

A Capital Conflict

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The market no longer determines what is adequate capital for the banking industry. Following generations of taxpayer support and ever-expanding government involvement, politicians, regulators, and lobbyists have supplanted the role of the market in determining what counts as capital, how it is calculated, and how much is enough. An artificial capital framework has thus developed, which has resulted in steadily lower levels of capital and declining quality—even blurring the distinction between debt and equity. Unfortunately, recent experience has shown that when the marketplace does finally realize it cannot trust such a framework, the consequences for the banking industry and the global economy can be dire.

Even so, the market remains on the sidelines as regulators and lobbyist renew the conflict over what constitutes adequate capital. And I would add, the conflict is not really about risk-based versus leverage ratios, nor about complex versus simple calculations. Fundamentally, the conflict is about whether more or less equity capital best assures that banking firms are sound and that economies enjoy strong, sustained growth. Seen in this light, it is apparent why the demand for bank capital ebbs and flows as crises come and go, and why this conflict intensifies as economies stabilize.

In my remarks today, I will provide a brief historical perspective on bank equity capital, its long-term and recent trends, and its effect on economic stability and growth. I will cite research that shows the banking industry and the economy do better in the long run with more—not less—equity capital. And I will describe ongoing attempts globally to backtrack from recent successes in strengthening equity capital mandates, and my concern that such efforts would prove counterproductive.

A Brief History of Equity Capital in Banking

Equity capital is the most stable funding source for the banking industry. It is ownership-funded, and unlike debt it cannot run in crisis. Equity absorbs losses before creditors are affected, and a bank does not default on its stock if it misses a dividend payment. Thus, equity has long played a key role in assuring financial and economic stability. However, over time, as bank creditors have come to experience and now to *expect* governments to protect them from loss, they rely far less on a bank's equity position as a source of confidence. As a result, equity's relative place on the industry's balance sheet has systematically declined.

Chart 1 shows a long decline in equity as a percentage of total assets for the U.S. banking industry over several decades coinciding with the creation of the Comptroller of the Currency in 1863, the founding of the Board of Governors of the Federal Reserve in 1913, and the creation of the Federal Deposit Insurance Corporation in 1933, all governmental agencies overseeing banking in the United States. As the role of government has increased, the role of equity capital has declined. This might be coincidence, but the evidence suggests otherwise. For example, from the establishment of the FDIC, which marked the end of the banking crises that followed the Great Depression to the start of the banking crisis of the 1980s, the industry's average reported equity as a percentage of assets declined from approximately 13 percent to less than 8 percent. Following the crisis of the 1980s and the advent of new legislative mandates,¹ the ratio increased to about 10 percent in 2007. Since the most recent crisis, the ratio has increased to about 11 percent.

Chart 1 also shows the more recent trend of tangible equity-to-total tangible assets for the five largest U.S. banking firms, which ranged between 3 and 6 percent from 1990 to the present, with the lowest point occurring in 2007.² This level of equity proved wholly inadequate during the last banking crisis when the largest firms required substantial government-funded support.³

Chart 2 shows return on equity (ROE) trends for the U.S. banking industry from 1869 to the present. It is often argued that requiring higher equity-to-asset levels would reduce ROE, which could inhibit the industry's ability to attract capital. However, ROE data seem to contradict this view. Although equity capital as a percent of total assets declined significantly during this period, ROE did not increase as might have been expected. It remained close to 10 percent through the first half of the 20th century and then slowly and modestly increased during the second half and to the present.⁴

¹ See, Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA), Pub.L. 101-73.

²For purposes of comparison in 1931 the average equity to assets of the five largest U.S. banks was 12.74 percent. These banks were Chase National, National City, Guaranty Trust Company, Continental Illinois B&T, and Bank of America National B&T, none of which received direct government capital injections at that time.

³ See, for example, Troubled Asset Relief Program (TARP), Emergency Economic Stabilization Act of 2008, Pub. L. 110-343.

⁴ The relationship among capital levels and ROA and ROE were noted by Alan Greenspan in his book, *The Map and The Territory*, Penguin Press, New York, NY, 2013.

There was a notable temporary spike in this trend for the largest banks during the early 2000s, when their ROE reached nearly 30 percent. Not surprisingly, however, these returns reflected an industry taking substantial risk. When the real estate bubble burst in 2008, ROE quickly and dramatically reversed itself. Since the crisis, ROE appears to be slowly recovering and again stands at around 10 percent.

Chart 3 shows the U.S. banking industry's average return on assets (ROA), which declined from more than 2 percent in the late 19th century to just over 1 percent in the early 20th century and beyond, almost in lock step with declines in the equity-to-assets ratio. Thus, for any number of reasons, returns on assets and equity within the banking industry do not appear to benefit in any sustained manner from increased leverage over the long term.

Chart 4 shifts the focus from general trends in equity levels and returns to that of comparing capital levels to other measures of performance. It shows trends in U.S. bank loans-to-average assets for different levels of equity capital among non-community banks (generally money-center and regional banks) from 2004 to the present. It suggests that better capitalized banks were more successful at retaining and extending loans through the economic downturn and recovery than banks with less capital. The decline in lending, and thus the impact on the broader economy, was particularly severe for banks that held less than 8 percent equity capital.

Finally, Chart 5 compares capital levels among U.S. banks that failed and were taken into FDIC receivership during the recent crisis; it does not include banks that received government support to prevent their failure. As might be expected, the percentage of banks with the lowest capital levels failed at a rate nearly double that for the most highly capitalized banks.

Empirical Evidence in Favor of Higher Equity Capital

Beyond these general trends, considerable research supports the proposition that some amount of additional bank equity would facilitate both industry stability and economic growth.

In their book *The Bankers' New Clothes*, Anat Admati of Stanford University and Martin Hellwig of the University of Bonn make a compelling case for equity capital to play a far more dominant role in banking.⁵ They note, for example, that few other industries operate under such high debt positions and favored status; yet these other industries often earn consistently comparable or better returns for their investors. Andrew Haldane, in a paper presented at a

⁵ Admati, Anat & Hellwig, Martin, *The Bankers New Clothes*, Princeton University Press, 2013

Federal Reserve Bank of Kansas City symposium, provided a detailed analysis of both the usefulness of the equity-to-asset ratio in comparing relative capital levels among banks and the fact that banks with higher equity capital levels performed consistently better than those holding less capital.⁶

In recent research, Bank of International Settlements (BIS) Economic Adviser and Head of Research Hyun Song Shin concluded that a bank with plentiful “own funds” (equity capital) is able to attract creditors at lower costs and on better terms than a less well-capitalized bank. He emphasized that both the macroeconomic objective of unlocking bank lending and the supervisory objective of sound banks are better served if banks have more capital. Sound banks lend more and do so on a sustained basis over the cycle. He found, for example, that a 1 percentage point increase in equity-to-total-assets is associated with a 0.6 percentage point uptick in subsequent growth in lending.⁷

FDIC research staff recently reviewed a broad number of academic studies estimating the trade-off of more versus less bank equity over an economic cycle.⁸ The studies generally estimated the cost of capital increases as reduced output through higher loan spreads and decreased investment, or through effects on loan supply resulting from changes in underwriting standards or credit rationing. The expected benefits were then modeled as a reduction in the probability of incurring output-destroying financial downturns and crises.

In most instances the studies found that the benefits of higher capital outweigh its costs, up to the levels specified under current rules and perhaps beyond, serving the long-run interest of the macroeconomy.

In summary, considerable compelling data suggest that more equity capital--not less--is the better choice to attain sound banks and sustained economic growth.

⁶ Haldane, Andrew G., “The Dog and the Frisbee,” Economic Symposium, Federal Reserve Bank of Kansas City, 2012. <http://www.bis.org/review/r120905a.pdf>

⁷ Shin, Hyun Song, “Bank Capital and Monetary Policy Transmission,” panel remarks at the ECB and Its Watchers XVII conference, Frankfurt, April 7, 2016, <http://www.bis.org/speeches/sp160407.pdf>.

⁸ Pogach, Jonathan, “Literature Review on the Macroeconomic Impacts of Capital Requirements,” FDIC Division of Insurance and Research, <https://www.fdic.gov/about/learn/board/hoenig/2016-05-12-lr.pdf>.

Emerging Challenges

In the conflict over what is the appropriate amount of equity capital within banking, the leverage ratio has been shown to be a highly useful measure for judging capital adequacy. In 2012, therefore, the international community began to use a leverage ratio to set a floor for the banking industry's capital levels, including for the largest banks. Some countries have gone further, raising minimum equity requirements to enhance the resilience and performance of banking firms within their boundaries.

As the memory of the 2008 financial crisis fades, however, the banking industry has begun to lobby for special treatment or exemptions from capital requirements for a host of assets included in the leverage ratio calculation for judging capital adequacy. If accepted, the effect of such proposals would be to again lower acceptable capital standards for this most important industry.⁹

¹⁰

One such proposal, from the Basel Committee on Banking Supervision, is to change the Standardized Approach to Counterparty Credit Risk (SA-CCR). On April 6 the committee announced plans to apply measurement methodologies previously used for the risk-based capital rules to the leverage ratio. Under the proposal the committee could exempt from inclusion in the denominator of the leverage ratio certain types of assets that are deemed lower risk. It could permit more types of collateral to offset certain exposures and, thus, remove assets from the balance sheet for purposes of judging the adequacy of capital. The proposal could go so far as to reduce capital requirements against derivatives, which are intrinsically levered instruments and were at the forefront of the last crisis.¹¹

These and other possible changes in the computation and measurement of capital adequacy if adopted would convert the leverage ratio—the purpose of which is to provide a pure measure of equity capital to total assets—into a risk-based measure. Such proposed changes would confound the purpose and obscure the conclusions of the leverage ratio. Assuming the leverage ratio, like

⁹ Basel Committee on Banking Supervision, “The Standardised Approach for Measuring Counterparty Credit Risk Exposures,” March 31, 2014, <http://www.bis.org/publ/bcbs279.htm>.

¹⁰ Basel Committee on Banking Supervision, “Revisions to the Basel III Leverage Ratio Framework – Consultative Document,” April 25, 2016, <http://www.bis.org/bcbs/publ/d365.htm>.

¹¹ For more detail on the manner in which the SA-CCR and modifications to the treatment of collateral would impact the leverage ratio, see April 22, 2016 Risk Magazine op-ed by Thomas Hoenig. <https://www.fdic.gov/about/learn/board/hoenig/op-ed-042516.html>

the risk-based ratio, decreases reported bank assets, capital levels would trend down and would again, over time, compromise the strength of the industry, expose the public to loss, and, undermine the stability of the economy.

Conclusion

Let me close by acknowledging that any number of factors determine success or failure for banking firms and the economy in general. However, bank equity capital certainly ranks high in importance among such factors. Data show that when bank equity capital levels are allowed to decline to steadily lower levels, economic growth is not enhanced in any sustainable manner and too often falls victim to financial turmoil.

In the absence of the industry supporting itself with its own equity capital as it entered the last banking crisis, governments had to step in with an infusion of public funds, to both the banking sector and the national economy. It is at significant public cost that old lessons are relearned: balance sheet strength matters, equity matters, and it is not credible to base public policy on the position that in the short-run high leverage accelerates economic growth. Bank performance through the entire cycle matters, and strong performance requires strong capital.

Until such time as banks are capitalized based upon the marketplace's assessment of risk that is independent of the specter of taxpayer support and government involvement, the problem of too big to fail will remain. As long as regulators are complicit at assigning weights for a bank's measurement of risk and its internal allocation of risk capital, as is the case with risk-based capital, they perpetuate a moral hazard whereby investors rely on the regulators' approval of bank capital levels and structure. They too quickly assume that the regulators' intimate knowledge of a bank's risk profile must surpass their own. How can this not lead to the assumption that a bank will be bailed out if the regulators' capital framework results in a misallocation of capital? The blunt nature of the leverage ratio makes no assumption that the regulators have appropriately measured a bank's idiosyncratic risk. To the contrary, the leverage ratio provides a minimum base of capital dependent solely on asset size, and it telegraphs to banks and to the marketplace that they themselves must make the risk assessment and internally allocate capital resources appropriately.

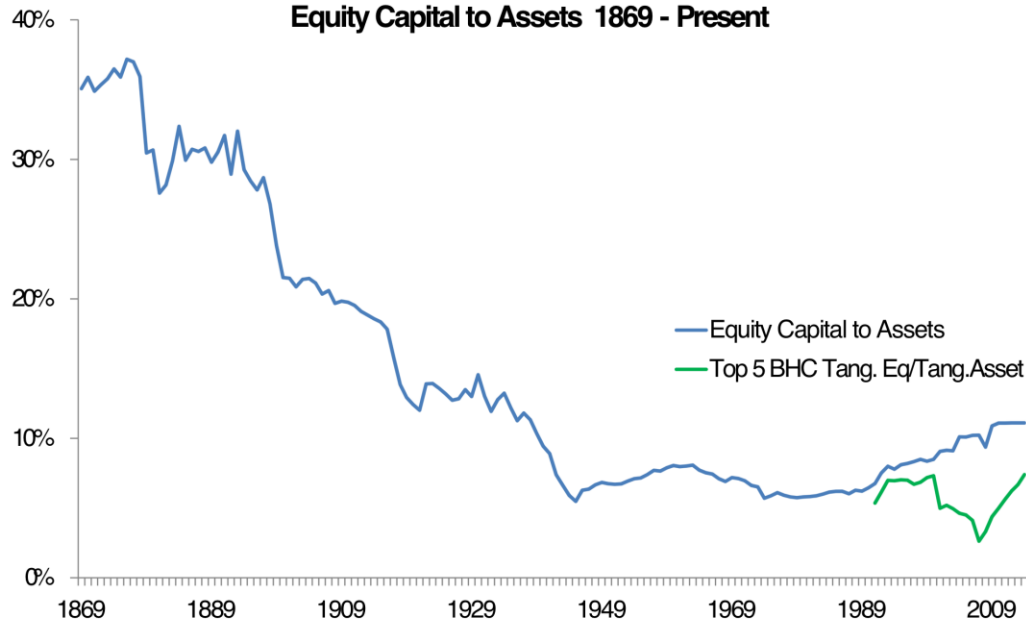
The final table in your packet of material is entitled the Global Capital Index (GCI).¹² It tracks the relative standings of the capital positions of the largest global banking firms using the many alternative ratios for judging the adequacy of bank capital. It also breaks out the relative average capital levels of different size banks in the United States and the price-to-book ratios. I encourage you to study the table, especially column 8, for insight into the conflict over capital and whether more equity or more debt will best serve the macroeconomy going forward.

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*The views expressed are those of the author and not necessarily those of the FDIC.
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<http://www.fdic.gov/about/learn/board/hoenig/>*

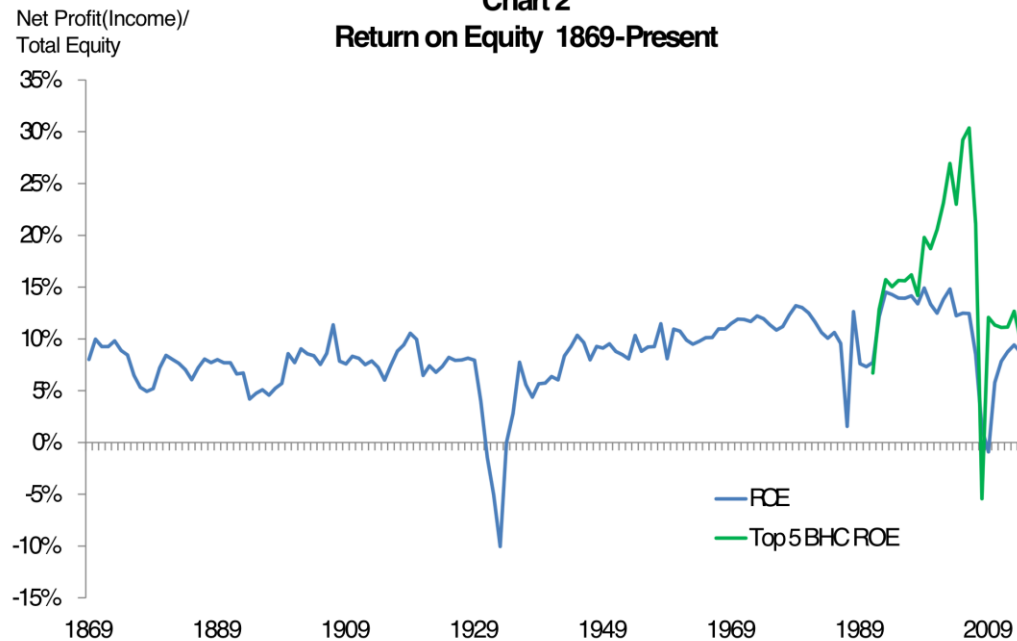
¹² Global Capital Index,
<https://www.fdic.gov/about/learn/board/hoenig/capitalizationratios4q15.pdf>.

Chart 1
Equity Capital to Assets 1869 - Present



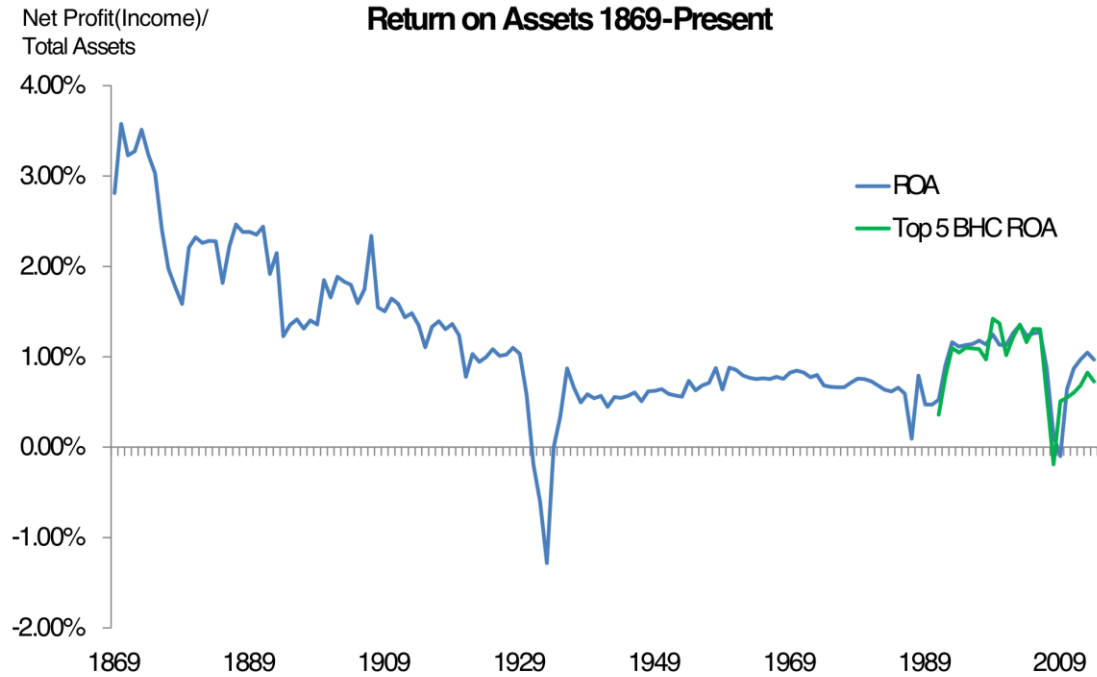
Source: FDIC; Cambridge University Press. Data from 1869 - 1934 is only national banks. Data from 1934 - present includes all insured depository institutions. Top 5 BHC data from 1991 to present and represents the five largest BHC by total assets in any given year. Prior 2001, BHC tangible equity to tangible assets is average equity to average assets.

Chart 2
Return on Equity 1869-Present



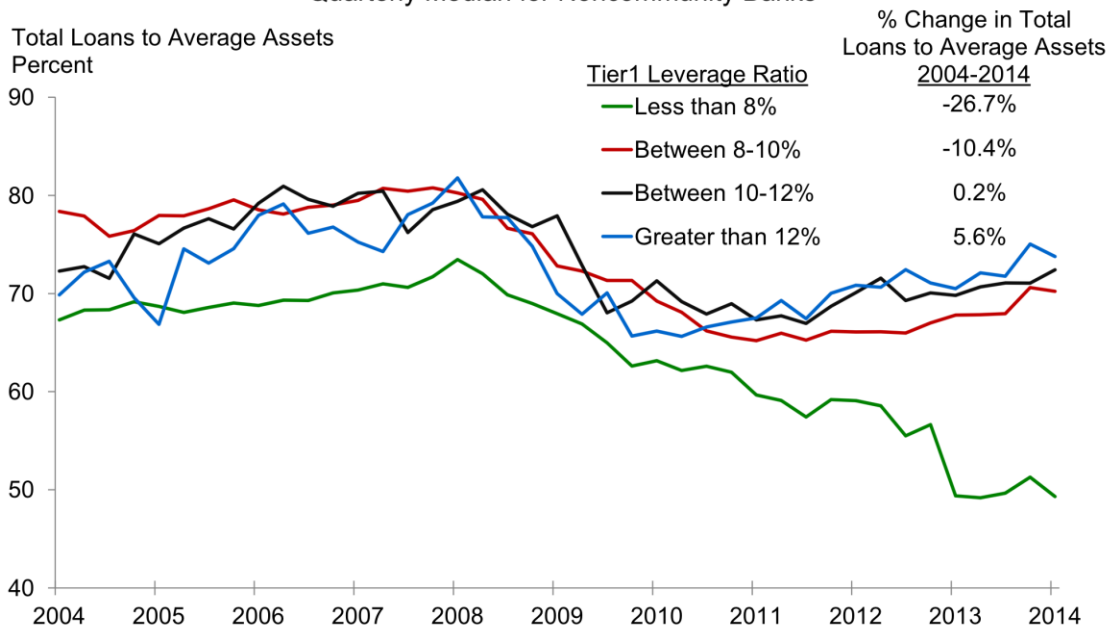
Source: FDIC; Cambridge University Press. Data from 1869 - 1934 is only national banks. Data from 1934 - present includes all insured depository institutions. Top 5 BHC data from 1991 to present and represents the five largest BHC by total assets in any given year. Prior 2001, BHC return on equity is annual net income to average equity.

Chart 3
Return on Assets 1869-Present



Source: FDIC; Cambridge University Press. Data from 1869 - 1934 is only national banks. Data from 1934 - present includes all insured depository institutions. Top 5 BHC data from 1991 to present and represents the five largest BHC by total assets in any given year.

Chart 4
Lending Through the Cycle
Quarterly Median for Noncommunity Banks

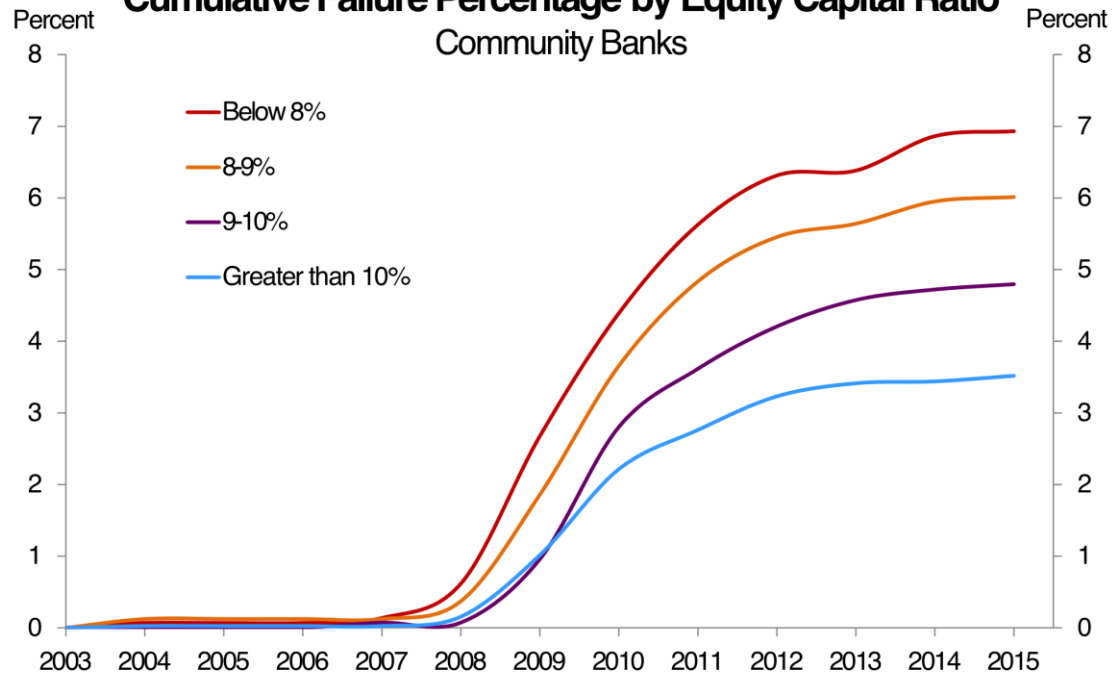


Source: FDIC.
Note: Excludes insured institutions reporting zero loans.
See FDIC Community Banking Study for definition of noncommunity bank.
<https://www.fdic.gov/regulations/resources/cbi/report/CBSI-1.pdf>

Chart 5

Cumulative Failure Percentage by Equity Capital Ratio

Community Banks



Source: FDIC. Community bank designation as of 4Q 2003.

Global Capital Index

Capitalization Ratios for Global Systemically Important Banks (GSIBs)

Data as of December 31, 2015

Institution ¹	Basel Risk-Based Capital				Self-Reported Basel III Leverage Ratio ⁴ (Percent)	Tangible Capital				Components of Tangible Capital			Price-to-Book	
	Tier 1 Capital ² (\$Billions)	Risk-Weighted Assets (\$Billions)	Tier 1 Capital Ratio ³ (Percent)	GAAP		IFRS ESTIMATE ⁵		Total Equity ⁷ (\$Billions)	Goodwill and Other Intangibles (\$Billions)	Deferred Tax Assets (\$Billions)	Price-to-Book Ratio ⁸ (Percent)	Price-to-Adjusted Tangible Book Ratio ⁹ (Percent)		
						Total Assets (\$Billions)	Leverage Ratio ⁵ (Percent)						Total Assets (\$Billions)	Leverage Ratio ⁵ (Percent)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
U.S. G-SIBs														
Bank of America	181	1,602	11.28	6.40	2,147	7.58	2,787	5.78	256	77	24	0.75	1.32	
Bank of New York Mellon	21	170	12.29	4.90	394	4.44	405	4.31	38	21	0	1.26	3.21	
Citigroup	177	1,191	14.82	7.08	1,731	8.80	2,294	6.57	222	28	48	0.75	1.19	
Goldman Sachs	82	578	14.11	5.90	861	9.22	1,582	5.00	87	4	4	1.00	1.12	
JPMorgan Chase	200	1,485	13.50	6.50	2,352	8.27	3,254	5.93	248	55	3	1.09	1.48	
Morgan Stanley	67	384	17.37	5.80	787	7.72	1,427	4.22	75	10	6	0.90	1.18	
State Street	15	100	15.33	5.80	245	5.67	252	5.52	21	7	0	1.44	2.46	
Wells Fargo	165	1,303	12.63	7.70	1,788	8.52	1,855	8.20	193	44	0	1.61	2.17	
U.S. G-SIBs (\$ Total, % Weighted Average)	907	6,814	13.31	...	10,306	8.09	13,855	5.97	1,140	247	86	1.05	1.40	
Foreign G-SIBs														
Agricultural Bank of China Limited (China)	186	1,692	10.96	6.33			2,740	6.24	187	4	13	0.76	0.84	
Banco Santander (Spain)	80	636	12.55	4.73			1,456	3.24	107	32	30	0.75	2.15	
Bank of China Limited (China)	198	1,641	12.07	7.03			2,590	7.86	209	3	3	0.71	0.73	
Barclays (UK)	78	528	14.69	4.50			1,651	4.76	97	12	7	0.67	0.89	
BNP Paribas (France)	83	684	12.21	4.00			2,166	3.99	109	15	9	0.74	0.97	
BPCE Group (France)	57	425	13.34	5.00			1,267	4.64	71	6	7	...	...	
China Construction Bank (China)	220	1,651	13.32	7.28			2,826	7.65	223	3	4	0.79	0.81	
Crédit Agricole Group (France)	85	553	15.29	5.60			1,845	4.49	106	17	7	...	...	
Deutsche Bank (Germany)	63	432	14.65	3.50			1,769	3.01	73	11	10	0.50	0.72	
HSBC (UK)	153	1,103	13.90	5.00			2,410	6.97	198	25	7	0.90	1.11	
Industrial and Commercial Bank of China (China)	274	2,036	13.48	7.48			3,421	7.89	277	5	3	0.82	0.84	
ING Bank (Netherlands)	50	349	14.45	4.40			914	5.45	53	2	1	1.01	1.07	
Nordea bank (Sweden)	29	156	18.50	4.60			703	4.30	34	3	0	1.33	1.49	
Royal Bank of Scotland (UK)	68	358	19.10	5.60			1,202	5.58	80	10	4	0.74	0.91	
Société Générale (France)	54	387	14.00	4.00			1,449	3.73	68	6	8	0.67	0.92	
Standard Chartered (UK)	43	303	14.12	5.50			640	6.69	49	5	1	0.61	0.70	
UBS (Switzerland)	45	212	20.99	4.00			942	4.10	57	7	13	1.34	2.06	
UniCredit (Italy)	49	424	11.50	4.63			935	3.81	58	6	17	0.64	1.15	
Foreign IFRS (\$ Total, % Weighted Average)	1,814	13,569	13.37	...			30,925	5.68	2,054	171	144	0.74	0.92	
Other Foreign G-SIBs														
Credit Suisse (Switzerland; CHF, U.S. GAAP)	53	295	17.99	4.50	820	4.18			45	5	6	0.96	1.29	
Mitsubishi UFJ FG (Japan; JPY, Local GAAP)	120	943	12.76	4.64	2,459	5.40			143	10	1	0.68	0.75	
Mizuho FG (Japan; JPY, Local GAAP)	66	526	12.51	3.90	1,625	4.43			78	6	0	0.76	0.84	
Sumitomo Mitsui FG (Japan; JPY, Local GAAP)	77	566	13.68	4.72	1,558	5.38			92	7	1	0.68	0.76	
All Foreign G-SIBs (\$ Total, % Weighted Average)	2,131	15,900	13.40	...	37,387	5.56			2,412	200	152	0.74	0.90	
U.S. BHC by Size Group ⁹														
U.S. G-SIBs	907	6,814	13.31	...	10,306	8.09	13,855	5.97	1,140	247	86	1.05	1.40	
Ten Largest Non-G-SIBs	209	1,765	11.81	...	2,184	8.80	2,194	8.76	267	75	7	1.18	1.82	
Ten Largest Less Than \$50 Billion ¹⁰	30	233	12.78	...	328	8.31	328	8.31	35	6	3	1.29	1.79	
Ten Largest Less Than \$1 Billion ¹⁰	1	7	14.17	...	10	9.76	10	9.76	1	0	0	...	...	

Source: Federal Reserve Y-9C Reports, Securities and Exchange Commission Form 10-K, SNL Financial (Data update as of April 7, 2015).