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Bank Capital: Lessons from the U.S. Financial Crisis

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Key Regulatory and Supervisory Issues in a Basel III World

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Lessons from the Financial Crisis

- Bank regulation
  - Too much reliance on risk weighting in models
  - Originate-to-distribute model did not distribute risk as assumed
- Bank supervision
  - Risk-focused supervision focused on lower-quality assets – problems with high-rated securities
  - Off-balance-sheet vehicles needed more scrutiny

Financial Stability Lessons

- Impact of a complex institution failure was not fully appreciated
- Run risk of other financial institutions (broker-dealers), products (money market mutual funds), and structures (structured investment vehicles) received little attention

New Supervisory Tools

- Higher levels and higher quality of bank capital
- Stress tests
- Liquidity requirements
- Resolution plans (living wills)

Outline of Talk

- Capital erosion occurred quickly and was large at U.S. financial institutions during the crisis
- If enhanced capital were the only regulatory response to the crisis, then our results would suggest that the size of the SIFI surcharge could be insufficient
- However, in conjunction with the SIFI surcharges, regulators have undertaken several other significant reforms that have provided new tools

Outline Continued…

- Our results highlight the importance of taking a multi-pronged approach
- Contrary to arguments put forth by some commenters, our results suggest that even under the current multi-pronged approach – the current calibration of the SIFI surcharge does not appear excessive

FRB Boston Study on Capital Erosion

- Estimates capital erosion during the crisis for largest U.S. financial institutions
- Compares capital ratio erosion to the buffers relative to the 5 percent tier 1 common equity used during the U.S. stress tests
  - 200 basis points (tier 1 common plus conservation buffer)
  - 300 basis point (tier 1 common plus conservation buffer plus minimum SIFI surcharge)
  - 450 basis points (tier 1 common plus conservation buffer plus 250 basis point SIFI surcharge)

Figure 1
Capital Erosion at Large U.S. Financial Institutions

Financial Institution	Crisis Period	Capital Ratio Erosion (in Basis Points) Tier 1 Common Equity
Washington Mutual, Inc.	4Q07 - 9/25/08	(1202)
Countrywide Financial Corp.	3Q07 - 7/1/08	(769)
Merrill Lynch & Co., Inc.	6/30/07 - 12/31/08	(756)
National City Corp.	4Q07 - 12/31/08	(751)
Ally Financial Inc.	3Q07 - 4Q09	(636)
Lehman Brothers Holdings Inc.	3/1/08 - 9/14/08	(610)
Wachovia Corp.	1Q08 - 12/31/08	(590)
State Street Corp.	4Q07 - 2Q09	(527)
Citigroup Inc.	4Q07 - 4Q08	(380)
Bear Stearns Companies Inc.	9/1/07 - 5/30/08	(358)
Capital One Financial Corp.	1Q10	(327)
MetLife, Inc.	1Q08 -1Q09	(315)
KeyCorp	2Q08 - 1Q10	(242)
Morgan Stanley	9/1/07 - 12/31/08	(145)
Regions Financial Corp.	4Q08 - 1Q11	(140)
American Express Co.	1Q10	(96)
Fifth Third Bancorp	2Q08 - 4Q08	(93)
Bank of New York Mellon Corp.	1Q08 - 4Q08	(90)
PNC Financial Services Group, Inc.	1Q08 - 4Q08	(87)
Wells Fargo & Co.	3Q08 - 4Q08	(81)
SunTrust Banks, Inc.	2Q08-1Q10	(69)
Bank of America Corp.	4Q10-3Q11	(66)
Goldman Sachs Group, Inc.	8/30/08 - 12/26/08	(36)
BB&T Corp.	4Q10	(10)
JPMorgan Chase & Co.	3Q08	(4)
U.S. Bancorp	--	0

Source: Forthcoming working paper, Federal Reserve Bank of Boston

Figure 2

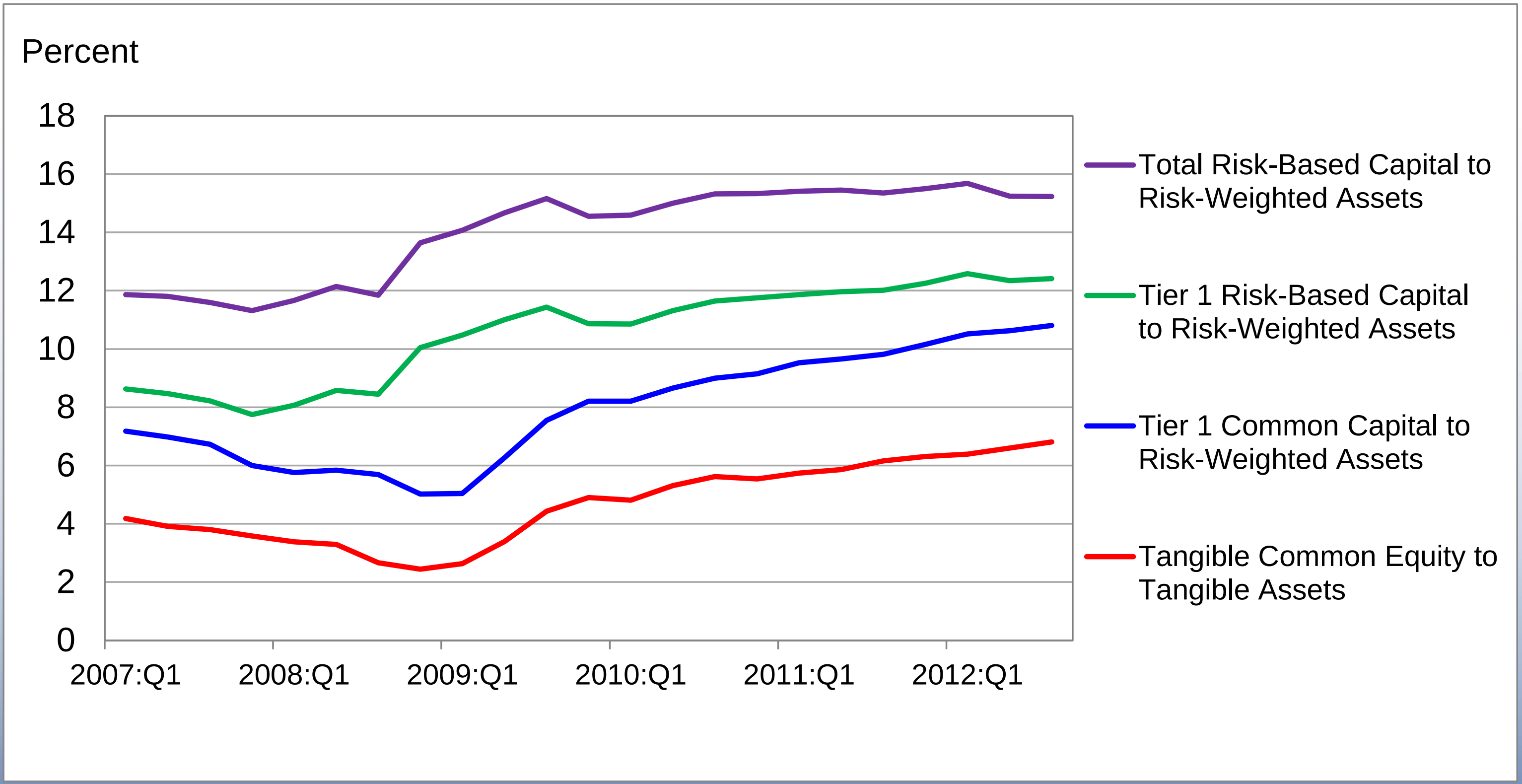
Summary of Tier 1 Common Capital Erosion at Large U.S. Financial Institutions During the Crisis

Size of Tier 1 Common Equity Capital Ratio Erosion	Number of Financial Institutions
< 200 Basis Points	13 of 26
200 to 300 Basis Points	1 of 26
300 to 450 Basis Points	4 of 26
> 450 Basis Points	8 of 26

Source: Forthcoming working paper, Federal Reserve Bank of Boston

Figure 3
Capital Measures for
Large U.S. Banking Organizations

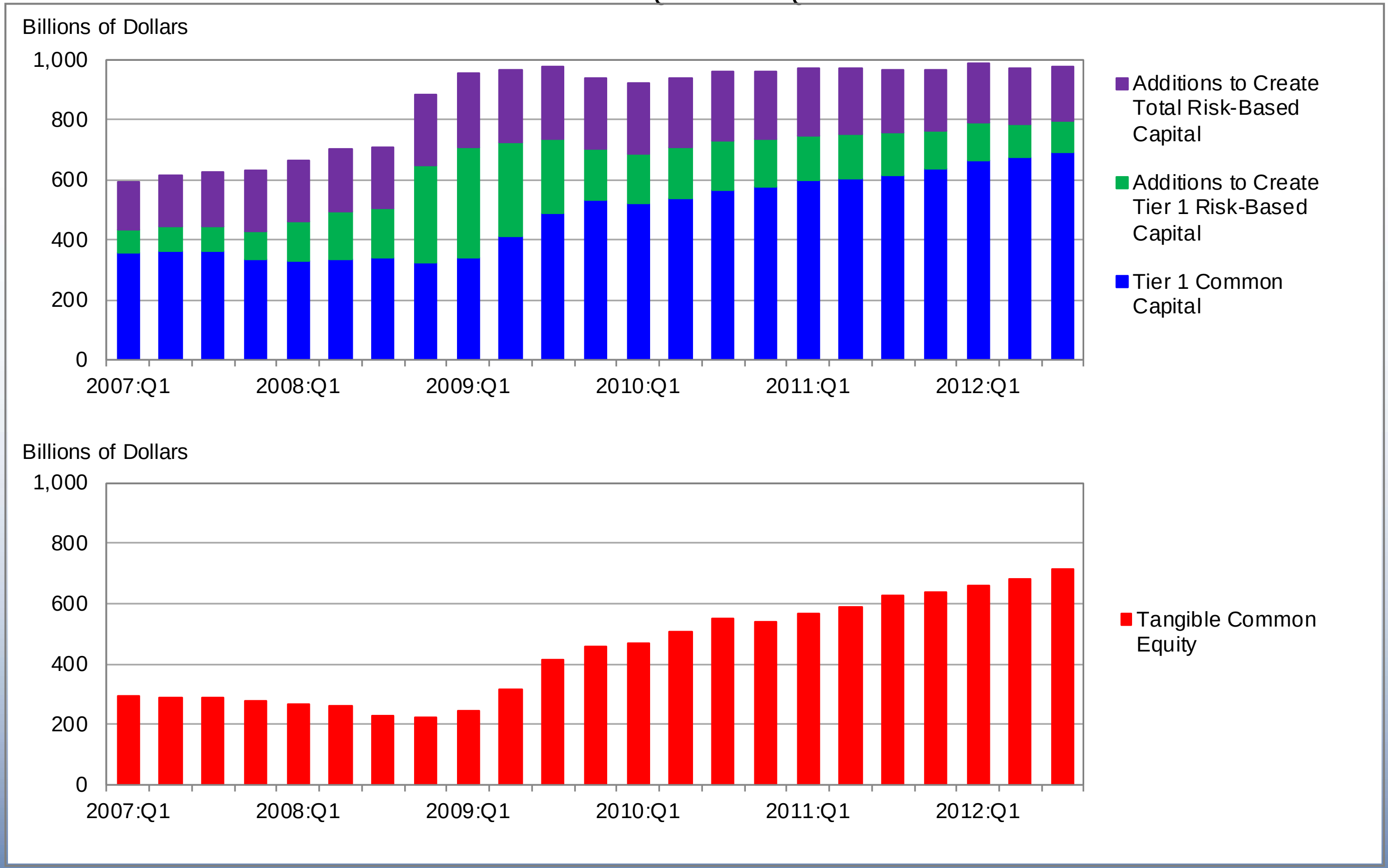
2007:Q1 - 2012:Q3



Note: Includes 15 large banking organizations that filed the FR Y-9C throughout the six-year period
Source: Consolidated Financial Statements for Bank Holding Companies (FR Y-9C)

Figure 4
Composition of Capital at Large U.S. Banking Organizations

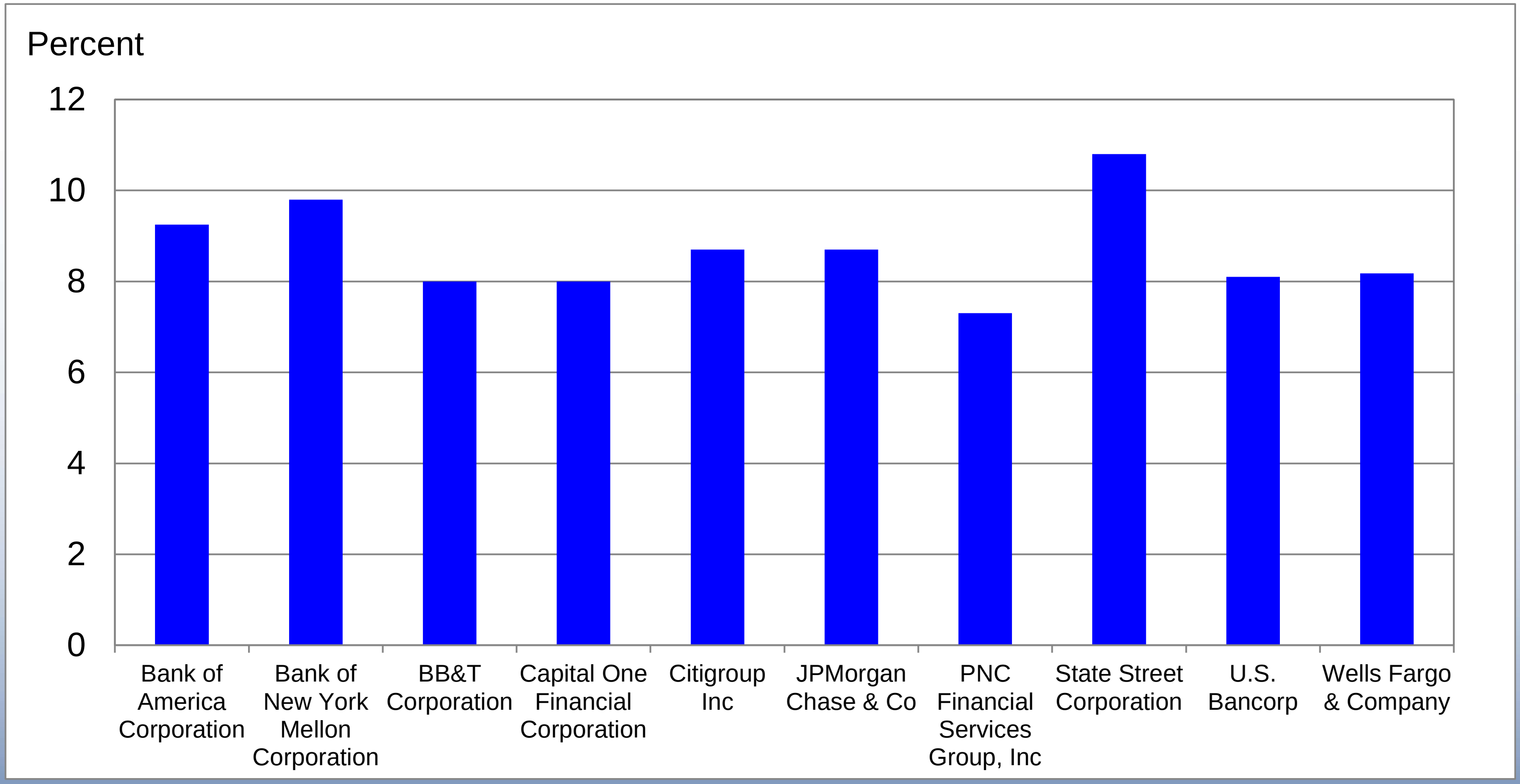
2007:Q1 - 2012:Q3



Note: Includes 15 large banking organizations that filed the FR Y-9C throughout the six-year period
Source: Consolidated Financial Statements for Bank Holding Companies (FR Y-9C)

Figure 5
Basel III Tier 1 Common Capital Ratio Estimates for Large U.S. Banking Organizations

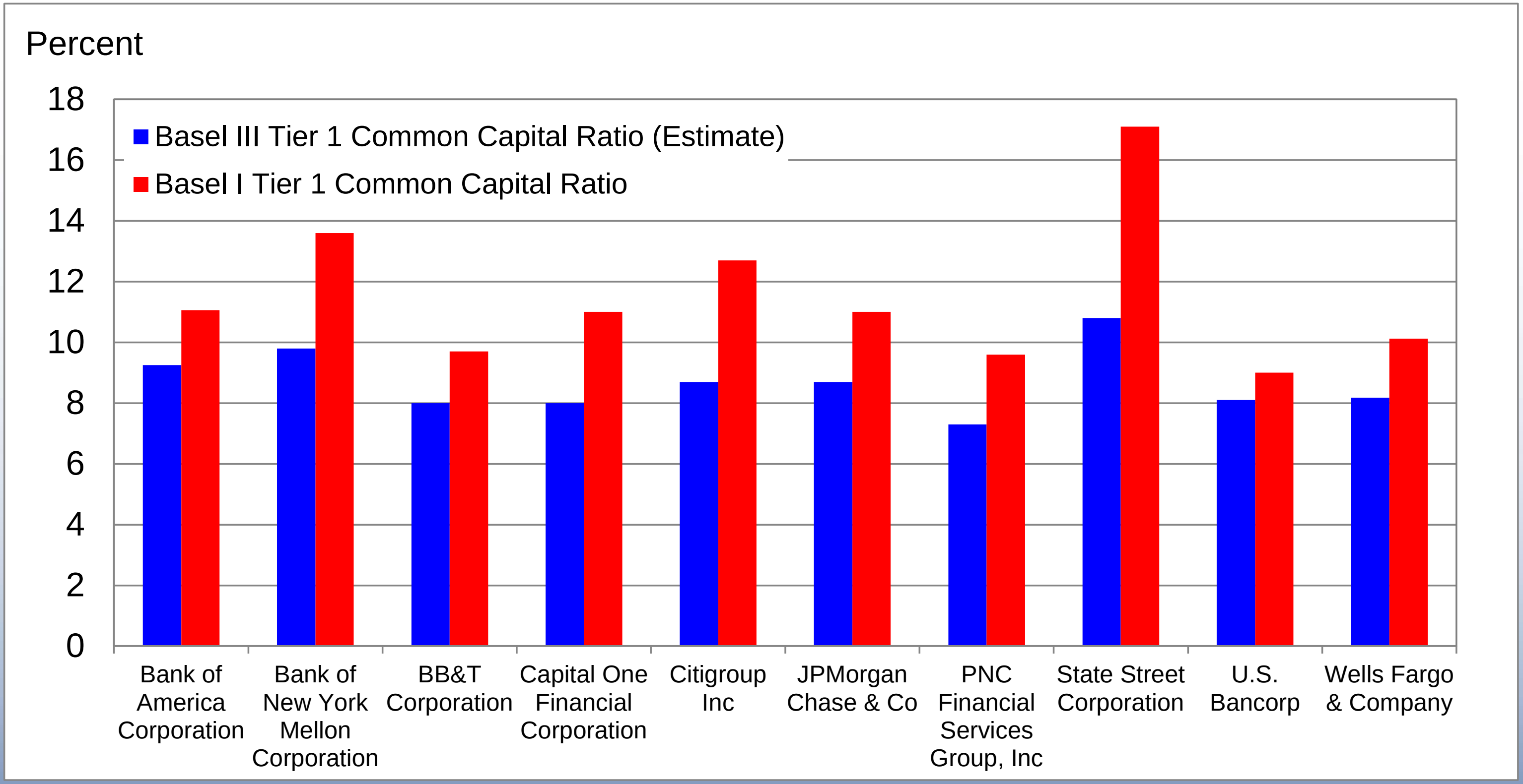
2012:Q4



Note: The Basel III Tier 1 Common Capital Ratios are estimates provided by the banking organizations in their most recent earnings press releases. They are based on Notices of Proposed Rulemaking (NPRs) released in June 2012. As these are subject to interpretation, the ratios may not be directly comparable until the rules are finalized.

Figure 6
Basel I and Basel III Tier 1 Common Capital Ratios for Large U.S. Banking Organizations

2012:Q4



Note: The Basel III Tier 1 Common Capital Ratios are estimates provided by the banking organizations in their most recent earnings press releases. They are based on Notices of Proposed Rulemaking (NPRs) released in June 2012. As these are subject to interpretation, the ratios may not be directly comparable until the rules are finalized.

Advantages of Multi-Pronged Approach

- Tools more than just capital requirements
  - Stress tests
  - Liquidity requirements
  - Resolution and recovery
- All new tools since the crisis

Should Trade-Offs Be More Explicit?

- SIFI surcharge in part because large complicated institutions not easily resolvable
- Hold more capital if less easily resolved
- Large but more easily resolved should hold less SIFI capital than large but difficult to resolve
- Consider tighter link between living wills and capital surcharges

Implications of Multi-Pronged Approach

- Capital erosion study – SIFI surcharge not excessive
- Minimum standards may be too low unless new supervisory tools are effective

Conclusion

- Changes to supervision are extensive
- Capital erosion can be large and quick
- Important new tools supplement the higher level and quality of capital – otherwise might want a higher capital charge
- Need to be sure government intervention in financial sector is not necessary in the future