The Fall of Silicon Valley Bank: A Systemic Risk View

By Chris Donohue, Bryan Feierstein and Eli Crane[1] of the GARP Benchmarking Initiative (GBI)[2]

Abstract

Much has already been written about the sudden collapse of Silicon Valley Bank (SVB), the second largest bank failure in U.S. history, trailing only Washington Mutual in 2008. But how, exactly, did SVB stack up against other U.S. banks, with similar levels of total assets, from a systemic risk perspective?

A review of publicly available systemic risk indicator data disclosed by Silicon Valley Bank's parent, SVB Financial Group (SVB FG), yields some very interesting insights into how SVB compared to these other large institutions[3] on the basis of on- and off-balance sheet exposures, intra-financial system exposures, cross-border activity, complexity and short-term funding levels.

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[1] Email: chris.donohue@garp.com, bryan.feierstein@garp.com, eli.crane@garp.com

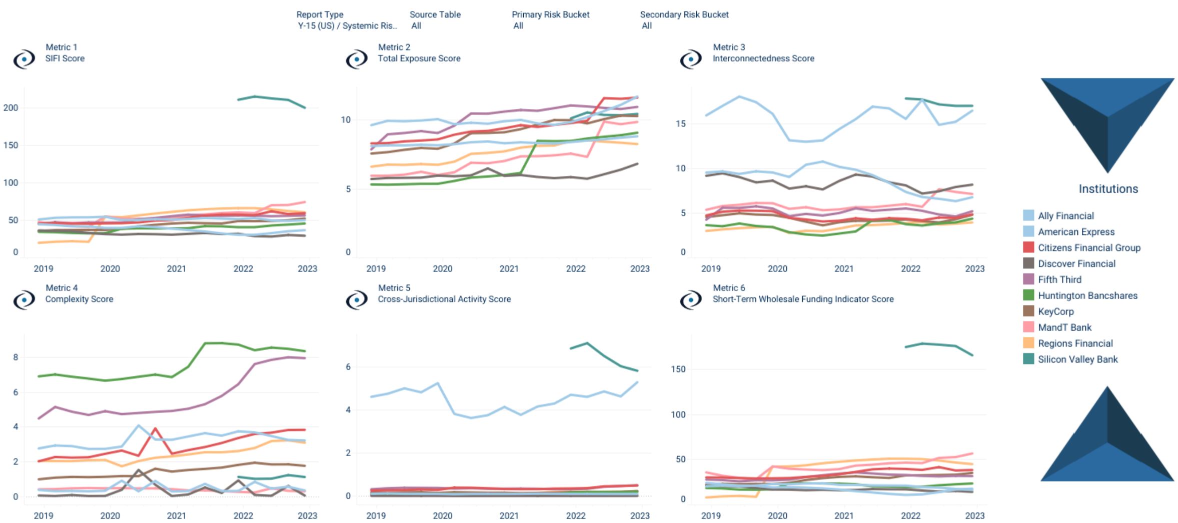
[2] As an offering of GARP since 2012, the GARP Benchmarking Initiative (GBI) has provided the Financial Services Industry with an independent, non-partisan platform from which to conduct cross-border, regional or other studies on sensitive data in an efficient, secure, standardized way. GBI has completed over 100 studies to date on a range of risk management topics with participation from over 120 global financial services firms, including 75 large and internationally active banks (26 G-SIBs).

This analysis was done using the GBI P3+ Platform. The P3+ Platform is a repository of regulatory capital disclosure data from banks globally over the last decade, tools for monitoring and collecting new releases of regulatory data and a platform providing easy visualization and peer comparison of capital and liquidity ratios, risk weighted assets and detailed risk metrics. The platform covers over 100 banks in 22 countries and includes data from Pillar 3 disclosures, Basel High-Level Indicator disclosures and other regulatory reports, including FFIEC 101, FFIEC 102, Y-9C and Y-15 reports in the US.

[3] The Federal Reserve published a set of quantitative rules in October 2019 intended to tailor regulations for the largest U.S. banks to more closely match their risk profiles. Known as the Tailoring Rule, each bank is assigned to one of five buckets based upon its risk profile. The U.S. G-SIBs are assigned to Category I. At the time it collapsed, SVB was assigned to Category IV.

Figure 1 depicts the component breakdown of each Category IV bank's systemic risk profile, called a SiFi score, by systemic risk indicator. In short, it shows that SVB FG's systemic risk profile was significantly higher than that of the other banks.

Figure 1: Breakdown of Category IV Banks by Systemic Risk Indicator (2019-2022)

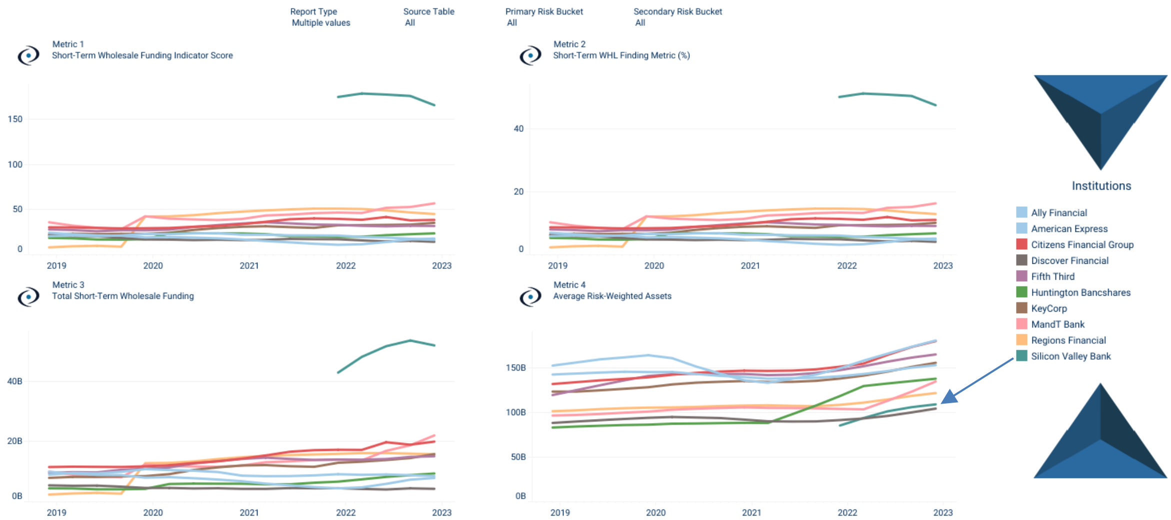


Source: GARP Pillar 3+ platform

The drivers causing SVB FG's SiFi score to be so much higher than the rest of the pack are the level of interconnectedness with the rest of the financial sector, cross-border activity and, in particular, short-term wholesale funding.

A bank's short-term wholesale funding indicator score is a function of its ratio of total short-term wholesale funding to its average risk-weighted assets. This ratio is known as the short-term wholesale funding metric.

Figure 2: Breakdown of Category IV Banks by Short-Term Wholesale Funding Indicator (2019-2022)



Source: [GARP Pillar 3+ platform]

As depicted in Figure 2, SVB FG's average risk-weighted assets were approximately 75% of the group average, but its level of short-term wholesale funding was multiples of the rest of the Category IV banks.

To better understand the SiFi score and how SVB arrived at this stage, let's take a look at the regulators' measurement of systemic risk, both in the U.S. and abroad.

Getting to Know SVB: More Systemic Risk Insights

At the time it collapsed, SVB FG was categorized as a Category IV U.S. bank holding company under the Federal Reserve's Tailoring Rule. This rule operates on just a few indicators of systemic risk. For example, the Category IV designation is determined solely on the basis of total consolidated assets, with lower and upper bounds of $100 billion and $250 billion, respectively.

According to group 10-K reports, SVB FG's total assets grew from $71 billion at year-end 2019 to $116 billion at year-end 2020. The Federal Reserve moved SVB FG into the Category IV bucket only in 2021, by which time group total assets had grown even further, to $212 billion at year-end.

Disclosure of a much broader set of systemic risk indicators is required, in accordance with the Fed's FR Y-15 reporting template, for every U.S. bank holding company categorized as either a global systemically important bank (G-SIB) or a Category II, III or IV bank.

Regulatory bodies outside the U.S. have similar disclosure requirements for the largest banks operating in their own jurisdictions. At the global level, the Basel Committee and the Financial Stability Board use these disclosure reports from approximately 76 banks to create SiFi scores and publish their list of G-SIBs – bucketed by a capital surcharge – each November.

The Federal Reserve reviews the same disclosure reports for the 40 banks in the U.S. categorized as either G-SIB[4], Category II, Category III or Category IV. Sixteen of these banks are foreign banks with substantial footprints in the U.S.

The capital surcharge imposed by the Federal Reserve on the G-SIBs is also calculated based upon a SiFi score but derived from a methodology that differs slightly from that used at the global level and is commonly known as Method II. This methodology nevertheless uses the previously-mentioned systemic risk indicators: on- and off-balance sheet exposures, intra-financial system exposures, cross-border activity, complexity and short-term funding levels.

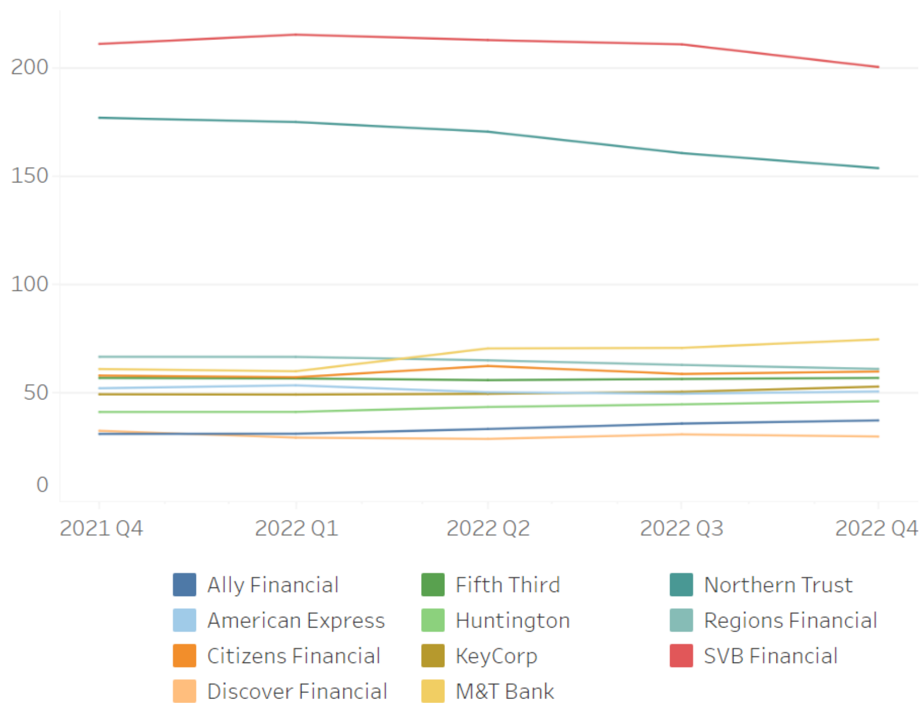
So, we can calculate a SiFi score for every G-SIB, Category II, III, and IV bank and benchmark each on the same basis.

[4] Bank of America, Bank of New York Mellon, Citigroup, Goldman Sachs, JPMorgan Chase, Morgan Stanley, State Street, and Wells Fargo

Figure 3 provides a snapshot view of SVB FG's SiFi score alongside those for Northern Trust (Category II) and the rest of the Category IV U.S. banks.

Figure 3: Listing of Bank Systemic Risk Scores (2021-2022)

	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4
SVB Financial	211	215	213	211	200
Northern Trust	177	175	171	161	154
M&T Bank	61	60	70	71	74
Regions Financial	66	66	65	63	61
Citizens Financial	58	57	62	58	60
Fifth Third	57	56	56	56	57
American Express	52	53	50	49	50
KeyCorp	49	49	49	50	53
Huntington	41	41	43	44	46
Ally Financial	31	31	33	35	37
Discover Financial	32	29	28	30	29



Source: GARP Pillar 3+ platform

The parameters that drive the Tailoring Rule bucketing, the SiFi scores and their corresponding component breakdown are programmed into the GARP Pillar 3+ platform and refreshed automatically each quarter upon the release of each bank's FR Y-15 report. The platform provides a dashboard that shows any migration between buckets and an analysis area that allows the user to spot any potential for migration between buckets.

The collapse of SVB, and the subsequent shutdown of Signature Bank, have raised many of the same systemic risk alarm bells we have heard in the past. There will be more news about the impact of these failures in the days and weeks ahead. More importantly, there will be more systemic events like these in the future.

To be better prepared for future crises and to make more proactive, well-informed decisions, risk management professionals will need to use tools that give them a stronger grasp of both the systemic risk profiles of banks and the rules imposed by their regulators.

Chris Donohue (PhD), Managing Director, is the head of the GARP Benchmarking Initiative (GBI).

Bryan Feierstein, Senior Vice President, is a GBI study analyst and subject matter lead for GBI's Pillar 3+ content.

Eli Crane, Vice President, is a GBI project manager and technology lead for GBI's study platform and the Pillar 3+ site.