

**Global Banking: A Failure of Structural Integrity**  
by  
**Thomas M. Hoenig, Vice Chairman,**  
**Federal Deposit Insurance Corporation**  
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## **Introduction**

Over several years preceding the recent economic crisis, the U.S. financial safety net of deposit insurance, Federal Reserve lending and Treasury direct investments was expanded to include activities far beyond the core business of commercial banking.<sup>1</sup> The effect was to erode the very economic stability being sought. More disturbing, however, is that the weakened financial structure and crisis that followed these changes made it necessary for policymakers to do “whatever it takes” to stabilize a system on the brink of collapse. Within the boundaries of the safety net, the government provided enormous amounts of money and guarantees, and arranged and financed numerous mergers and buyouts, in its efforts to save a struggling industry and global economy.

It is no coincidence, therefore, that these events coincided with the evolution of an industry that is far more concentrated, complex, and government dependent than at any time in recent history. In 1990, for example, the five largest U.S. financial holding companies controlled only 20 percent of total industry assets. Today that number is 55 percent and will likely increase.

Ironically, these events also have left the U.S. economy increasingly vulnerable to industry mistakes. For example, the single largest financial holding company in the U.S., using international accounting standards, now holds more than \$4 trillion of assets, which is equivalent to 25 percent of nominal GDP.<sup>2</sup> The eight largest U.S. global systemically important banking firms (G-SIBs) hold in tandem nearly \$15 trillion of assets, or the equivalent of 90 percent of GDP. Thus, whether resolved under bankruptcy or otherwise, problem institutions of this influence will have systemic consequences and affect far more stakeholders than simply these firms and their shareholders and creditors.

The ability of ever-more concentrated and complex financial firms to conduct a broad array of activities while the government backstops their mistakes remains a generous subsidy.<sup>3</sup> Over time it most certainly undermines market discipline, distorts firm behavior, and slows economic growth. It protects some creditors and creates a moral hazard problem within financial markets, and it bestows a competitive advantage to one segment of the financial industry over another. Thus, the benefits that the economy might receive from subsidizing this banking structure are often outweighed by the

negative effects that eventually are borne by other sectors of the economy and the public.

With this in mind, this afternoon I will briefly review some of the principle benefits that would likely flow to a host of stakeholders if the safety net was scaled back and the structure of the banking industry was rationalized around essential core functions.

### **Narrowing the Safety Net**

I will begin by briefly defining what I mean by core functions and scaling back the safety net. First, commercial banking organizations that are afforded access to the safety net would only be permitted to conduct the following types of activities: commercial banking, certain securities underwriting and advisory services, and asset and wealth management services. Other underwriting and broker-dealer activities would be conducted outside of firms that hold a commercial banking charter and thus outside the safety net.<sup>4</sup>

Second, the shadow banking system and its use of bank-like funding to intermediate long-term assets would be reformed and subject to greater market discipline.<sup>5</sup>

This proposal recognizes that recent and proposed regulatory actions, such as the Volcker Rule, serve to lessen the moral hazard issues and misaligned incentives that contributed to the recent financial crisis. However, while useful, they do not fully separate the host of trading and market-making activities of broker-dealers from the bank holding company and the overarching benefit of the safety net. The fundamental restructuring I propose would more fully address this problem. It would separate complex financial firms along business lines and into separate corporate entities. It would unequivocally preclude bank holding companies from engaging in activities that are distorted when they receive coverage, and it would impede the use of excess leverage in funding such activities.

In the end, separating commercial banks and broker-dealers would benefit all parties affected by the conduct of complex firms -- including the public, the broader banking and financial industry, institutional borrowers, and the very firms that were at the center of the crisis. While any reform involves trade-offs, the benefits of subjecting a highly subsidized and artificially created system of complex firms to the forces of the market and away from government dependency deserves discussion.

### **Beneficiaries of a More Rational Structure**

#### ***Financial Conglomerates and Improved Performance***

There is increasing evidence that the largest, most complex financial firms would benefit significantly from the structural changes outlined above. These conglomerates control assets in the trillions of dollars and involve structures that include thousands of subsidiaries, complex and varied activities with significant risks, and hundreds of thousands of people. Firms with these characteristics inevitably suffer serious financial setbacks as their leadership cannot manage their culture and because individuals within

the firm too easily circumvent overly complex and centralized controls. Managing them requires enormous amounts of information, knowledge, and skills that test any CEO's capacity.

The constant drum beat of scandal and mediocre performance of the past half-decade suggests that some financial firms have reached that point where they are too large and complicated to be led successfully. Management diseconomies appear to be overwhelming the economics of scope and scale. Unfortunately, in an environment in which the safety net protects these firms from outright failure, there is limited outside discipline or other mechanism to "right size" the firms and, as a result, market inefficiencies multiply.

Confining the safety net and statutorily separating activities along business lines would make the largest financial conglomerates more manageable and would enhance the market's role in disciplining behavior. It would require simpler and more reliable control systems. And should management fail in its job, the firms could be resolved more successfully. No firm can survive incompetent management; however, those firms where a competent CEO's span of control is consistent with the demands of the day are far more likely to achieve consistent high performance over time.

The market in its pricing of these firms also seems to be signaling this conclusion. Some of the largest banks have earned poorly over the past decade as they have dealt with a host of asset and performance problems. Some of the largest, most complex firms are trading at a discount from book value, suggesting that the market is not confident in their future performance. Market analysts are publishing reports suggesting the value of some of these companies would be greater if they were broken up. Should the performance of these largest firms continue to show substandard results, market pressure to simplify their structure will almost certainly increase.<sup>6</sup>

There is, of course, strong disagreement with this view from those managing the largest firms. Nevertheless, their firms' performance through the crisis and its aftermath, and their reliance on the safety net, raise legitimate questions as to the role of such conglomerates in the future.

### ***Commercial and Industrial Companies and Dependable Credit***

It is argued that large industrial companies require large, highly complex financial firms to meet their global credit needs. Having a single banking firm and its resources immediately available to meet global payments and credit requirements is an invaluable resource, it is said. This argument continues that financial conglomerates also serve the role of counterparty for hedging transactions or interest swaps to assure reliable cash flow.

However, the chart titled, "Consolidation of the Credit Channel" <sup>7</sup> shows how overstated this story line is. In 1984 the aggregate distribution of assets among four size groups of U.S. banks, ranging from less than \$1 billion to more than \$100 billion, was nearly

equal. This changed dramatically over the next three decades, to where the overwhelming control of credit resources now lies with the fewest mega-banks. To suggest that this redistribution of assets among domestic financial firms has served a greater international competitive purpose or enhanced individual economic interest is to deny the events of the past five years.

In private, the CEOs of many industrial companies indicate that they do not want to be dependent on a single banking firm for all of their financing needs. They are aware that during the crisis, credit lines were too often pulled without regard to the need or length of the credit relationship. The Alliance for American Manufacturing has noted that commercial and industrial loans declined from \$1.6 trillion in 2008 to \$1.24 trillion in 2011, and it suggests that this represents not only a decline in demand but also a significant decline in the supply of credit as well. In reporting this figure, the Alliance added that before the advent of conglomerate financial firms and their control of such vast resources, capital markets were the servants of manufacturing companies, whereas today they are the masters.<sup>8</sup> The fact that one industry is so widely expressing its frustration is worth noting.

Economic theory and practice suggest that institutional borrowers and businesses benefit from a highly competitive market. For decades in the United States, a decentralized commercial banking system provided payments services and individual or syndicated credit services to industrial companies with vast global operations. Investment banks successfully provided to these same firms underwriting and market-making services, and engaged in trading activities – all without the safety net subsidizing their operations. These activities were also conducted with far fewer conflicts of interest than witnessed since the merging of commercial banking and broker-dealer activities inside the safety net.

Given the experience and market evidence following from the most recent crisis, there is a strong case that the business and institutional client would benefit from a less subsidized and more competitive, more specialized, more market-driven structure than that which brought forward the Great Recession.

### ***Independent Broker-Dealers and Enhanced Competition***

We are also told that it was not the largest banks that caused the crisis, but broker-dealers or mono-line firms. Such a statement ignores a great deal about commercial bank activities leading up to the crisis.

In 1999, with the passage of the Gramm-Leach-Bliley Act, commercial banks were formally permitted to expand into activities traditionally conducted by broker-dealers, and they were able to do so without having to relinquish their access to the public safety net. This provided them a competitive advantage that cannot be overstated. U.S. broker-dealers could not successfully compete with complex banks that, due to the safety net, had almost unlimited access to low-cost funds and the ability to rely on extreme leverage to expand their balance sheets.

Knowing this, investment houses opposed repeal of Glass-Steagall when it was first discussed.<sup>9</sup> However, once Gramm-Leach-Bliley was enacted into law, the competitive advantages it offered were so significant that firms outside the safety net were compelled to get within it to survive. They gained access either by merging into a commercial bank or by increasing their risk profile using more volatile funding and increased leverage, just as the commercial banks were doing with the support of the safety net.

Firms like Bear Stearns, Merrill Lynch and Lehman Brothers chose the latter option in their ultimately failed effort to stay relevant. They issued significant amounts of short-term liabilities, such as repos, to fund longer-term assets. And because financial regulations were changed to enable them to access short-term sources of funds, they became commercial banks in practice, leveraging their balance sheets and intermediating short-term liabilities and longer-term assets. Given these structural changes, it should surprise no one that when the crisis occurred, it was necessary to also bail out these firms, greatly expanding the explicit use of the government guarantee.

Today, apart from a handful of boutique firms that compete with a different business model in a specialized market, traditional broker-dealers either have merged or transformed themselves from shadow banks into bank holding companies.

If commercial banking and its safety net were unquestionably separated from investment and broker-dealer activities, independent broker-dealers would again compete for capital and business clients within an open market. Investment banks could provide non-subsidized underwriting, trading and market-making services, and these activities would be conducted with far fewer conflicts of interest than is currently being experienced.

Prior to Gramm-Leach-Bliley no market in the world was more innovative and competitive than that of the United States with its specialized loan and capital markets. Individual firms could succeed -- and they could also fail -- without bringing the entire financial system down with it. It was, in practice, a financial model that provided better outcomes than we have experienced since its demise.

### ***Banking Industry and Regulatory Burden***

Following each crisis new laws and regulations inevitably follow, and this most recent crisis is no exception. The Dodd-Frank Act subjects the banking industry to hundreds of pages of laws requiring thousands of pages of rules. These laws and regulations operate as a fixed cost for all financial firms. No matter the size of the firm, rules must be read and implemented, staff must be trained, and lawyers must be consulted to assure proper compliance. As with any set of fixed costs, their averages decline as these costs are allocated over more assets. Thus, the advent of substantial new regulations, with their high fixed costs, encourages the process of consolidation as firms must manage costs down.

As firms consolidate and some become too important to fail, they also receive an advantage to fund assets with far greater amounts of debt and at a lower cost than that available to other regional or community banks. For example, the leverage ratio -- the ratio of tangible capital to total tangible assets -- for the eight largest banks in the U.S. at the end of the second quarter of 2013 was 4.3 percent, using international accounting standards.<sup>10</sup> This is approximately half the tangible capital to assets held among other U.S. banks.

In targeting a specific expected return on equity (ROE), therefore, the ability to hold half as much capital against the cost of deposits or borrowed funds results in a significant pricing advantage in the competition for loans.

Comparing ROEs among bank groups, it should surprise no one that the ROE for the largest banks in the U.S., even with their current issues, is higher than banks not considered too big to fail.<sup>11</sup> This disadvantage makes it proportionally more difficult to attract capital to banks not geared toward consolidation.

Thus, pulling back the safety net to commercial banking activities could have several beneficial effects for regional and community banks. It would reduce the need for ever-more complicated and burdensome regulations that raise the cost of doing business and encourage further industry consolidation. It would reduce the perception that some banks cannot be successfully allowed to fail, which enhances their access to lower-cost capital and provides them a competitive edge in pricing products. Finally, returns to shareholders would be determined by market performance and less by regulatory circumstance.

### ***The Public and Economic Stability***

Finally, and most importantly, rationalizing the financial industry's structure would serve the interest of the public. While there were many contributing factors to the most recent crisis, the safety net's extension to an ever-wider array of activities, which encouraged excessive leverage and unmanaged asset growth, played a central role. When the leverage boom ended and the world discovered that there wasn't enough bank capital to absorb unexpected losses, these large, complex, and highly leveraged firms brought our economic system to the brink of collapse.

As a result, governments were required to commit trillions of dollars of public resources as they struggled to stabilize global banks and economies. Even these efforts could not prevent the loss of millions of jobs and the onset of the Great Recession.

The U.S. has a long history in which its financial structure included firms ranging from many large commercial banks to medium and small banks, and independent investment houses serving a broad range of customers with varying credit and funding requirements. This decentralized structure contrasts with today's small number of large financial firms, which too often become single points of failure, as we recently experienced.

In a private capital financial system there always will be business cycles, business failures, and financial losses. When financial resources are concentrated in only a few, protected firms, the impact of any one failure is almost necessarily systemic and sometimes catastrophic. Rationalizing the structure won't end failure, nor should it, but it will make failure more manageable and less likely to become catastrophic to the public interest. Adam Smith in his *Wealth of Nations* recognized this more than 200 years ago and argued, as many argue today, for a decentralized, less concentrated, and less government-dependent banking system.

## **Conclusion**

In the quest to improve financial industry stability, behavior and performance, it is unfortunate that we choose complicated administration over structural change. It is the financial structure that is inherently unstable, yet it remains mostly unchanged from that which existed prior to the crisis. The safety net and its subsidy have expanded in scope. Firms have grown larger and more complex. The issue of single point of failure and its effect on the economy has increased in prominence, and the competitive inequities that follow from these circumstances remain mostly unaddressed.

We share a common goal: to have a system where financial firms are well run and successful; where the market and customers drive behavior and enhance firms' performance; where financial returns are competitive, reliable and therefore able to attract capital. It is time to change the current structure to achieve this common goal.

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*FDIC Vice Chairman Thomas M. Hoenig is formerly the President of the Federal Reserve Bank of Kansas City and a former member of the Federal Open Market Committee. More information about his policy positions on reforming bank structure and strengthening capital, including his white paper "Restructuring the Banking System to Improve Safety and Soundness," can be found at <http://www.fdic.gov/about/learn/board/hoenig/>*

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<sup>1</sup> The Gramm-Leach-Bliley Act of 1999 allowed bank holding companies, investment banks and insurance companies to engage in all activities previously permitted to each group. This was a significant expansion of the safety net's protection to creditors, increasing the coverage beyond the safety net's historic purpose of assuring a reliable payments system and a reliable intermediation process of transforming short-term liabilities to longer-term assets. It thus extended the related morale hazard problem to a significant degree.

<sup>2</sup> Global Capital

Index <http://www.fdic.gov/about/learn/board/hoenig/capitalizationratios2q13.pdf>

<sup>3</sup> Literature review of TBTF subsidy. <http://www.fdic.gov/news/news/speeches/literature-review.pdf>

<sup>4</sup> "Restructuring the Banking System to Improve Safety and Soundness" by Thomas Hoenig and Charles Morris. May 2011; revised November 2013. <http://www.fdic.gov/about/learn/board/hoenig/Restructuring-the-Banking-System,Hoenig,Morris,Nov.2013.pdf>

<sup>5</sup> Money market mutual funds and other investments that are allowed to maintain a fixed net asset value of \$1 should be required to have floating net asset values. Shadow banks' reliance on this source of short-term funding would be greatly reduced by requiring share values to float with their market values and be reported accurately. In addition, bankruptcy laws should be changed to eliminate the automatic stay exemption for mortgage-related repurchase agreement collateral. This exemption resulted in a proliferation in the use of repos backed by mortgage related collateral. One of the sources of instability during the recent financial crisis was repo runs, particularly on repo borrowers using subprime mortgage-related assets as collateral.

<sup>6</sup> "Break Up Banks: Show Me My Money," Credit Agricole Securities - Mike Mayo. January 2013.

<sup>7</sup> See attached Chart 1 titled Consolidation of the Credit Channel.

<sup>8</sup> Alliance for American Manufacturing. June 28, 2011. <http://ourfinancialsecurity.org/blogs/wp-content/ourfinancialsecurity.org/uploads/2011/07/SCOTT-PAUL.pdf>

<sup>9</sup> Statement of Robert F. Shapiro, Chairman of the Securities Industry Association, to the Senate Banking Committee Hearings on Comprehensive Reform in the Financial Services Industry. June 11, 13, 18, 19 and 20, 1985.

<sup>10</sup> Global Capital Index, column

8 <http://www.fdic.gov/about/learn/board/hoenig/capitalizationratios2q13.pdf>

<sup>11</sup> See attached Chart 2 titled Return on Equity Based on Bank Size.



**Global Capital Index**  
**Capitalization Ratios for Global Systemically Important Banks (GSIBs)**

Data as of second quarter 2013

Institution <sup>1</sup>	Basel Risk-Based Capital				Self-Reported Basel III Leverage Ratio <sup>4</sup> (Percent)	Tangible Capital				Components of Tangible Capital			Price-to-Book	
	Tier 1 Capital <sup>2</sup> (\$Billions)	Risk-Weighted Assets (\$Billions)	Tier 1 Capital Ratio <sup>3</sup> (Percent)	Total Assets (\$Billions)		GAAP		IFRS ESTIMATE <sup>5</sup>		Total Equity <sup>7</sup> (\$Billions)	Goodwill and Other Intangibles (\$Billions)	Deferred Tax Assets (\$Billions)	Price-to-Book Ratio <sup>8</sup> (Percent)	Price-to-Adjusted Tangible Book Ratio <sup>9</sup> (Percent)
						Leverage Ratio <sup>5</sup> (Percent)	Leverage Ratio <sup>6</sup> (Percent)	Total Assets (\$Billions)	Leverage Ratio <sup>6</sup> (Percent)					
	(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
<b>U.S. G-SIBs</b>														
Bank of America	157	1,288	12.16	4.90	2,126	5.73	3,092	3.87	231	82	34	0.64	1.37	
Bank of New York Mellon	17	115	14.80	...	361	3.94	378	3.75	36	23	0	0.94	2.74	
Citigroup	144	1,084	13.24	4.90	1,884	6.05	2,680	4.19	196	33	55	0.76	1.40	
Goldman Sachs	71	457	15.55	...	939	7.35	1,547	4.44	78	4	5	1.00	1.16	
JPMorgan Chase	164	1,410	11.63	4.70	2,439	5.81	3,715	3.78	209	59	12	1.01	1.58	
Morgan Stanley	57	403	14.07	4.20	803	5.85	1,549	3.00	63	10	7	0.78	1.08	
State Street	14	82	16.63	...	227	5.37	233	5.24	20	8	0	1.49	2.60	
Wells Fargo	133	1,097	12.12	...	1,441	8.25	1,499	7.92	162	48	0	1.47	2.17	
<b>Average U.S. G-SIBs</b>	<b>756</b>	<b>5,938</b>	<b>12.73</b>	<b>...</b>	<b>10,219</b>	<b>6.26</b>	<b>14,693</b>	<b>4.30</b>	<b>996</b>	<b>267</b>	<b>113</b>	<b>0.97</b>	<b>1.49</b>	
<b>Foreign G-SIBs</b>														
Banco Santander (Spain)	82	684	12.00	...	...	...	1,599	2.94	106	35	26	0.74	2.14	
Bank of China Limited (China)	136	1,469	9.28	...	...	...	2,136	6.44	143	2	3	0.83	0.86	
Barclays (UK)	80	595	13.46	2.30	...	...	2,354	2.73	83	12	7	0.70	0.93	
BBVA (Spain)	49	433	11.34	...	...	...	786	5.13	60	9	12	0.82	1.27	
BNP Paribas (France)	100	736	13.60	3.40	...	...	2,433	3.58	113	17	10	0.66	0.90	
BPCE Group (France)	61	511	11.84	3.00	...	...	1,518	3.60	68	7	7	...	...	
Crédit Agricole Group (France)	79	664	11.91	3.50	...	...	2,541	3.11	99	20	...	...	...	
Deutsche Bank (Germany)	71	411	17.26	3.00	...	...	2,497	1.93	75	19	9	0.57	0.91	
HSBC (UK)	150	1,105	13.59	4.10	...	...	2,645	5.62	182	29	7	1.10	1.39	
ING Bank (Netherlands)	52	363	14.28	...	...	...	1,085	3.86	46	2	2	...	...	
Nordea bank (Sweden)	31	277	11.29	...	...	...	813	3.95	36	4	0	1.24	1.41	
Royal Bank of Scotland (UK)	89	670	13.25	3.10	...	...	1,868	3.92	99	22	5	0.44	0.59	
Société Générale (France)	52	410	12.70	3.00	...	...	1,639	4.25	70	0	...	0.45	0.45	
Standard Chartered (UK)	42	324	12.97	4.60	...	...	650	5.60	43	6	1	1.17	1.38	
UBS (Switzerland)	42	258	16.24	...	...	...	1,199	2.91	50	7	9	1.29	1.87	
UniCredit (Italy)	64	537	11.93	...	...	...	1,163	3.86	85	20	22	0.34	0.70	
<b>Average Foreign IFRS</b>	<b>1,180</b>	<b>9,445</b>	<b>12.49</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>26,927</b>	<b>3.86</b>	<b>1,359</b>	<b>212</b>	<b>120</b>	<b>0.74</b>	<b>0.93</b>	
<b>Other Foreign G-SIBs</b>														
Credit Suisse (Switzerland; CHF, U.S. GAAP)	49	308	15.87	...	958	3.39	...	...	47	8	7	...	...	
Mitsubishi UFJ FG (Japan; JPY, Local GAAP)	119	912	13.02	...	2,292	5.49	...	...	139	11	3	0.76	0.86	
Mizuho FG (Japan; JPY, Local GAAP)	68	599	11.43	...	1,727	4.08	...	...	78	5	3	0.90	1.05	
Sumitomo Mitsui FG (Japan; JPY, Local GAAP)	74	639	11.53	...	1,424	5.46	...	...	89	8	3	0.94	1.14	
<b>Average All Foreign G-SIBs</b>	<b>1,490</b>	<b>11,902</b>	<b>12.52</b>	<b>...</b>	<b>33,329</b>	<b>4.04</b>	<b>...</b>	<b>...</b>	<b>1,712</b>	<b>244</b>	<b>136</b>	<b>0.79</b>	<b>0.99</b>	
<b>Average U.S. BHC by Size Group<sup>9</sup></b>														
U.S. G-SIBs	756	5,938	12.73	...	10,219	6.26	14,693	4.30	996	267	113	0.97	1.49	
Ten Largest Non-G-SIBs	179	1,525	11.74	...	1,891	8.40	1,899	8.37	230	71	7	1.07	1.64	
Ten Largest Less Than \$50 Billion <sup>10</sup>	26	205	12.67	...	295	7.47	295	7.47	34	10	3	1.25	1.99	
Ten Largest Less Than \$1 Billion <sup>10</sup>	1	7	12.71	...	10	8.27	10	8.27	1	0	0	...	...	

Source: Bankscope (Data updated as of September 9, 2013), Bloomberg LP, Federal Reserve Y-9C Reports, International Monetary Fund, and 10-Q reports.

Notes:

<sup>1</sup> Global systemically important banks (G-SIBs) are defined by the Financial Stability Board and include eight U.S. bank holding companies (BHC). Foreign G-SIBs report in local currencies, which are converted into U.S. dollars using IMF International Financial Statistics exchange rates.

<sup>2</sup> Tier 1 Capital is equity capital less unrealized gains on available-for-sale debt securities, unrealized losses on available-for-sale equity securities, disallowed preferred stock, disallowed goodwill, disallowed servicing assets, disallowed deferred tax assets, and other tier 1 capital components.

<sup>3</sup> Tier 1 capital ratios and underlying data are calculated and reported under the Capital Rules for Commercial Banks for the Bank of China, under Basel I capital standards for U.S. Banks, under Basel II for Banco Santander, BBVA, ING Bank, Nordea Bank, Standard Chartered, and Unicredit, under Basel 2.5 for Barclays, BNP Paribas, BPCE Group, Credit Agricole, Deutsche Bank, HSBC, Royal Bank of Scotland, and Societe Generale, and under Basel 3 for Credit Suisse, Mitsubishi UFJ, Mizuho FG, Sumitomo Mitsui, and UBS.

<sup>4</sup> Basel III leverage ratios are self-reported by institutions in published financial statements and presentations. They have not been reviewed for accuracy.

<sup>5</sup> Differences in accounting requirements for netting and offsetting of assets and liabilities result in significant differences in banks' total assets. The ability to offset under International Financial Reporting Standards (IFRS) is limited in comparison with Generally Accepted Accounting Principles (GAAP), especially for derivatives traded with the same counterparty under an International Swaps and Derivatives Association (ISDA) Master Netting Agreement. U.S. GAAP permits the netting of derivative receivables and payables, and the related cash collateral received and paid when a legally enforceable master netting agreement exists between a firm and a derivative counterparty. U.S. GAAP discloses gross derivative assets and liabilities and the offset amount applied to derivatives in the notes to the consolidated financial statements rather than in the consolidated balance sheet. To narrow the difference in total assets between IFRS and U.S. GAAP reporting institutions, the U.S. G-SIBs IFRS estimates follow the methodology used by ISDA in its Netting and Offsetting Report (May 2012, <http://www2.isda.org/functional-areas/research/studies/>) and adds the disclosed offsetting amount applied to derivatives back to total assets in order to calculate total assets. Total assets are as reported in the consolidated balance sheet while the offset applied to derivatives is as reported in the notes to the consolidated financial statements on derivatives in each firm's 10-Q report.

<sup>6</sup> The Leverage Ratio is the ratio of adjusted tangible equity to adjusted tangible assets. Adjusted tangible equity, adjusted tangible assets, and adjusted tangible book subtract goodwill, other intangibles, and deferred tax assets.

<sup>7</sup> Equity Capital is the basic GAAP measure of net worth, defined as total assets minus total liabilities.

<sup>8</sup> Median price-to-book ratios and price-to-adjusted tangible book ratios are used instead of averages for subgroups and for U.S. BHC size groups. Data are not available for six bank holding companies with assets less than \$1 billion, as well as for BPCE Group, Credit Agricole Group, and ING Bank.

<sup>9</sup> Bank holding companies that are owned by a foreign parent or reported a net loss in second quarter 2013, and thrift holding companies that did not file a full FRY-9C report as of second quarter 2013 were excluded.

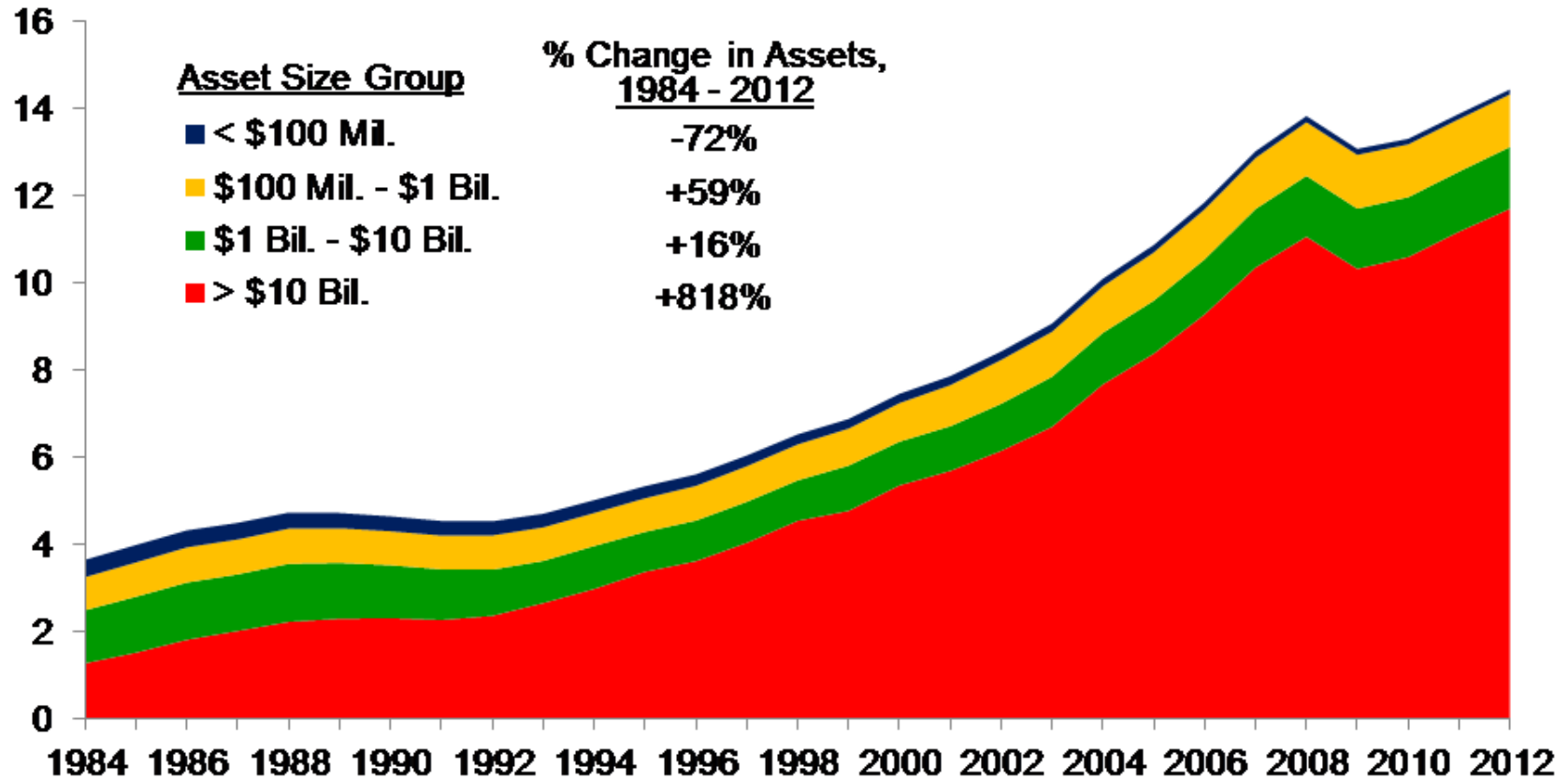
<sup>10</sup> The ten largest U.S. bank holding companies with assets less than \$50 billion and the ten largest U.S. bank holding companies with assets less than \$1 billion reported de minimis derivative exposures. We assume that total assets and the adjusted tangible equity to adjusted tangible assets ratio are essentially the same under U.S. GAAP and the IFRS estimate.

# Chart 1

## Consolidation of the Credit Channel

### Change in Assets by Bank Size Groups (1984-2012)

Total Assets of Institutions in Size Group, Dollars in Trillions



Source: FDIC. Reflects the aggregation of total assets of FDIC-insured institutions by bank holding company and also includes charter-level assets for banks with no holding company.

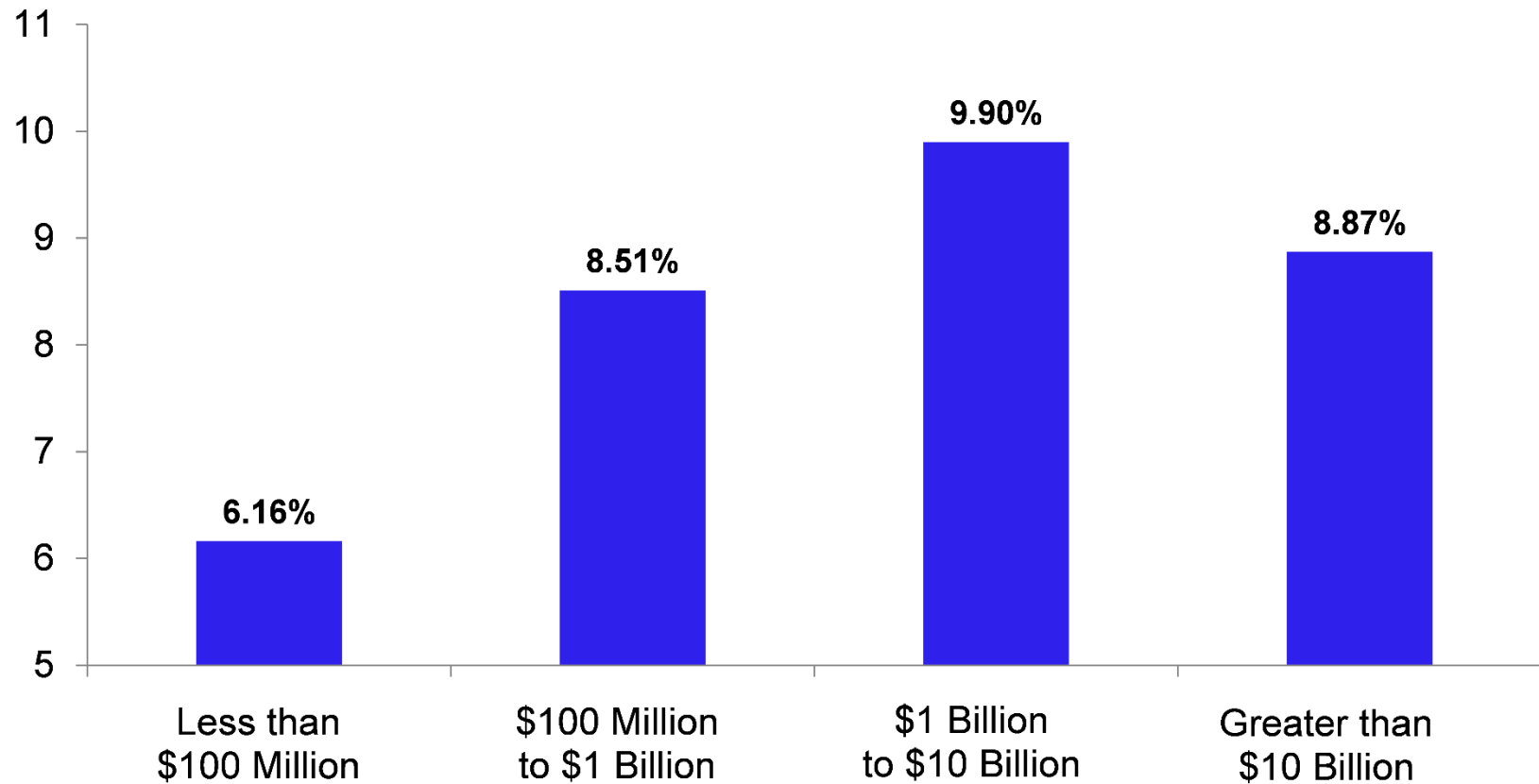
**Chart 2**

**Return on Equity Based on Bank Size**

All FDIC-Insured Institutions

As of Third Quarter 2013

Percent



Source: FDIC.