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March 22, 2023

Portfolio Strategy March 2023

A New Age Banking Crisis

Loan Growth, At Too High a Price

- The regional banks, a less-regulated part of that industry, have been the lenders of choice in recent years. The large-cap public ones, that number less than two dozen, accounted for 17.5% of the industry's entire loan book in 2019 and thereafter they sourced around 40% of all loan growth. They were an engine for the booming deposit growth of the period too, sourcing a quarter of it, compared to their 15% share of the base. Their importance to the system's credit creation, along with the likelihood of tighter regulation of them, raises the latest crisis to the level of a macroeconomic event. That concern has been echoed in the fat left tail of financial sector returns, an indicator of systemic risk. We've long found that banks with the fastest asset growth were to be avoided, and that's once again proven to be the case.
- Most banking crises have been rooted in lending woes, and in the last two, in 1990 and 2008, it took a year or more for them to hit bottom. This one, that's tied to deposit betas and unrealized losses of various sorts, is playing out much more quickly, and we've seen an equivalent amount of underperformance in just a couple of weeks. While contagious, for now at least it seems less so than a credit-based malady. It's entirely possible though that it will yet metastasize into a credit cycle, as tighter regulation leads to a crunch. We're most worried about that possibility in commercial real estate, where cap rates (and non-performers) have been exceptionally low, and there's been lots of lending lately, with the regionals at the heart of what's gone on. Credit standards were already being tightened before the crisis hit.
- The financial stocks perform best when there's great stress priced into market's valuation paradigm. We're getting near that threshold, and both our market-wide valuation spreads and those in the financial sector sit around a standard deviation above their norms. It looks to us like a value opportunity that's still in formation and we should be patient. And, given the near-record readings of our downside and arbitrage risk gauges in the banking industry, we think we should tiptoe, rather than leap, into that void. Appendix 1 on page 13 presents financials with the most downside risk, meaning they're volatile on days they underperform. That's historically been a sign of trouble. What's more encouraging is the homogeneity of multiples across the regional banking group, suggesting there are already deep-seated fears, tied in part to re-regulation being priced in. Stock picking should eventually be rewarded there.
- Before this crisis hit we had thought the odds of a recession were somewhere around 50:50, and the forecast built into the equity market made more sense than the near certainty being expressed by the yield curve and analyses of the historical precedents. Our rationale was that when starting from a high level of inflation, the changes can be big in either direction, and there was some chance of catching a lucky break. The chance of a recession now seems to be up, although it's hard to know what should take precedence, a less-aggressive Fed or the prospect of a credit crunch. The dichotomy seems to favor growth stocks.

Conclusion: Still Driving Sensibly

- While we think we understand some of what's going on in the banking system, we're not sure what the end game looks like. Confidence and contagion are hard to model and our indicators suggest it's still too early to make a big value bet. Our Regime Indicator moved to a growth-tilted position in late-July of last year and remains in that stance today. It's recommending a GARP(y) approach to stock selection. In the last eight months our Distrusted Fifty, that embodies that philosophy, has outperformed the S&P 500 by +7 points. Appendix 2 on page 13 presents the stocks that make it up.

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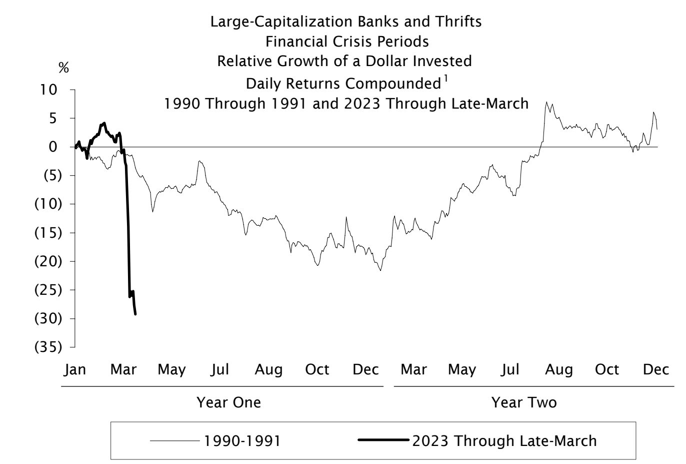
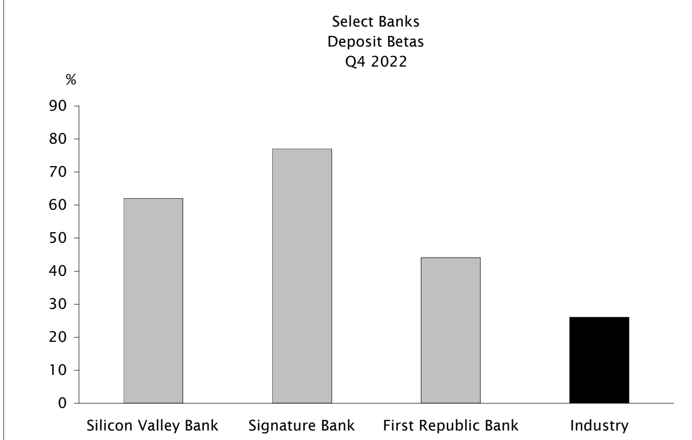
Conclusions in Brief

- The last two banking crises took a year or more to play out…



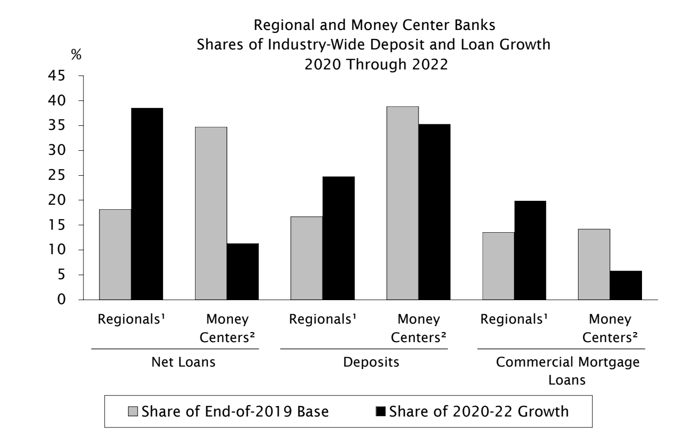
Source: Empirical Research Partners Analysis.
¹Equally-weighted data, includes the impact of failed institutions on industry returns.

- …Although this one, that's tied to deposit betas, could be entirely different:



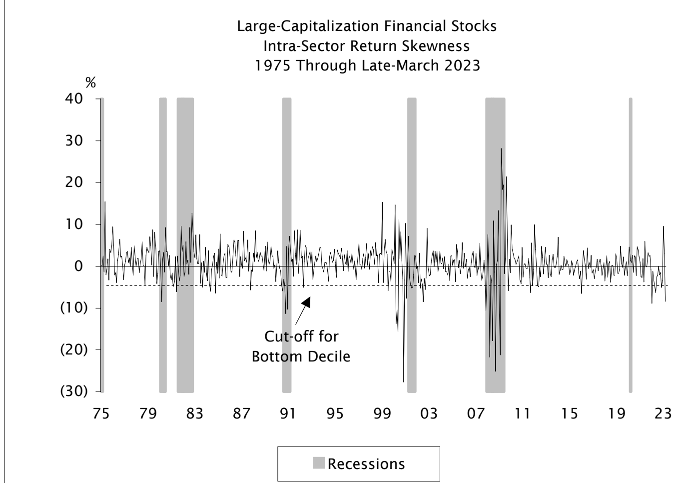
Source: Corporate Reports.

- The regionals have driven system-wide loan growth…



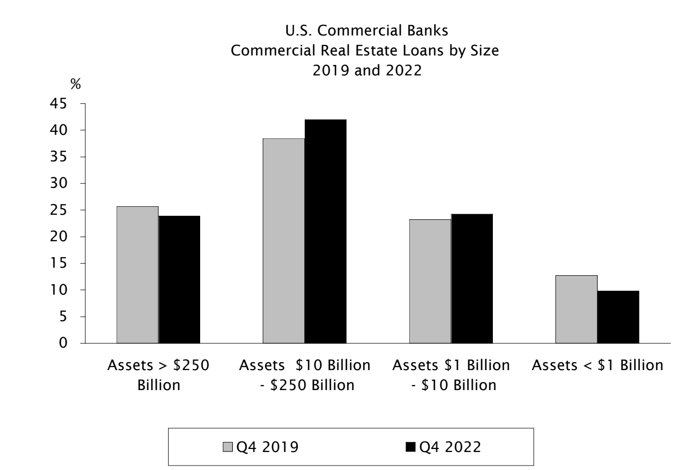
Source: Corporate Reports, FDIC, Federal Reserve Board, Empirical Research Partners Analysis.
¹22 regional and trust banks; 2019 base amounts adjusted for FCNCA's acquisition of CIT in Jan. 2022. Excludes the effects of the partial acquisition of Sterling Bancorp by WBS in Jan. 2022.
²J.P. Morgan, Wells Fargo, Bank of America, Citigroup and Bank of New York Mellon.

- …And given that, the recent fat negative tail in financial sector returns is worrisome for the market:



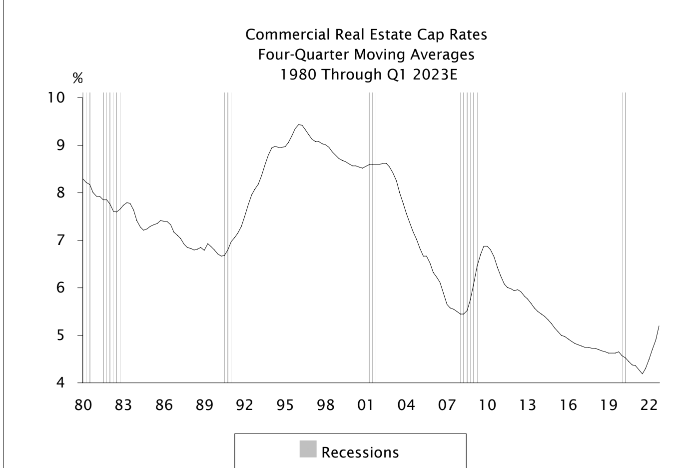
Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

- The regionals were also important commercial real estate lenders…



Source: FDIC, Empirical Research Partners Analysis.

- …And the trough in cap rates was low:



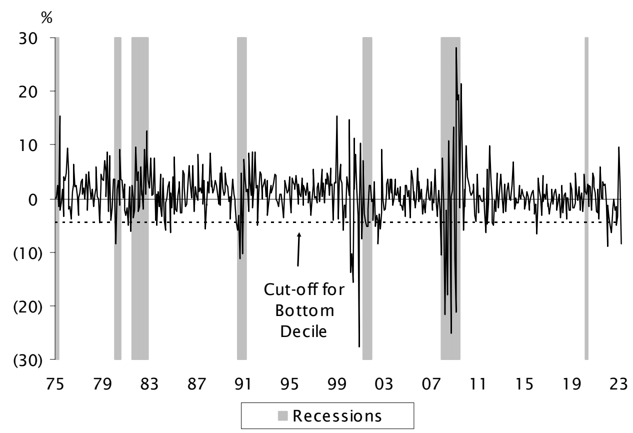
Source: NCREIF, National Bureau of Economic Research, Empirical Research Partners Analysis.

The Breaking Point? A New Age Banking Crisis

A Tail Event, Once Again Involving Some Big Growers

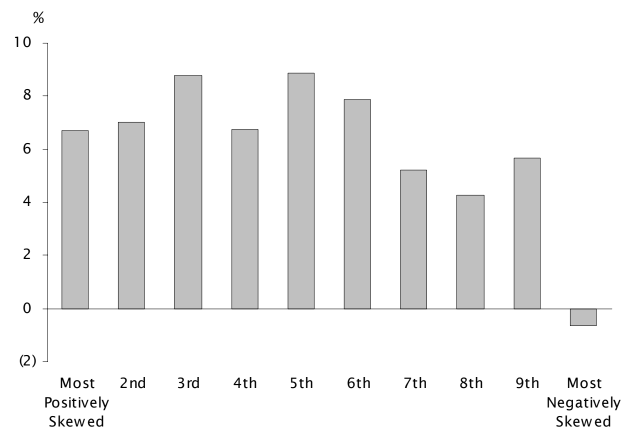
A market indicator we watch measures the skewness of returns across the financial sector, and a fat left tail has been associated with sub-par equity market performance ahead. What's unfolded over the last week or so created a tail that's fat enough to qualify as a bottom-decile result, and following such readings equities have typically struggled (see Exhibits 1 and 2). Valuation spreads within the financial sector have widened too, rising by about a standard deviation, but they're still far below the levels reached in earlier banking crises (see Exhibit 3).

Exhibit 1: Large-Capitalization Financial Stocks Intra-Sector Return Skewness 1975 Through Late-March 2023



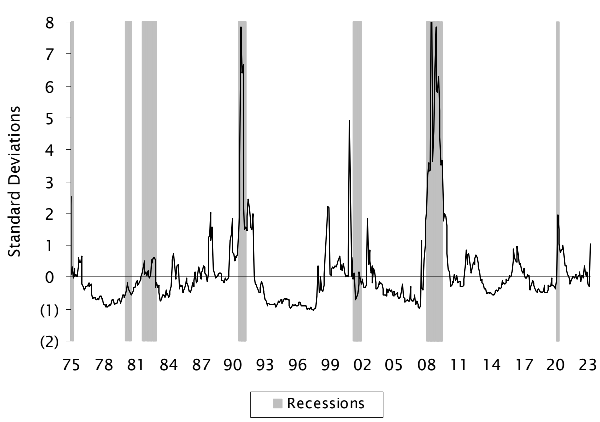
Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

Exhibit 2: Large-Capitalization Stocks Market Performance Depending on the Skewness in Financial Sector Returns Measured over Six Months 1975 Through Mid-March 2023



Source: Empirical Research Partners Analysis.

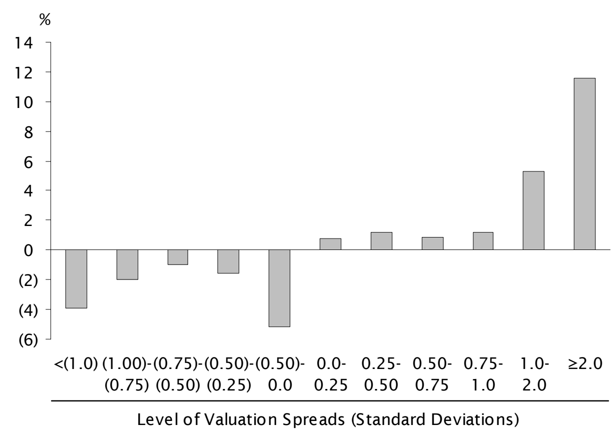
Exhibit 3: Financial Stocks Intra-Sector Valuation Spreads: Lowest Quintile Compared to the Average[1] 1975 Through Mid-March 2023



Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

[1]Based on book-to-price differentials, using financials drawn from a universe of 1,500 issues.

Exhibit 4: Large-Capitalization Financial Stocks Annual Relative Returns Depending on the Level of Market-Wide Valuation Spreads[1] Monthly Data Compounded 1975 Through February 2023

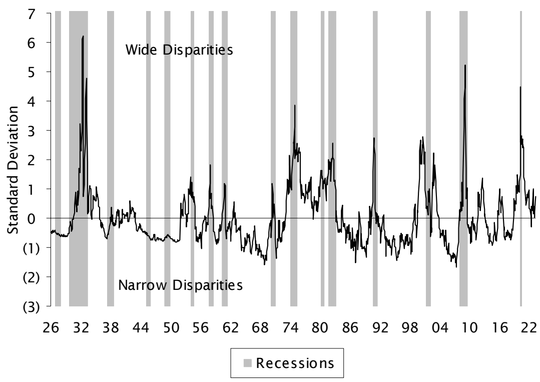


Source: Empirical Research Partners Analysis.

[1]Capitalizaton-weighted data.

We've long found that the best time to invest in financial stocks has been when the stresses were palpable and our market-wide valuation spreads were a standard deviation or more above their long-term norm (see Exhibit 4). They're currently approaching that level and they sit just below the one standard deviation level (see Exhibit 5). The conclusion is much the same when measure intra-sector stresses (see Exhibit 6). When we want to bet on value in the financials the opportunities are obvious. The bottom line is that a lot has unfolded in a very short period of time, yet the stresses haven't yet been priced in sufficiently to create a once-in-a-decade opportunity.

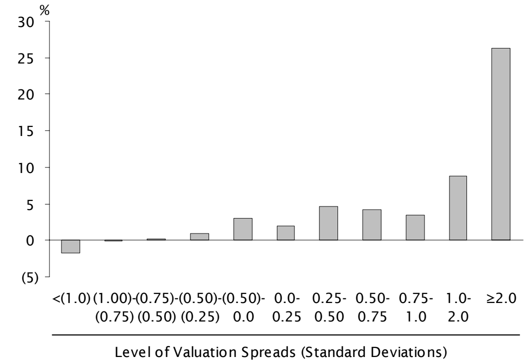
Exhibit 5: Large-Capitalization Stocks Valuation Spreads: Expected Return of the Top Quintile Compared to the Average[1] 1926 Through Late-March 2023



Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

[1]Based on our inclusive valuation super factor since 1952, and price-to-book differentials from 1926-1951.

Exhibit 6: Large-Capitalization Financial Stocks[1] Lowest Quintile of Valuation Sector-Relative Returns Depending on the Level of Intra-Sectoral Valuation Spreads[2] Monthly Data Compounded to Annual Periods 1970 Through Mid-March 2023

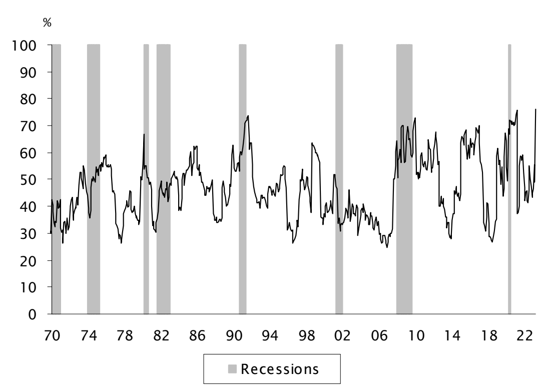


Source: Empirical Research Partners Analysis.

[1]Drawn from the largest 1,500 stocks.
[2]Equally-weighted data.

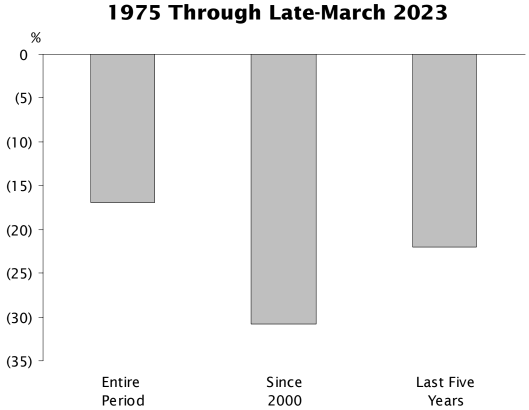
Bank stocks have suddenly become very controversial, and they're demonstrating high downside risk, meaning they are volatile on days they underperform the market (see Exhibit 7). That gauge has been an exceptionally-potent indicator for the industry (see Exhibit 8). Appendix 1 on page 13 lists the stocks that currently rank in the worst quintile of downside risk, along with their failure model scores. While the concerns have spread throughout the sector, this time the regional banks lie in the eye of the storm (see Exhibits 9 and 10).

Exhibit 7: Large-Capitalization Bank Stocks Percentile Ranks of Downside Risk (1=Lowest; 100=Highest) 1970 Through Mid-March 2023



Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

Exhibit 8: Large-Cap Bank and Consumer Finance Stocks Relative Returns of the Worst Quintile of Downside Risk Monthly Data Compounded to Annual Periods[1] 1975 Through Late-March 2023



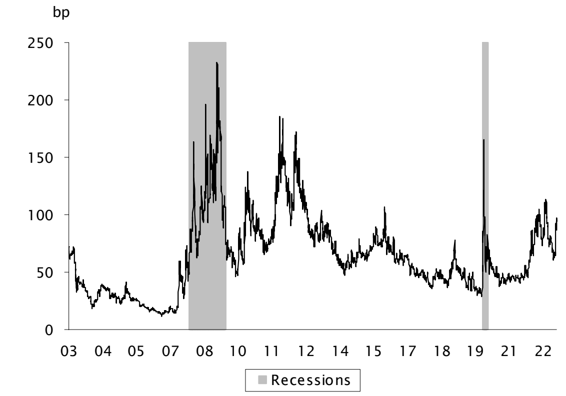
Source: Empirical Research Partners Analysis.

[1]Ranked across and returns relative to large-capitalization stocks.

Expansive Banks, Uh-Oh

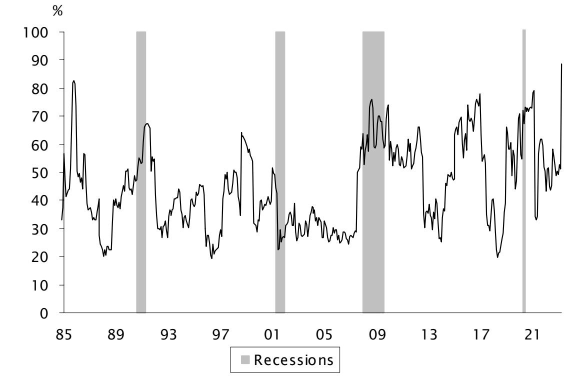
Banking is a cyclical, financially-leveraged business with limited growth prospects, and given that, the companies that've expanded their balance sheets the fastest have often underperformed their peers (see Exhibit 11). In recent years regional banks led, having been less burdened by regulation than their systemically-important larger counterparts. The FDIC insures more than 4,200 institutions, yet in the last few years 20 publicly-held regionals and two trust banks accounted for almost 40% of system-wide loan growth (see Exhibit 12). That share was more than three times that of the handful of remaining money center banks, and more important, was double the regionals' representation in the base of loans outstanding circa 2019. The regionals also have lower capital ratios, leaving them vulnerable should a lot go wrong (see Exhibit 13). We can see what's played out in Exhibit 14, that presents cumulative loan growth by institution over the last three years, while Exhibit 15 does the same for deposit growth. The bars for the money center banks are striped.

Exhibit 9: J.P. Morgan Chase
Five-Year Credit Default Swap Spreads
2003 Through Late-March 2023



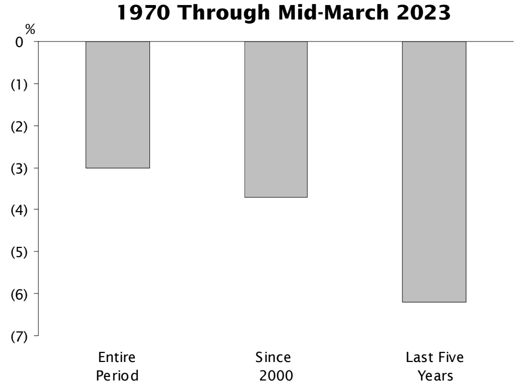
Source: National Bureau of Economic Research, Bloomberg L.P.

Exhibit 10: Large-Capitalization Regional Banks
Percentile Ranks of Downside Risk
(1=Lowest; 100=Highest)
1985 Through Mid-March 2023



Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

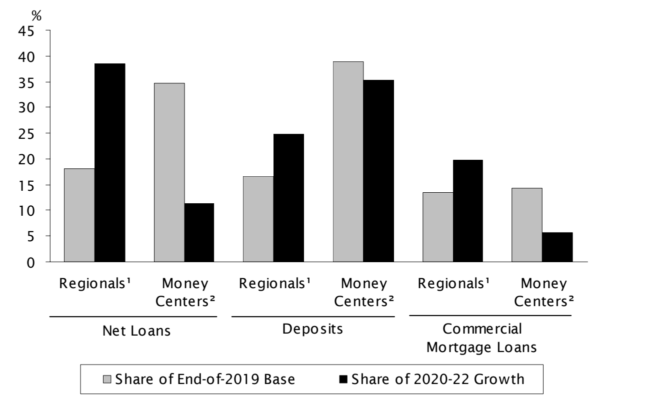
Exhibit 11: Bank Stocks[1]
The Fastest Quintile of Asset Growth:
***Sector* Relative Returns**
Monthly Data Compounded to Annual Periods
1970 Through Mid-March 2023



Source: Empirical Research Partners Analysis.

[1]Drawn from a universe of 1,500 stocks.

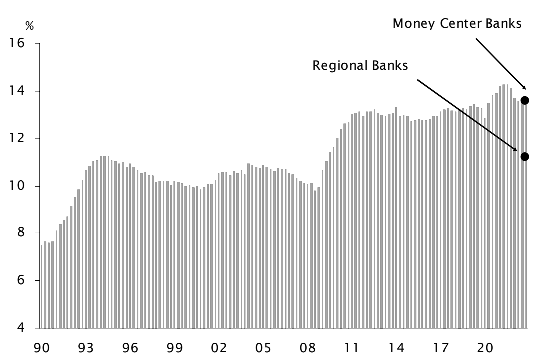
Exhibit 12: Regional and Money Center Banks
Shares of Industry-Wide Deposit and Loan Growth
2020 Through 2022



Source: Corporate Reports, FDIC, Federal Reserve Board, Empirical Research Partners Analysis.

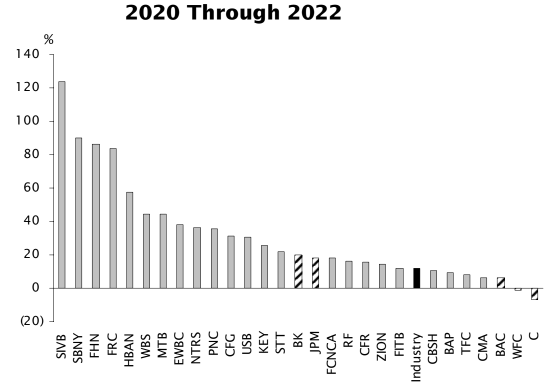
[1]22 regional and trust banks; 2019 base amounts adjusted for FCNCA's acquisition of CIT in Jan. 2022. Excludes the effects of the partial acquisition of Sterling Bancorp by WBS in Jan. 2022.
[2]J.P. Morgan, Wells Fargo, Bank of America, Citigroup and Bank of New York Mellon.

Exhibit 13: U.S. Commercial Banks
Tier 1 Risk-Based Capital Ratios
1990 Through 2022



Source: Corporate Reports, FDIC.

Exhibit 14: Large-Cap Regional and Money Center Banks
Cumulative Loan Growth[1]
2020 Through 2022

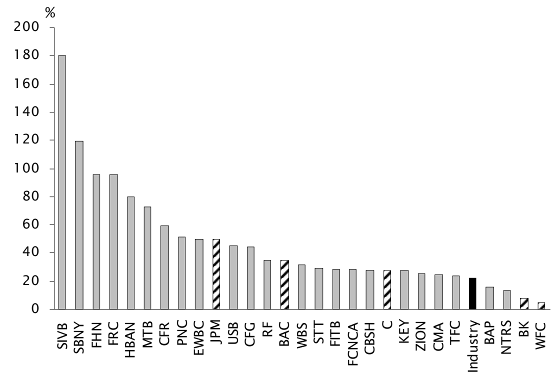


Source: Corporate Reports, FDIC.

[1]2019 base amounts adjusted for FCNCA's acquisition of CIT in Jan. 2022. Excludes the effects of the partial acquisition of Sterling Bancorp by WBS in Jan. 2022.

The banks that've failed or gotten into deep trouble in recent weeks had grown their deposits three times faster than the industry, drawing on a primarily business clientele (see Exhibits 16 and 17). That's reflected in both their deposit betas and net interest margins (see Exhibits 18 and 19).

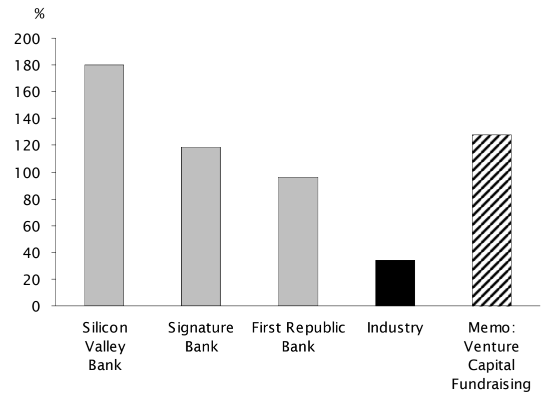
Exhibit 15: Large-Cap Regional and Money Center Banks Cumulative Deposit Growth[1] 2020 Through 2022



Source: Corporate Reports, FDIC.

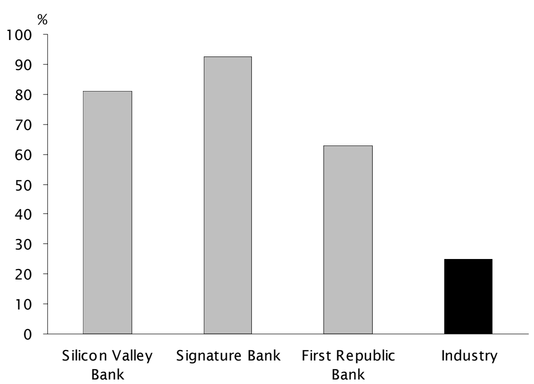
[1]2019 base amounts adjusted for FCNCA's acquisition of CIT in Jan. 2022. Excludes the effects of the partial acquisition of Sterling Bancorp by WBS in Jan. 2022.

Exhibit 16: Select Banks Cumulative Deposit Growth 2020 Through 2022



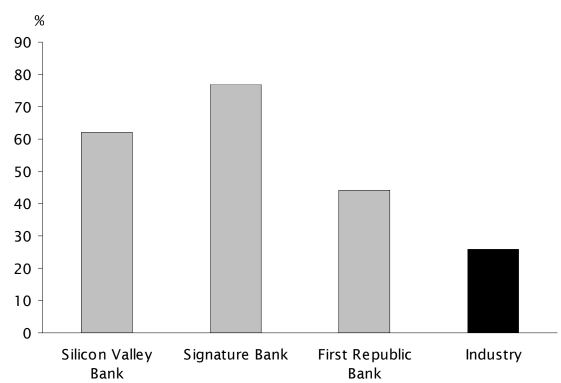
Source: Corporate Reports, FDIC, PitchBook.

Exhibit 17: Select Banks Business Share of Deposits 2022



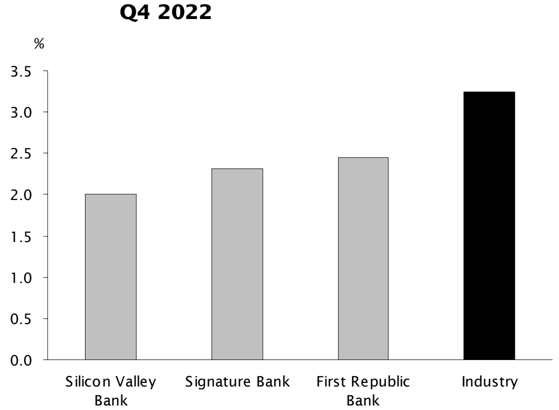
Source: Corporate Reports, Empirical Research Partners Analysis.

Exhibit 18: Select Banks Deposit Betas Q4 2022



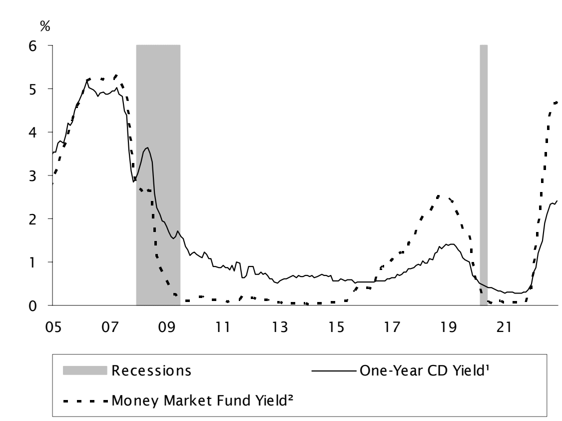
Source: Corporate Reports.

Exhibit 19: Select Banks Net Interest Margins Q4 2022



Source: Corporate Reports.

Exhibit 20: One-Year CD and Money Market Fund Yields May 2005 Through Mid-March 2023



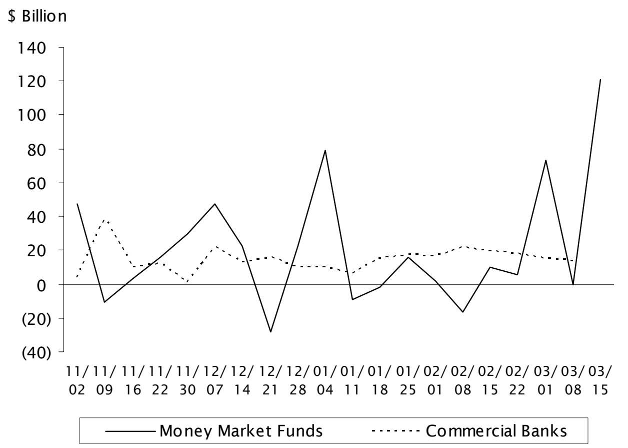
Source: Bloomberg L.P., National Bureau of Economic Research, Empirical Research Partners Analysis.

[1]For California.
[2]JPMorgan Prime Money Market Fund.

Silicon Valley Bank: Rode the Wave

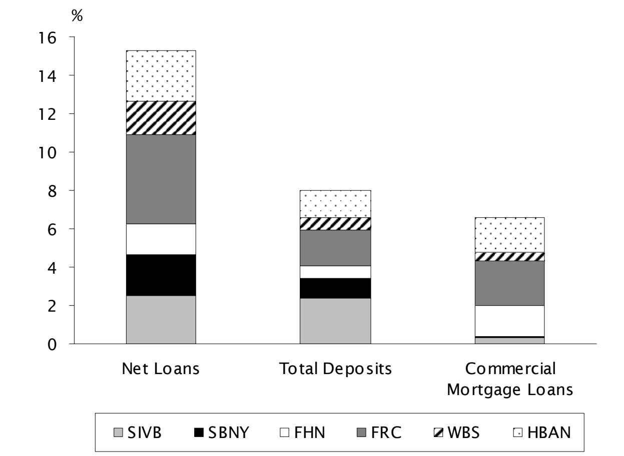
The failure of Silicon Valley Bank was an unfortunate side effect of the peaking of a venture capital super cycle. That became a real problem when the Fed lifted short rates, aggressively, creating a big incentive for sophisticated depositors to leave the banking system for the greener pastures of money market funds (see Exhibit 20 overleaf). That's what happened in recent months as monetary policy helped foster a run on some growth-focused banks (see Exhibit 21). Exhibit 22 examines the influence of the six fastest-growing publicly-held regionals on the system.

Exhibit 21: Money Market Mutual Fund Assets and Large-Time Deposits of U.S. Commercial Banks Week-over-Week Changes November 2022 Through Mid-March 2022



Source: Federal Reserve Bank, Investment Company Institute, Empirical Research Partners Analysis.

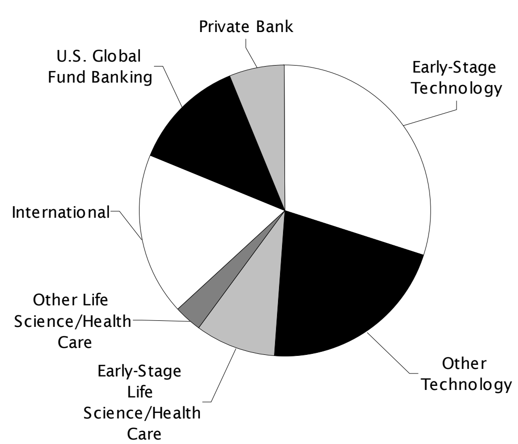
Exhibit 22: Top Six Regional Banks By Three-Year Loan Growth Rates Deposits and Loan Shares of Industry Growth[1] 2020 Through 2022



Source: Corporate Reports, Federal Reserve Board, FDIC, Empirical Research Partners Analysis.

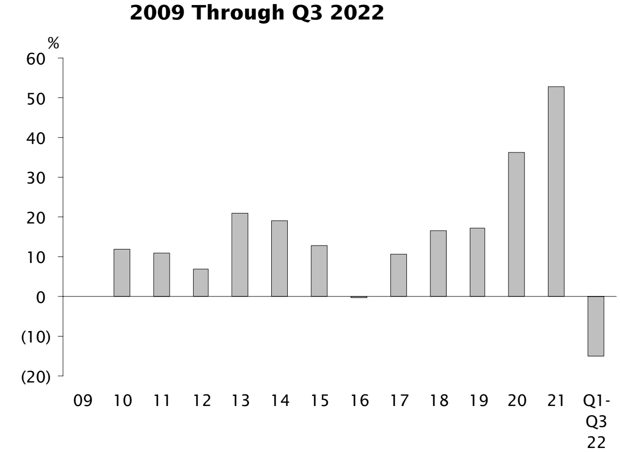
[1]Excludes the effects of the partial acquisition of Sterling Bancorp by WBS in Jan. 2022.

Exhibit 23: Silicon Valley Bank Client Deposits by Industry Year-End 2022



Source: Corporate Reports.

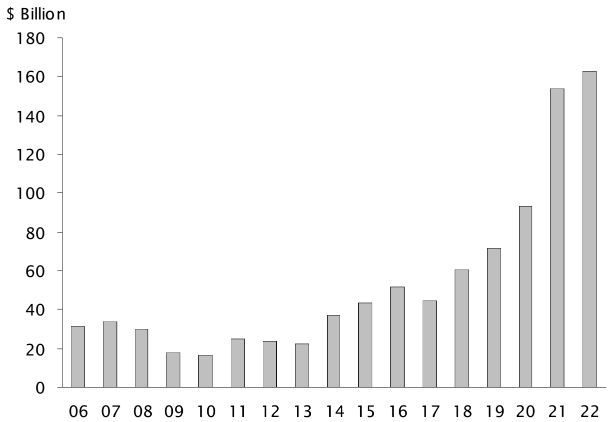
Exhibit 24: U.S. Venture Capital Annual Returns 2009 Through Q3 2022



Source: PitchBook, Cambridge Associates.

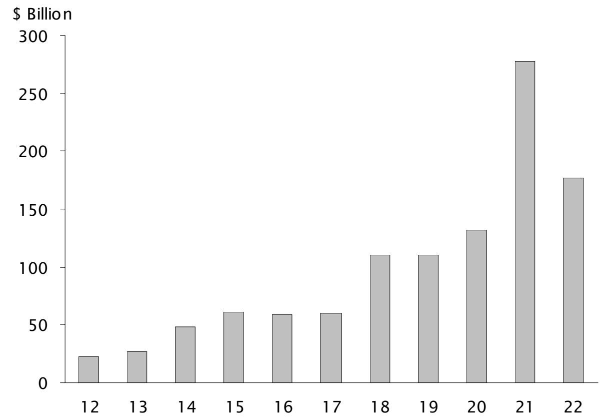
Silicon Valley bank was a special case and early-stage venture capital-sponsored companies made up much of its depositor base (see Exhibit 23). Their fates were ultimately linked to the fundraising and liquidity of the venture capital business, that much as it had done two decades earlier, took a turn for the worse. After a period of great performance, characterized by rising multiples and easy exits to the public markets, large sums of new capital flowed in, some from investors new to the field (see Exhibits 24 through 26). Much of it was put to work in 2021, a record year for investments (see Exhibit 27). The music has stopped, and while the industry has around $300 billion of dry powder, it only equates to a year of investment spending (see Exhibit 28). It's likely to benefit the more-mature portfolio companies, that are seen as surer bets. Last year the demand for funds by venture capital-owned companies outstripped the supply, and that reversal was mimicked in the deposit flows of SVB, that true to its name had positioned itself as a pure play on the fundraising success of the industry (see Exhibits 29 and 30).

Exhibit 25: U.S. Venture Capital New Funds Raised 2006 Through 2022



Source: PitchBook.

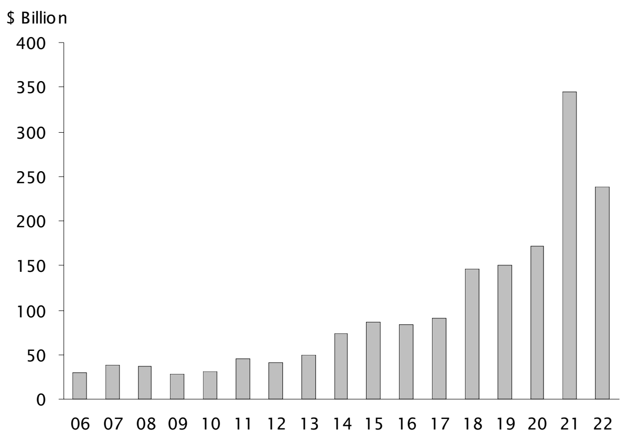
Exhibit 26: U.S. Venture Capital Investments By Non-Traditional Investors[1] 2012 Through 2022



Source: PitchBook.

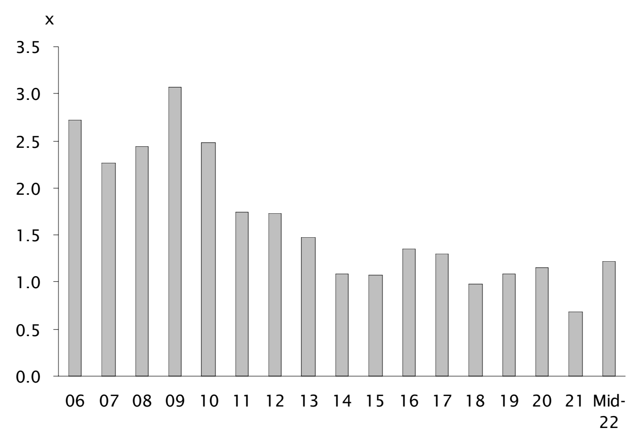
[1]Corporations, buyout firms, asset managers, hedge funds and sovereign wealth funds.

Exhibit 27: U.S. Venture Capital Total Investments 2006 Through 2022



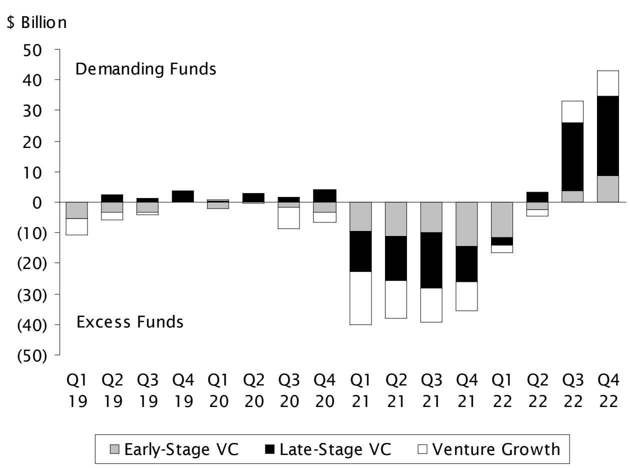
Source: PitchBook, Empirical Research Partners Analysis.

Exhibit 28: U.S. Venture Capital Dry Powder-to-Investment Outlays 2006 Through Mid-2022



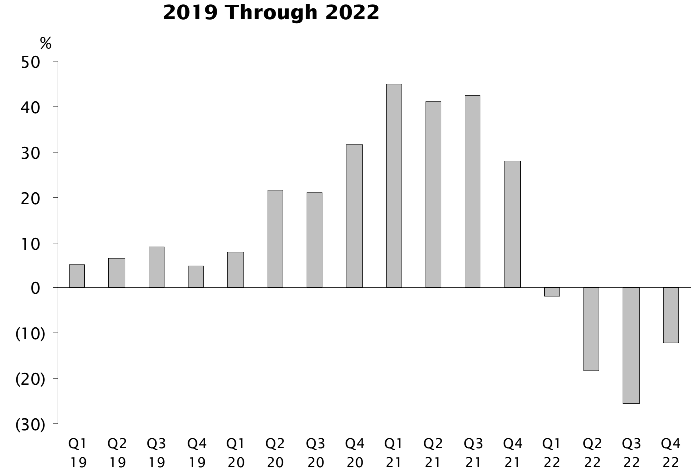
Source: PitchBook.

Exhibit 29: U.S. Venture Capital Demand - Supply of Funds by Stage 2019 Through 2022



Source: PitchBook.

Exhibit 30: Silicon Valley Bank Total Client Funds Quarter-to-Quarter Growth Rates 2019 Through 2022

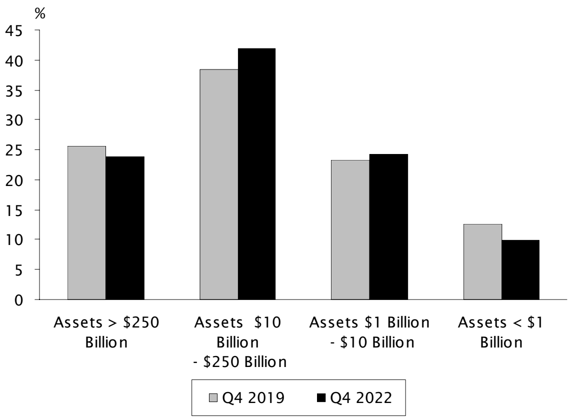


Source: Corporate Reports.

Commercial Real Estate Lending: Trouble Ahead?

Most commercial real estate lending is done by banks with less than $250 billion in assets, that haven't been classified as systemically important (see Exhibit 31). Commercial cap rates, that had been falling for two decades, turned higher last year (see Exhibit 32). Construction spending has been strong lately (see Exhibit 33).

Exhibit 31: U.S. Commercial Banks
Commercial Real Estate Loans By Size
2019 and 2022

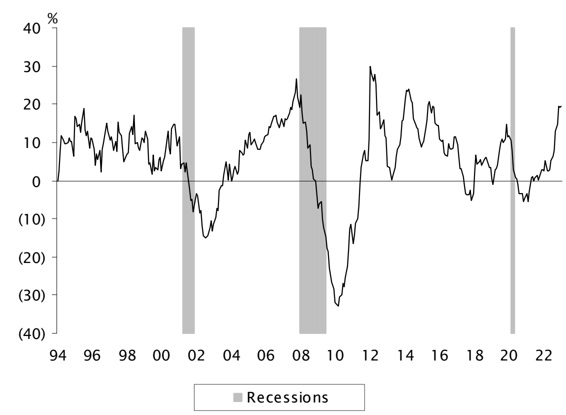


Source: FDIC, Empirical Research Partners Analysis.

Exhibit 32: Commercial Real Estate Cap Rates
Four-Quarter Moving Averages
1980 Through Q1 2023E

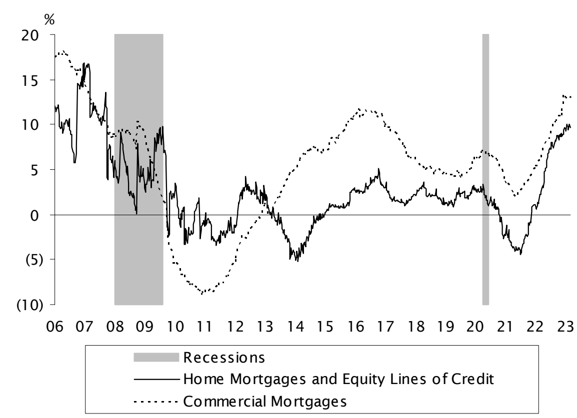
Source: NCREIF, National Bureau of Economic Research, Empirical Research Partners Analysis.

Exhibit 33: Commercial Real Estate Construction Spending
Year-over-Year Changes
1994 Through January 2023



Source: U.S. Census Bureau, National Bureau of Economic Research, Empirical Research Partners Analysis.

Exhibit 34: U.S. Commercial Banks
Home and Commercial Mortgage Loans
Year-over-Year Changes
2006 Through Early-March 2023



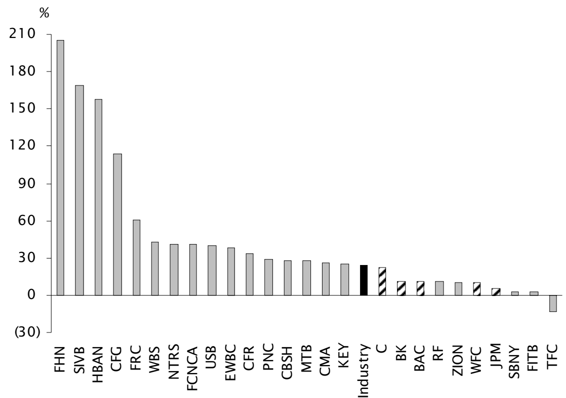
Source: Board of Governors of the Federal Reserve, National Bureau of Economic Research, Empirical Research Partners Analysis.

Bank lending on commercial properties has been growing rapidly for a decade, including in the last couple of years (see Exhibit 34). Last year gross loan originations topped $850 billion, more than double the level of a decade earlier. The growth rates of commercial mortgage books of some regionals have been eye-popping, and for a few the category represents more than a quarter of their portfolios (see Exhibits 35 and 36). Banks were already tightening commercial mortgage lending standards before the latest crisis erupted, even though loan losses have thus far been low (see Exhibits 37 and 38). We're afraid there may be another shoe to drop here and almost a tenth of the loans mature this year.

Conclusion: A New Age Banking Crisis

An insightful client pointed out that if you put a lot of mid-sized banks together they end up being systematically important. Never have truer words been spoken. The numbers tell the tale. The 22 publicly-held larger-cap regional and trust banks in our large-cap universe accounted for 15% of the industry's deposit base at the end-of-2019 yet sourced a quarter of the growth in them in the next three years. The comparable numbers for net loans were even more striking, at 17.5% and 38% respectively. Investors saw the regionals as offering superior growth prospects, certainly when compared to their hamstrung money center peers (see Exhibit 39). Unfortunately a year of tighter monetary policy undermined the assumptions that underlay their business models, as the yields of money market funds gapped away from those on CDs, big bond investments turned into money losers, and the boom in Silicon Valley, led by venture capital firms, ground to a halt (see Exhibit 40). Our work on the dangers of rapid balance sheet growth in the banking industry again proved worthwhile, as in a business with so many uncontrollables, a lot can go wrong.

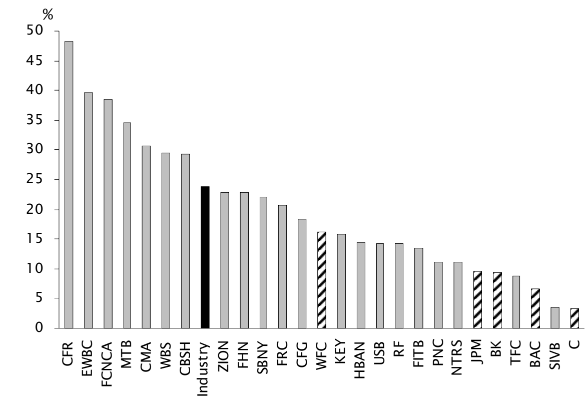
Exhibit 35: Cumulative Commercial Mortgage Loan Growth[1] 2020 Through 2022



Source: Corporate Reports, Federal Reserve Board, Empirical Research Partners Analysis.

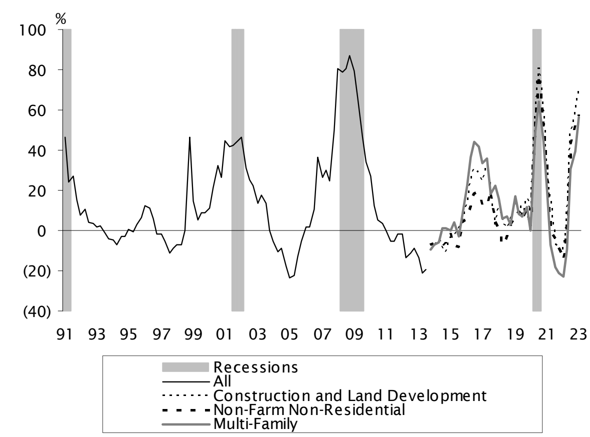
[1]2019 base amounts adjusted for FCNCA's acquisition of CIT in Jan. 2022. Excludes the effects of the partial acquisition of Sterling Bancorp by WBS in Jan. 2022.

Exhibit 36: Commercial Mortgage Loans As a Share of Loan Portfolios As of Q4 2022



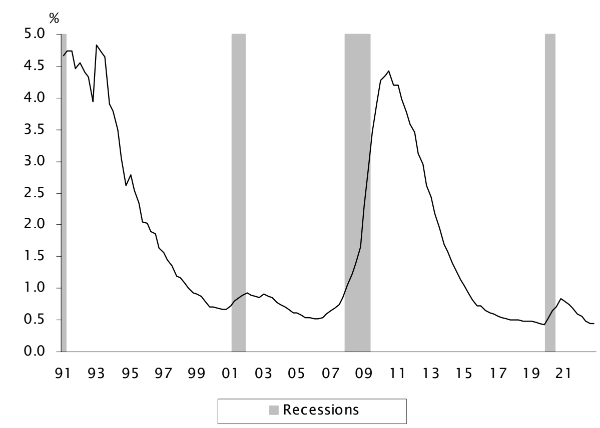
Source: Corporate Reports, Federal Reserve Board, Empirical Research Partners Analysis.

Exhibit 37: U.S. Commercial Banks Net Percentage of Domestic Respondents Tightening Standards for Commercial Mortgage Loans[1] 1991 Through Q1 2023



Source: Federal Reserve Board, National Bureau of Economic Research, Empirical Research Partners Analysis.

Exhibit 38: U.S. Commercial Banks Commercial Real Estate Loans Non-Performing Loan Ratios[1] 1991 Through 2022



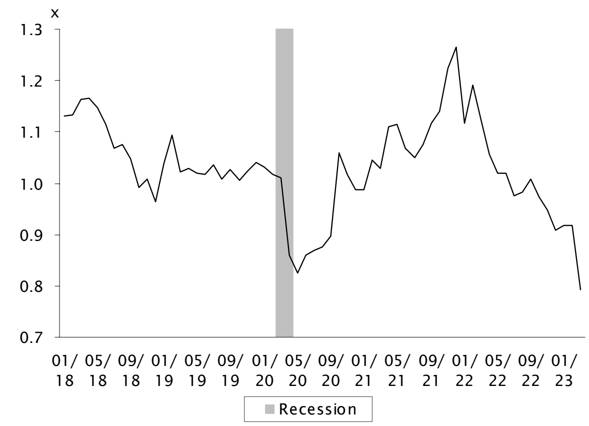
Source: FDIC, National Bureau of Economic Research, Empirical Research Partners Analysis.

[1]Loans that are 90+ day past due or in non-accrual status as a share of total outstanding.

Banking crises are contagious as credit quality is gradually called into question, and in the last two, in 1990 and 2008, it took more than a year for them to fully unfold (see Exhibits 41 and 42). While what's gone on in recent weeks has been qualitatively different, it's been a classic run on the bank, there's once again been at least some contagion. What had taken a year to unfold before this time took two weeks. Exhibit 43 presents the daily debt issuance of the Federal Home Loan Bank, that informs us as to the funding stresses. It peaked at a spectacular level on March 14th and has recently returned to earth.

The regional banks are now mostly valued the same, based on their multiples of either tangible book value or forecast earnings (see Exhibits 44 and 45). The spillover effects are hard to assess, so everything in the general area has been painted with the same brush. The stocks look to be vulnerable to regulatory changes that would reduce their capital ratios and create liquidity requirements. There are also more rating downgrades on the horizon.

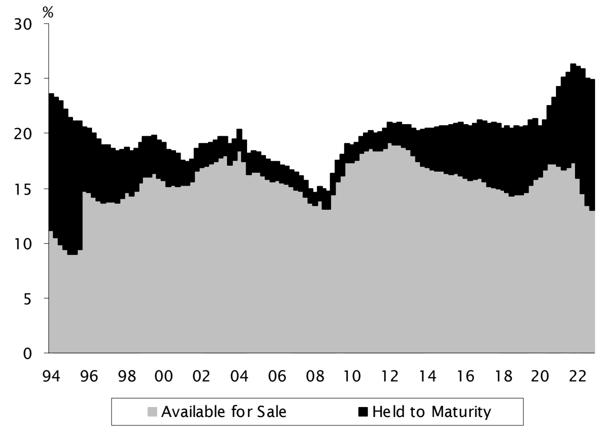
Exhibit 39: Large-Capitalization Regional Banks
Versus the Money Centers
Ratios of Forward-P/E Ratios¹
2018 Through Mid-March 2023



Source: Corporate Reports, National Bureau of Economic Research, Empirical Research Partners Analysis.

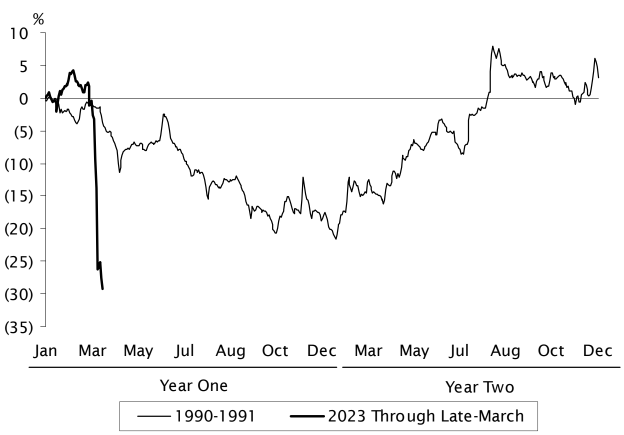
¹Equally-weighted data.

Exhibit 40: U.S. Commercial Banks
Securities Available for Sale and Held to Maturity
As a Share of Total Assets
1994 Through 2022



Source: FDIC, Empirical Research Partners Analysis.

Exhibit 41: Large-Capitalization Banks and Thrifts
Financial Crisis Periods
Relative Growth of a Dollar Invested
Daily Returns Compounded¹
1990 Through 1991 and 2023 Through Late-March



Source: Empirical Research Partners Analysis.

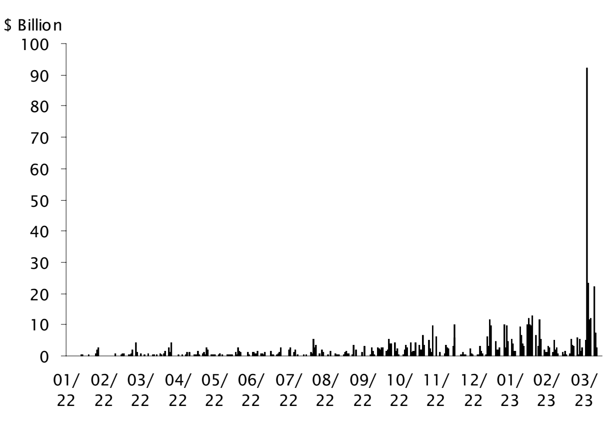
¹Equally-weighted data, includes the impact of failed institutions on industry returns.

Exhibit 42: Large-Capitalization Banks and Thrifts
Financial Crisis Periods
Relative Growth of a Dollar Invested
Daily Returns Compounded¹
2008 Through 2009 and 2023 Through Late-March

Source: Empirical Research Partners Analysis.

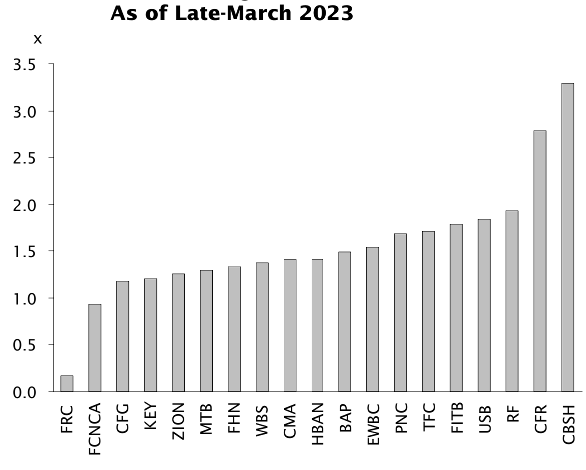
¹Equally-weighted data, includes the impact of failed institutions on industry returns.

Exhibit 43: Federal Home Loan Bank
Daily Debt Issuance
January 1, 2022 Through March 22, 2023



Source: Federal Home Loan Bank, Empirical Research Partners Analysis.

Exhibit 44: Large-Capitalization Regional Banks
Price-to-Tangible Book Ratios
As of Late-March 2023

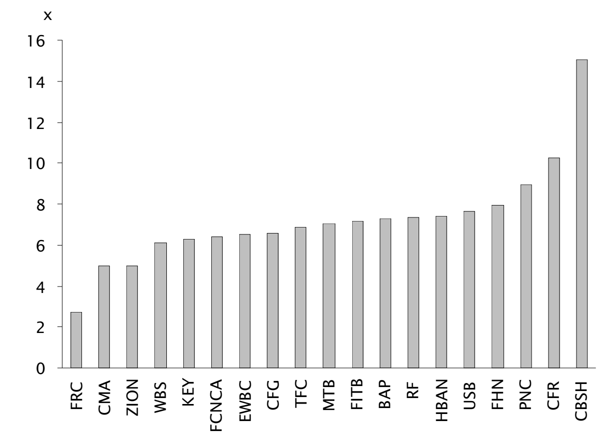


Source: Corporate Reports, Empirical Research Partners Analysis.

It's not clear whether this bank run will have legs or will follow the pattern of a news cycle and burn out. As we described earlier, our longer-term concern is that the regionals' outsized exposure to commercial real estate lending will come home to roost. That industry is vulnerable to regulatory changes that will reduce the availability of capital and raise its cost. The trough cap rate reflected the availability of cheap financing.

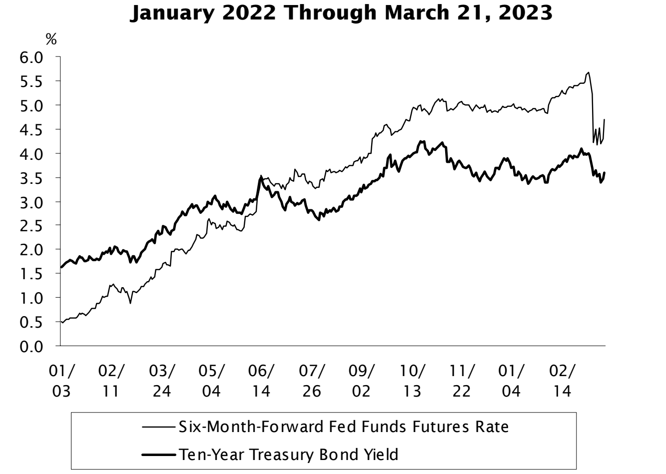
The premise that's priced into the capital markets, that all of this will create a shock to both the supply and cost of credit, that will put the economy at even greater risk than what we've seen in the 15 months of the tightening cycle. The market share data for the regionals in the loan markets certainly supports that concern, and that's apparent in both the expectations for money policy and at the long end of the curve (see Exhibit 46). The bond market is betting this threat is large enough to alter the course of monetary policy.

Exhibit 45: Large-Capitalization Regional Banks Forward-P/E Ratios As of Late-March 2023



Source: Corporate Reports, Empirical Research Partners Analysis.

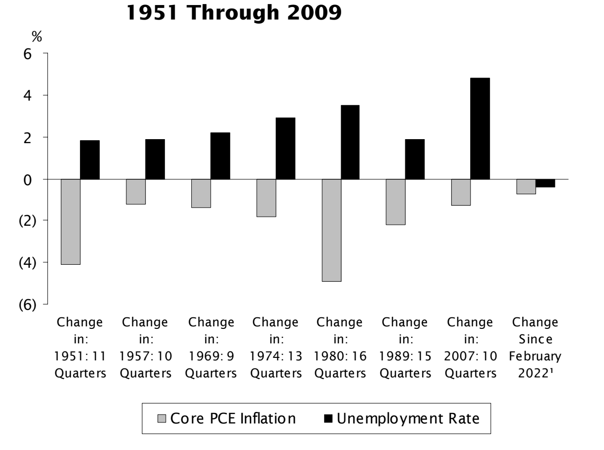
Exhibit 46: The Six-Month-Forward Fed Funds Futures Rate and Ten-Year Treasury Bond Yields January 2022 Through March 21, 2023



Source: Bloomberg L.P., Federal Reserve Board.

Much like the equity market, a few weeks ago we put the odds of a recession at around 50:50, less than what's been implied by the yield curve or by the precedents (see Exhibit 47).[1] Our logic was that the high starting point on inflation meant that any downside surprise could be meaningful and that the Central Bank could catch a lucky break (see Exhibit 48). The shock to credit supply skews the odds further toward recession, but we're just not certain as to how much. Consistent with our research of the last couple of years, the economy has surprised most observers with its resilience and its insensitivity to rising rates.

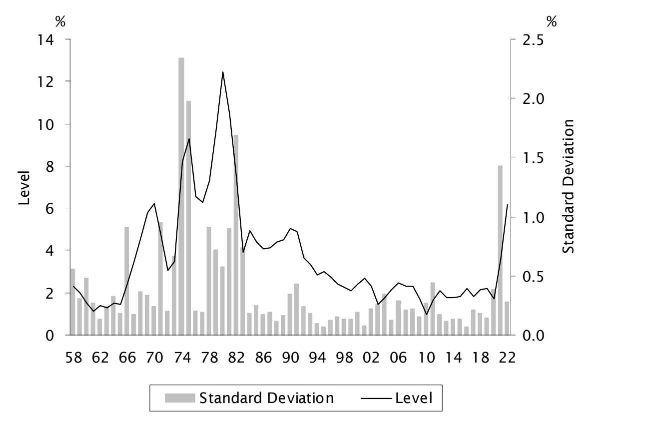
Exhibit 47: U.S. Disinflationary Periods Changes in the Nine-Quarter Trends of the Core PCE Deflator and the Unemployment Rate 1951 Through 2009



Source: Cecchetti, S.G., Feroli, M.E., Hooper, P., Miskin, F.S. and Kermit L. Schoenholtz. 2023. "Managing Disinflations." Working Paper, Empirical Research Partners Analysis.

[1]Raw data, not moving averages.

Exhibit 48: U.S. Core CPI Inflation Annual Level and Standard Deviations 1958 Through 2022



Source: Bureau of Labor Statistics, Empirical Research Partners Analysis.

[1]*Portfolio Strategy* March 2023. "Is a Recession Inevitable?"

We've been using a GARP(y) approach to stock selection, in part because it wasn't obvious we were being paid enough to do anything else. In the last few weeks our valuation spreads have climbed by a standard deviation, not enough to cause us to aggressively go on the hunt for value opportunities (see Exhibit 5 on page 4). Nevertheless, the homogeneity of the valuation statistics in the world of regional banks suggests that's a place to look for ideas. Charles Schwab has also been drawn into the abyss, having its own deposit beta issues. Appendix 2 below presents our Distrusted Fifty.

Appendix 1: Banks and Capital Markets Stocks
Worst Quintile of Downside and Arbitrage Risk
Sorted by Capitalization Within Decile
As of Mid-March 2023

			Deciles (1=Best, 10=Worst)															
			Market Reaction						Market Structure			Fundamental Factors						
Symbol	Company	Price	Downside Risk	Arbitrage Risk	Nine-Month Price Trend	Share Turnover	Technical Indicator	Media Sentiment	Short Pressure	Loan Rate	Sector ETF Flows and Equivalent Volume	Normalized P/E Ratio	Price-to-Book Ratio	Change in Common Shares Outstanding	10-K/Q Disclosure Model	Failure Model Rank	Forward P/E-Ratio	Market Capitalization ($ Billion)
Banks and Consumer Finance																		
NU	NU HOLDINGS LTD	$4.69	10	10	1	7	7	3	5	7	7	10	7	9	na	8	38.0 x	$22.0
KEY	KEYCORP	11.53	10	10	10	10	3	5	5	10	10	2	1	8	2	8	5.7	10.8
CMA	COMERICA INC	43.59	10	10	10	9	4	2	8	9	10	3	1	7	1	9	4.5	5.7
ZION	ZIONS BANCORPORATION NA	29.94	10	10	10	6	2	4	9	10	10	3	1	4	7	9	4.6	4.5
FRC	FIRST REPUBLIC BANK	23.03	10	10	10	10	3	8	10	10	10	1	1	9	na	9	3.9	4.2
WAL	WESTERN ALLIANCE BANCORP	31.32	10	10	10	10	5	6	10	10	10	1	1	9	2	9	3.0	3.4
EWBC	EAST WEST BANCORP INC	54.62	9	10	8	3	6	4	5	10	10	2	2	5	6	7	5.9	7.7
RKT	ROCKET COS INC	8.66	9	10	2	10	10	10	10	10	7	9	10	1	6	8	NM	17.1
FHN	FIRST HORIZON CORP	14.93	9	10	10	9	1	6	5	10	10	2	1	8	2	8	7.4	8.0
CACC	CREDIT ACCEPTANCE CORP	395.94	9	10	9	3	3	9	10	10	6	2	5	1	1	10	10.5	5.1
UWMC	UWM HOLDINGS CORP	4.62	8	10	1	9	9	10	10	10	7	9	10	8	2	8	15.5	7.4
ALLY	ALLY FINANCIAL INC	22.29	8	10	10	10	3	9	7	5	3	1	1	1	2	8	5.9	6.7
Capital Markets																		
COIN	COINBASE GLOBAL INC	$74.98	10	10	1	10	9	9	10	10	6	3	5	10	8	8	NM	$17.3
XP	XP INC	11.92	10	10	10	5	7	10	9	9	7	1	4	3	na	10	9.1	6.7
HOOD	ROBINHOOD MARKETS INC	9.19	10	8	1	7	7	8	10	5	9	10	2	9	8	8	NM	8.2
SCHW	SCHWAB (CHARLES) CORP	56.41	9	10	7	5	6	7	1	2	3	4	5	4	1	7	13.9	104.5

Source: Empirical Research Partners Analysis.

Appendix 2: The Distrusted fifty
Large-Capitalization Growth Stocks With High Reinvestment Rates Discounting Relatively Low Secular Earnings Growth
Sorted by Capitalization
As of Late-March 2023

				Quintile Ranks (1=Best; 5=Worst)									
				Super Factors									
				Management Behavior									
Symbol	Company	Price at Inclusion	Recent Price	Capital Deployment	Earnings Quality and Trend	Market Reaction	Valuation	Machine Learning Algorithm	Growth Model Rank	Forward-P/E Ratio	Rate of Earnings Reinvestment	Implied Earnings Growth Rate	Implied Earnings Growth/ Reinvestment Rate
AAPL	APPLE INC	$3.31	$157.40	2	2	3	2	1	2	25.4 x	125 %	+7.6 %	6 %
MSFT	MICROSOFT CORP	41.23	272.23	2	2	3	2	2	3	27.4	28	7.0	25
GOOGL	ALPHABET INC	14.94	101.22	3	1	5	2	1	2	19.7	24	9.0	38
META	META PLATFORMS INC	350.42	197.81	5	3	4	1	1	2	19.6	19	9.0	48
TSM	TAIWAN SEMICONDUCTOR MFG CO	16.75	90.04	4	3	4	1	4	4	16.6	26	4.5	18
UNH	UNITEDHEALTH GROUP INC	74.70	476.96	3	3	3	2	3	3	19.1	19	5.8	31
JNJ	JOHNSON & JOHNSON	124.69	153.89	3	2	4	1	3	2	14.6	8	1.8	22
LLY	LILLY (ELI) & CO	185.92	333.60	3	1	2	4	3	2	39.5	28	8.5	31
AVGO	BROADCOM INC	32.35	643.71	1	1	3	3	2	1	15.3	24	2.2	9
ASML	ASML HOLDING NV	576.70	646.33	1	1	2	4	2	1	32.3	31	8.5	27
PEP	PEPSICO INC	82.15	177.59	3	3	2	3	4	3	24.5	16	6.7	41
BABA	ALIBABA GROUP HLDG	169.89	81.00	4	2	4	1	1	2	9.4	4	(0.3)	NM
NKE	NIKE INC -CL B	121.24	121.20	4	3	3	3	3	3	35.2	25	7.8	32
ADBE	ADOBE INC	27.81	362.88	1	1	4	2	1	1	22.8	33	10.8	33
TXN	TEXAS INSTRUMENTS INC	59.28	179.16	4	1	3	2	2	2	23.7	32	5.4	17
ACN	ACCENTURE PLC	31.89	252.55	1	4	3	2	2	3	21.8	21	5.9	28
PM	PHILIP MORRIS INTERNATIONAL	42.70	96.30	5	1	2	1	2	1	15.2	13	2.4	19
MS	MORGAN STANLEY	75.25	85.64	3	4	1	1	2	2	11.7	5	1.4	25
WFC	WELLS FARGO & CO	32.42	37.48	3	4	1	1	2	1	7.9	4	(1.5)	NM
LOW	LOWE'S COS INC	97.19	196.79	1	1	3	1	1	1	14.4	58	2.9	5
UNP	UNION PACIFIC CORP	146.14	189.69	2	2	5	1	2	2	16.4	29	3.7	13
SBUX	STARBUCKS CORP	110.94	99.85	4	3	1	3	1	2	27.7	12	6.7	56
AMAT	APPLIED MATERIALS INC	52.09	124.04	3	3	3	1	2	3	19.3	44	7.2	16
SCHW	SCHWAB (CHARLES) CORP	48.45	56.11	3	4	2	2	4	3	13.8	12	3.4	30
BKNG	BOOKING HOLDINGS INC	1,906.93	2,493.73	1	1	2	1	1	1	19.2	68	9.0	13
TJX	TJX COS INC (THE)	8.17	75.40	3	3	1	2	1	1	21.5	35	5.9	17
PYPL	PAYPAL HOLDINGS INC	82.61	73.21	2	4	4	1	1	3	15.0	12	6.0	52
TGT	TARGET CORP	248.58	163.24	4	4	2	2	1	3	19.4	9	5.4	57
ABNB	AIRBNB INC	152.23	118.40	1	1	2	4	4	1	34.2	37	11.5	31
LRCX	LAM RESEARCH CORP	82.66	513.29	2	2	4	1	1	2	20.6	58	6.6	11
HUM	HUMANA INC	290.11	494.39	1	3	2	1	1	2	17.6	15	6.5	42
MCO	MOODY'S CORP	28.63	291.44	5	1	3	3	3	2	31.1	33	7.8	24
MAR	MARRIOTT INTERNATIONAL INC	69.75	163.04	1	2	3	2	3	2	21.2	NM	7.2	NM
DG	DOLLAR GENERAL CORP	73.39	210.33	5	4	3	2	2	4	18.7	30	5.5	18
ADSK	AUTODESK INC	177.87	200.42	1	1	2	2	1	1	27.7	57	9.8	17
BIIB	BIOGEN INC	67.38	267.91	2	3	1	2	2	1	17.1	25	6.8	27
LNG	CHENIERE ENERGY INC	41.66	146.00	4	4	2	2	2	2	8.6	NM	(1.1)	NM
DHI	D R HORTON INC	93.05	96.63	1	2	3	1	3	1	11.9	30	3.9	13
ROK	ROCKWELL AUTOMATION	168.54	278.33	3	2	1	3	2	1	24.2	20	5.4	26
EA	ELECTRONIC ARTS INC	112.41	113.52	2	3	5	2	2	3	17.7	11	6.5	59
AMP	AMERIPRISE FINANCIAL INC	125.61	287.81	3	1	1	1	2	1	9.4	43	(1.1)	NM
TROW	PRICE (T. ROWE) GROUP	65.36	107.57	2	4	5	1	2	3	15.8	5	1.8	36
EBAY	EBAY INC	25.75	43.04	1	3	3	1	1	1	10.5	NM ,	(1.3)	NM
VRSN	VERISIGN INC	56.47	198.18	1	1	1	3	1	1	27.7	48	9.8	21
WAT	WATERS CORP	47.00	300.51	2	2	3	4	2	3	23.7	162	10.8	7
NVR	NVR INC	3,070.88	5,494.47	1	1	2	1	1	1	15.1	53	6.0	11
EXPD	EXPEDITORS INTL WASH INC	111.82	105.32	2	1	4	1	1	1	19.7	35	7.2	21
EXPE	EXPEDIA GROUP INC	127.88	94.56	1	4	4	1	4	3	10.1	16	(0.3)	NM
WYNN	WYNN RESORTS LTD	137.30	107.64	3	5	2	4	5	4	NM	NM	10.5	NM
WH	WYNDHAM HOTELS & RESORTS	33.82	68.70	2	1	3	4	na	2	17.2	23	4.5	19
Average										19.8 x	32 %	5.5 %	17 %
All Other Large-Cap Stocks										17.0 x	10 %	5.0 %	51 %

Source: Empirical Research Partners Analysis.