[HPS] LEADING THINKING

Primer: What's Changed Since The Lehman Failure 5 Years Ago

The crisis, the response, and the changes since

Hamilton Place Strategies provides communications, policy, and advocacy solutions at the intersection of business, government, and media.

Executive Summary

In the "too-big-to-fail" (TBTF) debate, we can argue about how much and what type of changes need to be made in financial regulation. However, on the five-year anniversary of Lehman's failure, the question of whether changes have occurred since then are not debatable. They have and they are significant. This deck provides a short primer on what has changed in the five years since Lehman's failure.

The key takeaways include:

- **The five-year anniversary of Lehman's failure is not the five-year anniversary of the financial crisis**, which began in 2007 and was systemic, affecting banks of all sizes and non-bank financial institutions.

- **Policy changes since 2008 have sought to end TBTF by reducing the likelihood of failure and mitigating the impact of a failure on the rest of the industry and the broader economy.**

- **Compared to before the crisis, the six global U.S. banks have raised $290 billion more in capital, which is more than the amount of TARP funds disbursed to the *entire* banking industry.** In addition, the quality of capital and liquidity levels has increased with new Basel III rules.

- **Evidence from bond prices and statements from credit ratings suggest markets believe the government is less likely to bail out a failing financial firm**. Legal changes prohibiting bailouts, new powers with Orderly Liquidation Authority, and the broad political environment have led to a change in market expectations. Additionally, higher capital and liquidity requirements and new premiums on non-deposit liabilities also act as a tax on size.

- **Since the passage of new regulations, the market share of large bank holding companies has decreased from 68 percent to 63 percent.** Contrary to popular belief, mid-sized banks have seen the largest growth since 2010, leading to a more competitive financial sector.

- **Many emergency authorities invoked during the crisis to bailout financial institutions are now illegal.** In 2008, TARP was voted on twice before passing. In the future, legislators will have to overturn elements of Dodd-Frank and also approve taxpayer funds to bail out institutions.

From Housing Bust To Systemic Crisis To Reform

June 2006
- Housing prices peak

Aug 2007
- Runs in money market funds begin with haircuts in repo markets peaking in the Fall of 2008.

Sep 2007
- After two of its hedge funds failed, Northern Rock receives support from BofE.

Feb 2008
- Northern Rock nationalized.

Mar 2008
- After two of its hedge funds failed, Bear Sterns, with support from the Fed, is acquired by JPM.

Jul 2008
- Thrift and mortgage insurer Indy Mac placed into conservator-ship by FDIC

Sep 2008
- Treasury creates MMF Guarantee program
- GSE's are placed into conservatorship

Sep 2008
- Investment bank Lehman declares bankruptcy
- RMC Money Market Fund "breaks the buck"
- Insurer AIG debt downgraded
- BofA purchases Merrill Lynch
- Mortgage-broker WaMu closed by OTS

Oct 2008
- TARP passes
- FDIC insurance raised 250k
- FDIC guarantees all senior debt
- Capital injection plan announced for 9 largest banks

Oct 2008
- Wells Fargo buys Wachovia

Nov 2008
- Fed, Treasury, and FDIC announce additional measures to support Citi

Jan 2009
- TARP investments for 23 community banks

May 2009
Fed administers first stress test

June 2009
JPM, Goldman, and 7 other banks repay TARP money.

June 2010
- TARP in the black for banks

July 2010
Dodd-Frank Act signed into law

Key

Market event

Government action

*Additionally, the Fed created a dozen programs to extend liquidity to financial institutions throughout the crisis.

Policy Responses Aimed To End TBTF By Improving Bank Safety And Minimizing Impact Of Failure

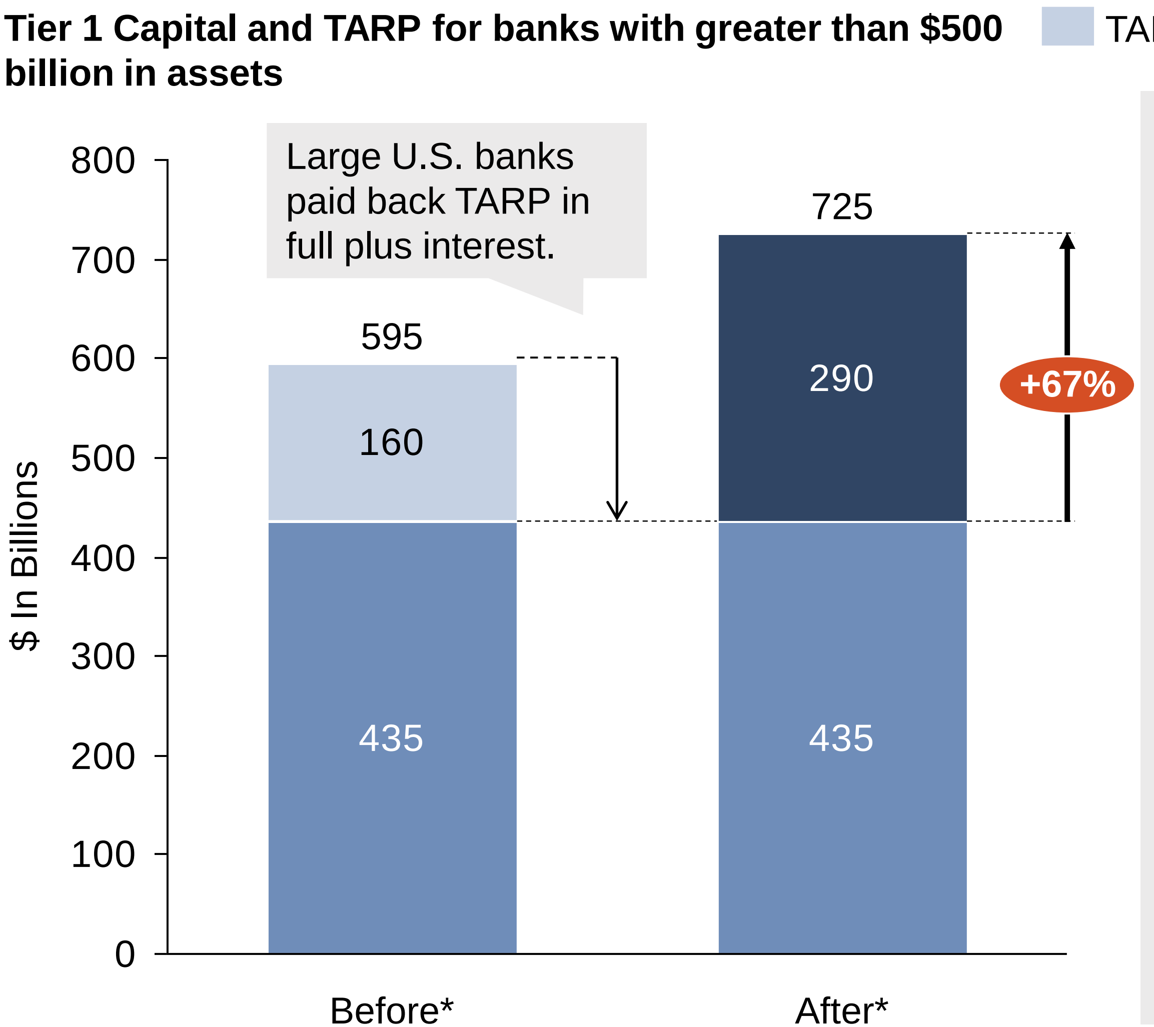
Policies end TBTF by…

…Reducing the likelihood of failure.	…Minimizing the impact of a failure on broader economy.
• **Increasing the amount and quality of capital and liquidity** reduces the likelihood that bank losses lead to failure. • **Improved oversight through regular stress tests** and agency restructuring will keep banks and regulators more aware of risks. • **Banning proprietary trading** through the Volcker Rule to reduce risks associated with trading operations at commercial banks.	• **Orderly Liquidation Authority (OLA)** gives regulators new tools to wind down large institutions without using taxpayer money. • **Living Wills provided by banks to regulators will show regulators how to wind banks down** and provide more details on bank structure. • **Restrictions on bank size** through new rules that essentially prohibit large banks acquiring or merging with other firms.

In addition to these approaches, many of the emergency bailouts in 2008 are now illegal, requiring legislative overhaul to be implemented again.

Global U.S. Banks' Capital Increased 67% Since Lehman And Exceeds Previous Amount Plus TARP

Tier 1 Capital and TARP for banks with greater than $500 billion in assets



Bank Capital:

- Prior to Lehman's failure, large BHCs accounted for $435 billion in capital.
- In October of 2008, Treasury began injecting TARP funds into the banking system.
  - TARP to the banking industry totaled to $245 billion.
  - TARP to the largest banks totaled to $160 billion.
- As of June 30, 2013, these same institutions collectively accounted for $725 billion in capital, a 67 percent increase from the third quarter of 2008.
  - Base and new capital for the largest banks is 22 percent above base capital plus TARP.

Source: Bloomberg, U.S. Treasury, Pro Publica

*Before = third quarter 2008, After = second quarter 2013

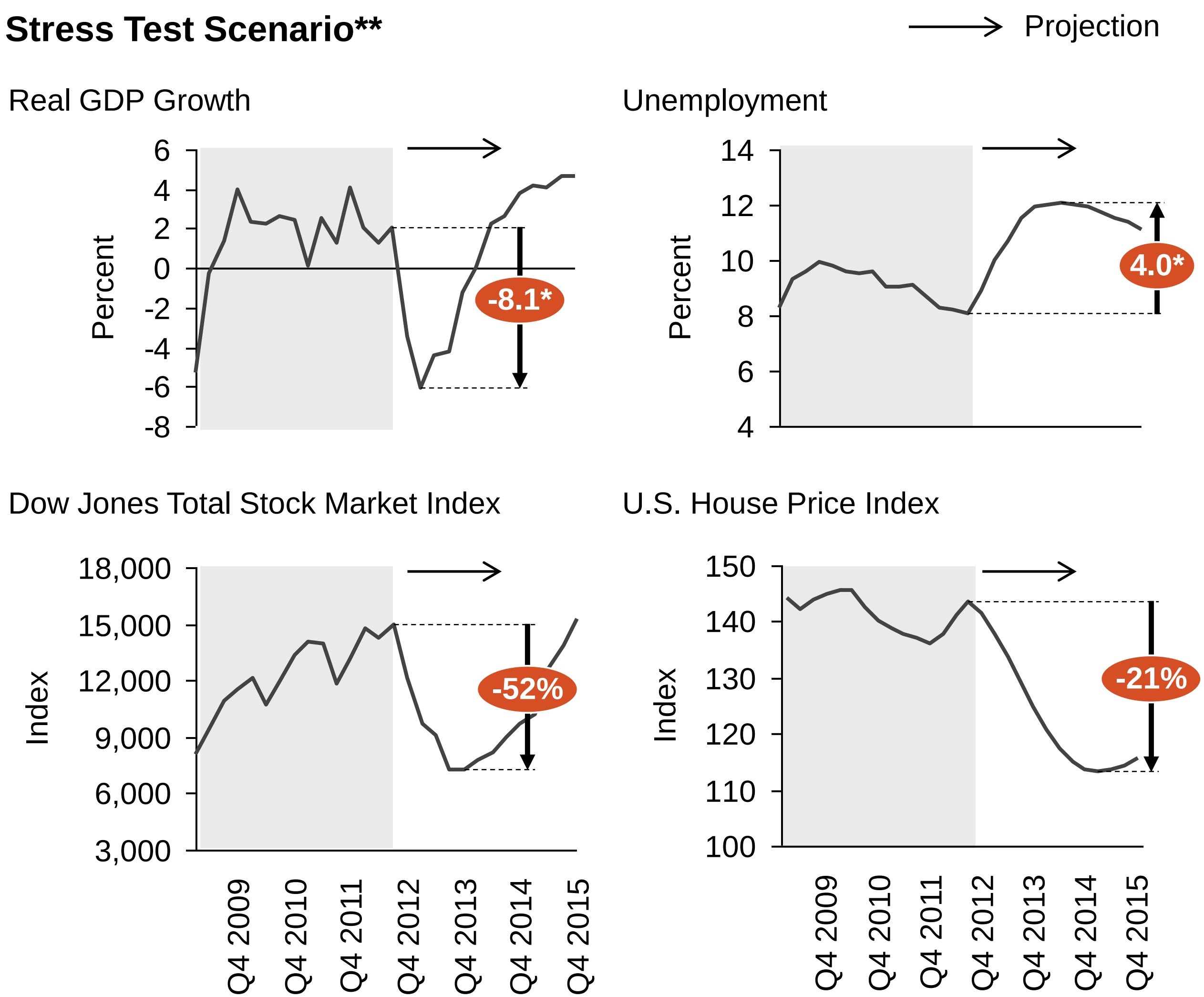
Regulators Are Smarter: Annual Stress Tests Help Regulators Gain More Knowledge

Stress Test Improvements

More models: In 2009, the Fed relied on bank's own models for testing. Today, the Fed has more than 40 internal models, an internal independent model validator, and a council of external modeling experts.

More data: For the last round of testing, the Fed collected and analyzed loan- and account-level data on more than two-thirds of the $4.2 trillion in accrual loans and leases projected to be held by the 18 firms.

Stress Test Scenario**



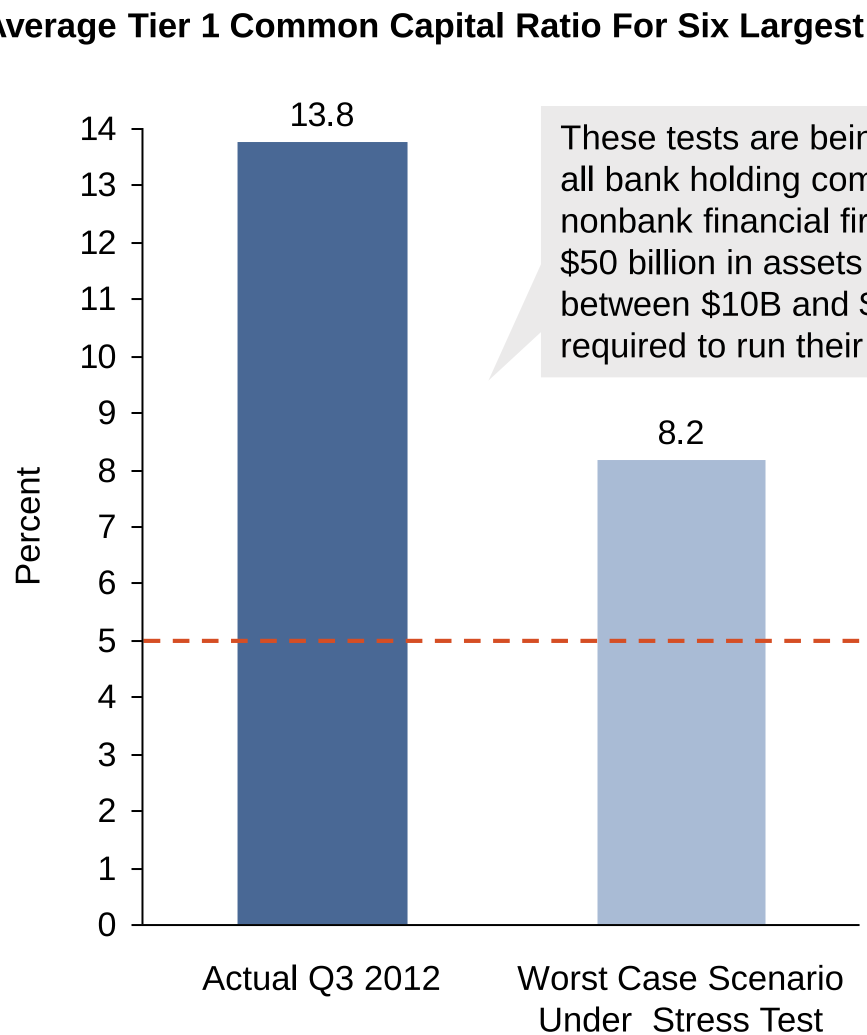
Source: Federal Reserve

*Percentage points

**The international component of the severely adverse scenario features recessions in the euro area, the United Kingdom, and Japan and below-trend growth in developing Asia.

Even Under Significant Duress, Bank Capital Levels Are Expected To Remain Well Above Five Percent

Average Tier 1 Common Capital Ratio For Six Largest Banks



These tests are being extended to all bank holding companies and nonbank financial firms with over $50 billion in assets and institutions between $10B and $50B are required to run their own.

Other Components of CCAR

The results of these stress tests are just one component of the Fed's evaluation of a bank holding company's financial strength.

For example, despite maintaining adequate capital levels, the Fed still is working with banks to improve capital planning processes and systems for monitoring internal risk models.

Banks are also tested under four different types of capital ratios.

Source: Federal Reserve

No Unfair Advantage: Large Banks' Funding Advantage Has Completely Reversed Since The Crisis

What Past Studies Get Wrong?

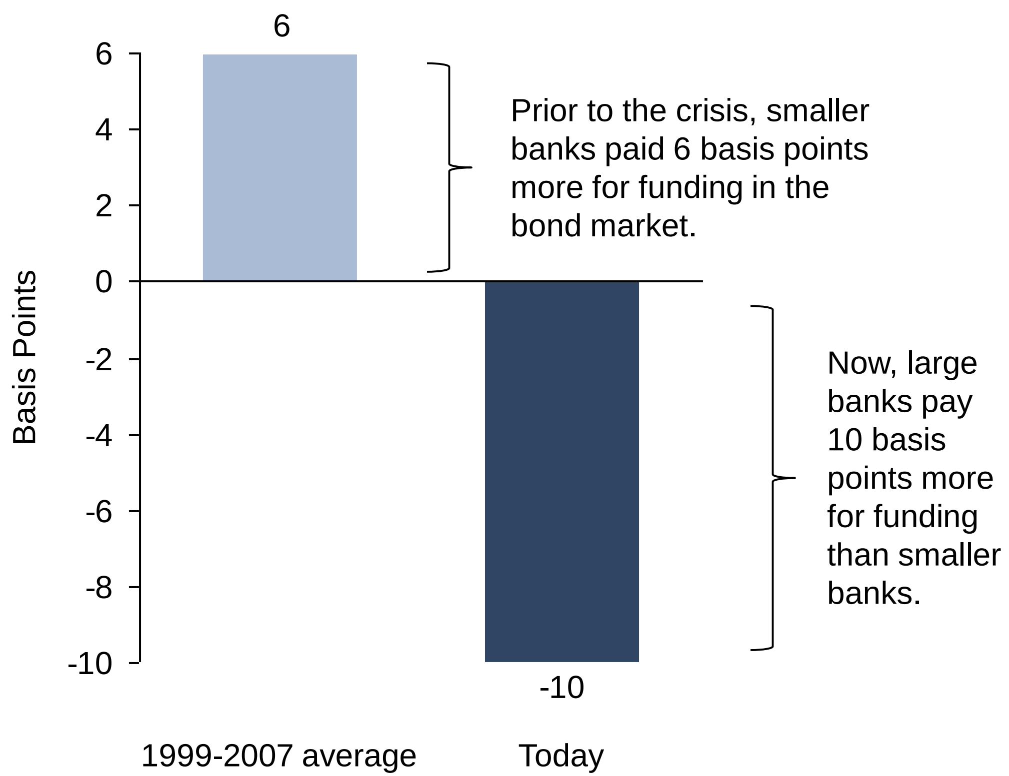
Too broad of a sample: Many of studies trying to measure the TBTF implicit subsidy include non-bank financial institutions and non-U.S. banks, which operate in a different regulatory and political environment.

Rely on credit ratings which lag the market: Changes in ratings always lag the bond market, meaning that those estimates are skewed high.

Inaccurately apply these advantages in bond markets to all funding markets: Some analyses apply a subsidy on bonds to all liabilities including insured deposits. This will also lead to an inaccurate estimate.

Still relying on crisis data: Many studies cited relied on data during the crisis when we explicitly subsidized the banks. Those studies are now outdated.

Bond spread differential between the six largest U.S. banks and all other bond-issuing US banks

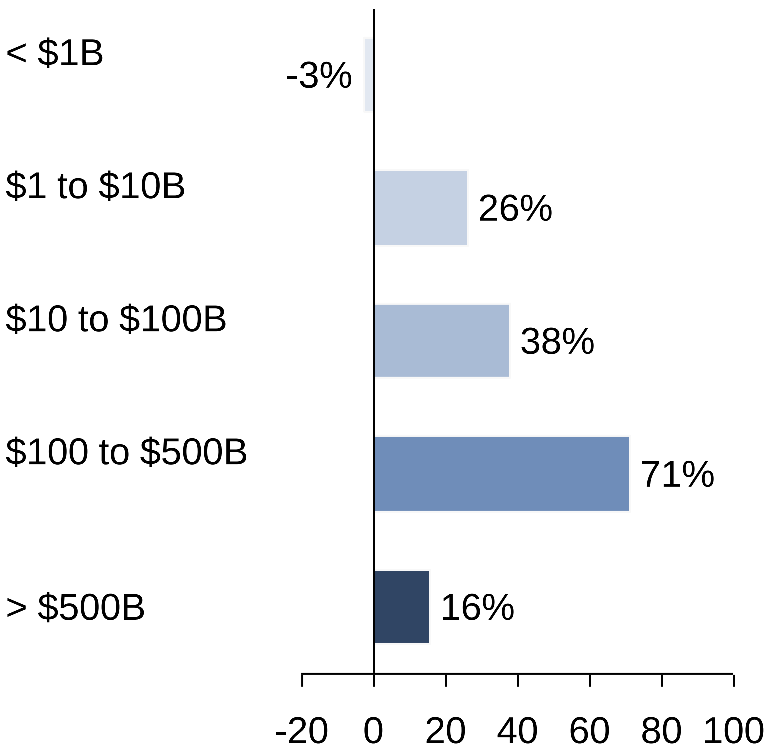


Recently, credit ratings agencies Moody's and S&P indicated large banks are more likely to be wound down than bailed out in the future, further supporting the notion that market expectations have changed.

Source: Goldman Sachs

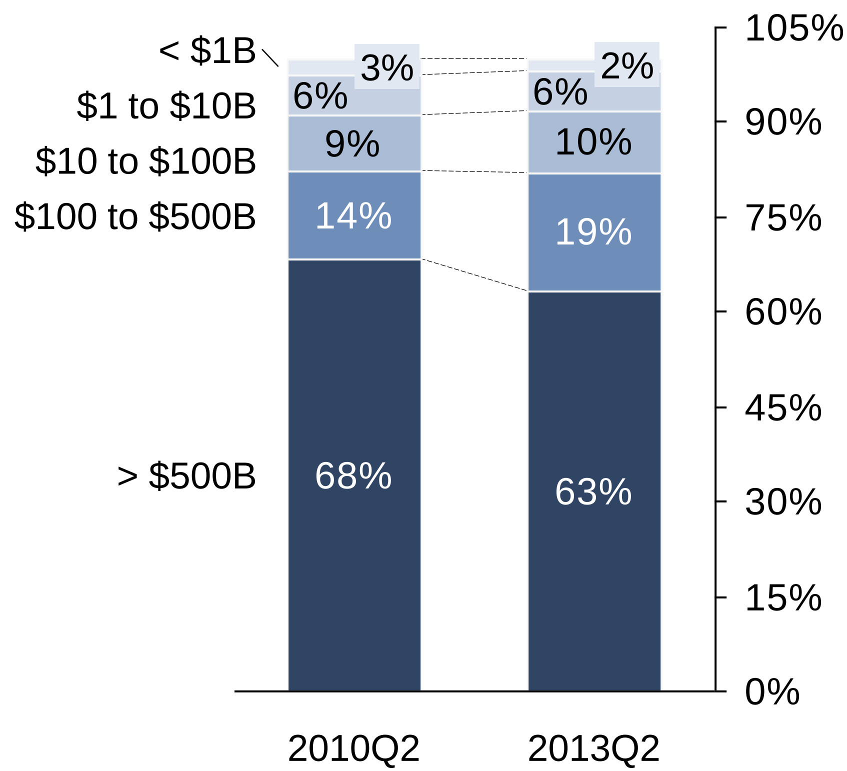
Financial Markets Are More Competitive: Large BHCs' Market Share Has Declined Since 2010

Asset growth since the passage of Dodd-Frank has occurred in the middle tier of banks…



Asset growth (%)
2010 Q2 to 2013 Q2

…Leading to a more competitive banking sector.

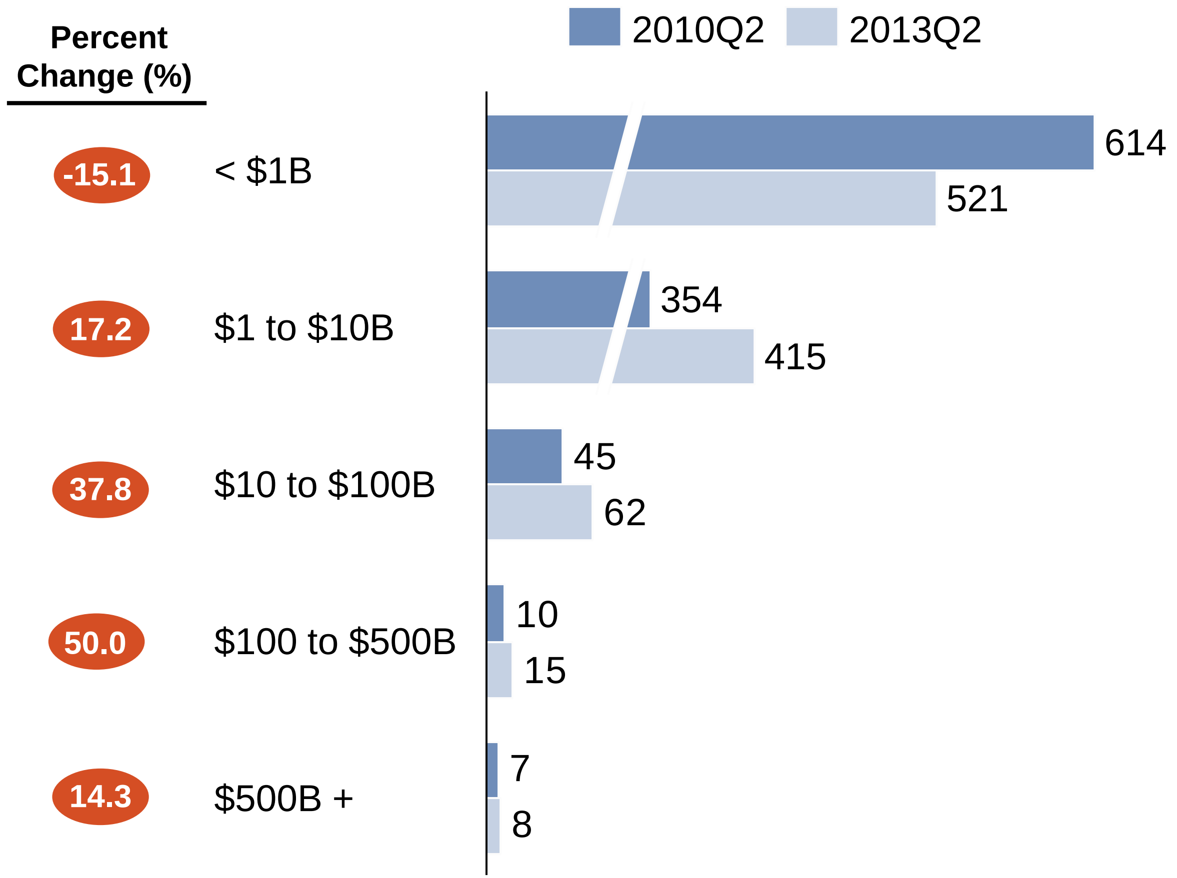


Market share by assets (%)
2010 Q2 to 2013 Q2

Source: Bloomberg
Values account for BHC failures, M&A, and in the case of AIG, a re-privatization in the second quarter of 2013.
Data is from second quarter of 2010 to second quarter of 2013 and includes current and historical Y-9C filers (Bank Holding Companies).

Consolidation Has Increased The Number Of Competitors Among Mid-Tier And Large Banks

Number of bank holding companies within each asset range



Bank Competition:

- As the banking sector consolidates, the number of mid-size and large banks will increase, creating a more competitive environment among firms of similar size.
- Moreover, the largest banks are competing both domestically and internationally with foreign banking institutions, which are not represented in this data-set.

Source: Bloomberg
Data is from second quarter of 2010 to third quarter 2013 and includes current and historical Y-9C filers (Bank Holding Companies).

No More Bailouts: Many Crisis-Era Emergency Actions Are Now Prohibited Or Curtailed Under Dodd-Frank

Intervention	Explanation	Status
TARP	• To shore up capital and confidence, Congress approved $700 billion, of which $245 billion was put into the banking system.	• **Illegal going forward**: Purchase authority ended in 2010. To date, 111.4 percent of funds have been recovered. Global banks have re-paid plus interest. Some midsize and small banks still owe.
Fed Reserve Programs	• Using authority in Section 13(3) of the Federal Reserve Act, the Fed created a dozen emergency programs to stabilize financial markets throughout the globe. The Fed also made loans to specific institutions such as AIG and Bear Sterns.	• **Must be broad-based and only to solvent institutions:** Dodd-Frank prohibits lending authorized under Section 13(3) to insolvent borrowers and requires lending to be broad-based to stop any future loans specific to one institution.
FDIC Programs	• The FDIC guaranteed all senior debt and, through the Temporary Liquidity Guarantee Program (TLGP), the FDIC established guarantees for noninterest-bearing deposits and newly issued unsecured debt to calm credit markets.	• **Must be broad-based and requires Congressional approval**: TLGP has expired and open bank assistance and guarantees are not permitted except for widely-available guarantee programs pursuant to "Liquidity Event Determination," which require joint resolution of approval by Congress.
MMF Guarantee Program	• Treasury guaranteed $3 trillion of money market fund shares through the Exchange Stabilization Fund to stop runs on these institutions.	• **Illegal going forward:** The program ended in September 2009 with Treasury collecting $1.2 billion and TARP legislation made any future guarantees of the MMFs illegal.
Fannie and Freddie Support	• Through the Housing and Economic Recovery Act (HERA), Congress authorized Treasury to purchase obligations and securities to support GSE's and the housing market.	• **Expired:** HERA authority expired at the end of 2009. Treasury is expected to be fully paid back plus 10 percent interest by early 2014.

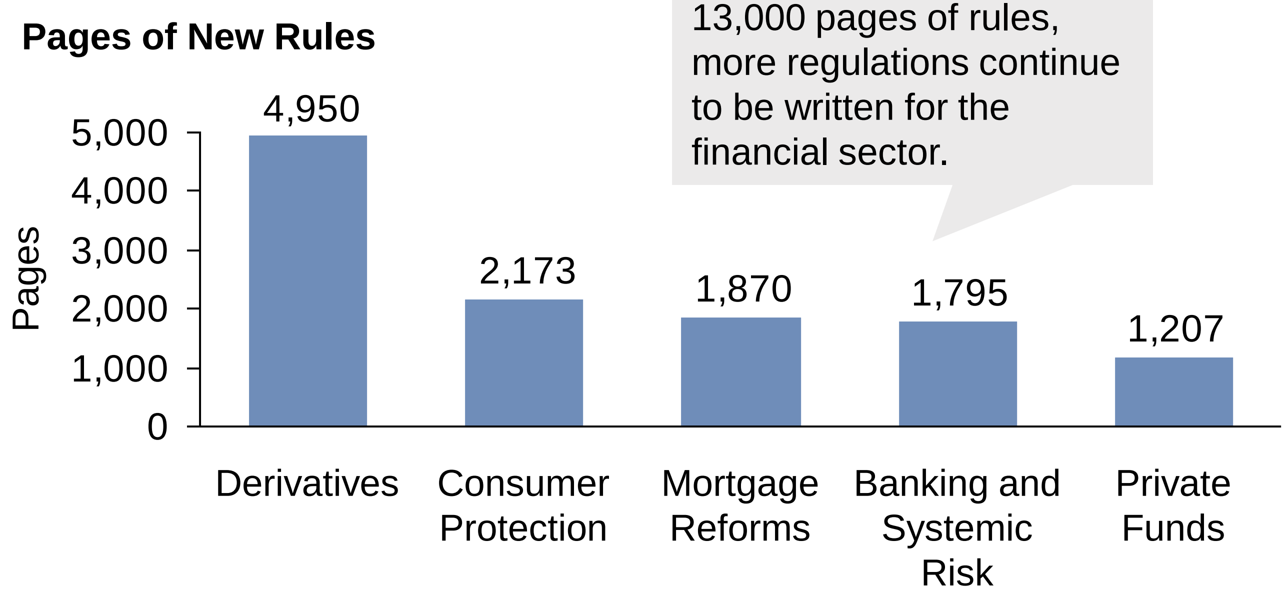
Other Regulations Ensure Global Banks And The Broader Financial System Are More Secure

From…	…To
Unregulated and nontransparent derivatives market	Central clearing houses for transparency, and margin and liquidity requirements for safety
Size limit for mergers only applied to market share of deposits	No firm can grow through acquisition to be more than 10 percent of all bank liabilities as well.
No prudential supervisor for nonbank financial institutions	Systemically important nonbanks are regulated by the Fed
Counterparty risk regulation only applied to bank loans	All institutions are subjected to exposure limits across all types of exposures including derivatives

The Pace Of Implementation Is Stark Given The Magnitude Of The Challenge

Recent discussion around the pace of Dodd-Frank implementation has focused on whether agencies met deadlines and the percentage of rules completed.

However, these focuses ignore the challenge of more than ten agencies implementing rules of the 848-page bill. Implementation is not perfect, but regulators have written and finalized many of rules with significantly more to come.



Even with more than 13,000 pages of rules, more regulations continue to be written for the financial sector.

- 13,789 pages of rules have been created by more than 10 regulators
- There is a new rule every 2.8 days
- Over 15 million words of rules cutting across all sectors of the financial system
- 48 Congressional hearings have taken place to discuss the progress and efficacy of Dodd-Frank

Source: Davis Polk