held more accountable beyond their "limited responsibility" as shareholders. In the examined cases, several bank executives received substantial compensation just before the institutions' collapse. US Senator Elizabeth Warren has proposed a clawback law for CEOs of major financial institutions, aiming to prevent them from extracting millions in compensation and then indulging in extreme risk-taking until the bank fails and becomes "too big to fail," shifting the costs to the government. For instance, former CEOs of SVB and Signature Bank received an estimated \$40 million and \$20 million in recent years respectively, while the bank failures have cost the FDIC \$20 billion and \$2.5 billion respectively (Senate Banking, Housing, and Urban Affairs Committee, 2023).

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References

- Acharya, V. V., Pedersen, L. H., Philippon, T., & Richardson, M. (2017). Measuring systemic risk. *The review of financial studies*, 30(1), 2-47.
- Buchwald B. (2023, April 28). Signature Bank failed because of 'poor management,' FDIC report finds, CNN. <https://edition.cnn.com/2023/04/28/business/signature-bank-fdic-report/index.html>
- El Economista. (2023, March 15). Signature Bank estaba siendo investigado antes de su quiebra. *El Economista*. <https://www.eleconomista.com.mx/sectorfinanciero/Signature-Bank-estaba-siendo-investigado-antes-de-su-quiebra-20230315-0032.html>
- Goldstein, M., & Flitter, E. (2023, March 13). Signature Bank's Collapse Fueled by Crypto Bets and Run on Deposits. *The New York Times*. <https://www.nytimes.com/2023/03/12/business/signature-bank-collapse.html>
- Illien, N. (2023, April 5). UBS tells investors "Herculean" Credit Suisse takeover will pay off. Reuters. <https://www.reuters.com/business/finance/ubs-faces-investors-after-shotgun-credit-suisse-merger-2023-04-05/>
- Investing.com. (2023). Credit Suisse CDS 5 Year EUR. Retrieved from <https://www.investing.com/rates-bonds/credit-suisse-cds-5-years-eur>
- Investing.com. (2023). Deutsche Bank CDS 5 Year EUR. Retrieved from <https://www.investing.com/rates-bonds/deutsche-bank-cds-5-year-eur>
- Jorion, P. (1997). Value at risk: A new benchmark for controlling market risk. *Financial Analysts Journal*, 53(1), 47-56.
- JPMorgan Chase acquires substantial majority of assets and assumes certain liabilities of First Republic Bank.* (n.d.). <https://www.jpmorganchase.com/ir/news/2023/jpmc-acquires-substantial-majority-of-assets-and-assumes-certain-liabilities-of-first-republic-bank>
- Kowsmann, P., & Hirtenstein, A. (2023, March 24). Deutsche Bank Stock Falls on Contagion Fears. *WSJ*. <https://www.wsj.com/articles/deutsche-bank-stock-tumbles-on-contagion-fears-1250eb04>

- Meredith, S. (2023, March 22). “A financial banana republic”: UBS-Credit Suisse deal puts Switzerland’s reputation on the line. *CNBC*. <https://www.cnbc.com/2023/03/21/ubs-credit-suisse-deal-puts-switzerlands-reputation-on-the-line.html>
- Metrick, A., & Schmelzing, P. (2023). *The March 2023 bank interventions in long-run context—Silicon Valley Bank and beyond* (No. w31066). National Bureau of Economic Research.
- Murdoch, S., Nishant, N., & Prentice, C. (2023, May 2). Regulators seize First Republic Bank, sell assets to JPMorgan. *Reuters*. <https://www.reuters.com/business/finance/california-financial-regulator-takes-possession-first-republic-bank-2023-05-01/>
- Paz Valbuena, J., & Eidenmüller, H. (2023). Bailout Blues: the Write-Down of the AT1 Bonds in the Credit Suisse Bailout. *European Corporate Governance Institute-Law Working Paper*, (705).
- Reinhart, C. M., & Rogoff, K. S. (2009). The aftermath of financial crises. *American Economic Review*, 99(2), 466-472.
- Reinhart, C. M., & Rogoff, K. S. (2009). This time is different. In *This Time Is Different*. Princeton University Press.
- Reuters. (2022, September 19). BNY Mellon, Warburg Group, Deutsche Bank to pay \$60 mln in “cum-ex” case. *Reuters*. <https://www.reuters.com/business/finance/bny-mellon-warburg-group-deutsche-bank-pay-up-cum-ex-case-newspaper-2022-09-18/>
- Reuters. (2023b, April 28). Signature Bank failure due to “poor management,” US FDIC report says. *Reuters*. <https://www.reuters.com/markets/us/signature-bank-failure-due-poor-management-us-fdic-report-says-2023-04-28/>
- Review of the Federal Reserve’s supervision and regulation of Silicon Valley Bank*. (n.d.). <https://www.federalreserve.gov/publications/review-of-the-federal-reserves-supervision-and-regulation-of-silicon-valley-bank.htm>
- Saudelli, G. (2019, May 23). Deutsche Bank’s 5 biggest scandals. *dw.com*. <https://www.dw.com/en/deutsche-banks-5-biggest-scandals/a-46510219>
- Senator Elizabeth Warren. (2023, May 16). *Warren Blasts Former SVB and Signature CEOs for Keeping Millions After Recklessly Crashing Banks* [Video]. YouTube. <https://www.youtube.com/watch?v=JySG1nwm0xg>
- Sims, T. (2022, October 18). German prosecutors search Deutsche Bank HQ in tax fraud probe. *Reuters*. <https://www.reuters.com/business/german-prosecutors-search-deutsche-bank-hq-cum-ex-probe-2022-10-18/>
- Son, H. (2023, March 14). Why regulators seized Signature Bank in third-biggest bank failure in U.S. history. *CNBC*. <https://www.cnbc.com/2023/03/13/signature-bank-third-biggest-bank-failure-in-us-history.html>
- Storbeck, O. (2022, May 17). Deutsche Bank looks to escape a decade of scandal and strife. *Financial Times*. <https://www.ft.com/content/06158598-daa0-4560-b072-a57bcbd7697c>
- Taleb, N. N., & Martin, G. A. (2012). How to prevent other financial crises. *The SAIS Review of International Affairs*, 32(1), 49-60.
- Tarullo, D. K. (2014). Financial stability regulation. In *Dodd–Frank Wall Street Reform and Consumer Protection Act: Purpose, Critique, Implementation Status and Policy Issues* (pp. 59-82).
- Tarullo, D. K. (2014). Macroprudential regulation. *Yale J. on Reg.*, 31, 505.
- Yahoo is part of the Yahoo family of brands. (n.d.). <https://finance.yahoo.com/news/european-bank-cds-drop-investor-093315347.html>