Assessing the Supplementary Leverage Ratio

The Clearing House®

At the Center of Banking Since 1853

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Executive summary

We have supplementary leverage exposure and capital data as of 2Q 2013 covering 100% of US G-SIB assets, and ~93% of total US domiciled Advanced Approach (AA) BHC assets[1], which together comprise approximately 65% of overall US banking and securities industry assets[2]

- Total exposures in our data increase from $11.7T under US Leverage Ratio, to $16.4T under the US exposure measure, and to $19.1T using the Basel proposed exposure measure

Analysis indicates that the Enhanced Supplementary Leverage Ratio (SLR) could require up to $202B[3] of additional Tier 1 capital or require exposure reductions of $3.7T, if the US 5-6% G-SIB minimum is combined with the Basel proposed exposure measure

- To meet a 3% ratio under either exposure definition requires <$10B in incremental capital
- To meet a 5-6% ratio under the US exposure measure, banks need to reduce exposure by ~$1.2T or raise ~$69B in capital
- If the US were to adopt the changes to the exposure measure in the Basel proposed SLR in combination with the 5-6% ratio, banks would need to reduce exposure by ~$3.7T or raise ~$202B in capital, which represents 19.6% of covered industry exposure and 24.3% of covered industry Tier 1 Capital, respectively
- Historically, firms have operated in excess of supervisory minimums, and if banks were to hold voluntary buffers of 50-200 bps above the 5-6% minimum SLR, the capital shortfall would range from $273-$501B

At a 5-6% minimum with Basel proposed exposure measure, leverage would become the binding constraint for 67% of US G-SIBs or ~40% of the overall US banking and securities industry[2] (measured as a percentage of total assets)

The SLR and corresponding capital shortfall would be most sensitive to the following changes in the exposure measure: (1) Reduced CCFs for undrawn commitments, (2) the exclusion of cash[4], (3) the allowance of netting for SFTs[5], and (4) the exclusion of centrally cleared derivatives from the exposure measure[6]

We have also analyzed impacts on a number of individual products. Leverage may make it uneconomic, all else equal, for banks to hold or provide <364 day unfunded revolvers, cash, US Treasuries, reverse repos, vanilla interest rate swaps, and CDS on corporate bonds

1 As estimated by all US domiciled Advanced Approach BHCs
2 Calculated as the sum of Private Depository Institution ($15.24T) assets plus Broker-Dealer assets ($2.05T), as of 1Q 2013
3 If U.S. advanced approaches banks first raised additional Tier 1 capital necessary to comply with the Basel III Framework's risk-based capital rules on a fully phased-in basis (including the capital conservation buffer and G-SIB surcharges where applicable), banks still need to raise an additional $185 billion of Tier 1 capital to be in compliance with the 5-6% minimum combined with the Basel exposure measure
4 Cash held at the central bank and vault cash
5 Including margin lending
6 Treatment of centrally cleared derivatives for leverage ratio purposes is still evolving; this study assumes no difference in leverage ratio treatment between centrally cleared and OTC

Given the proposed changes to the SLR exposure calculation and the minimum calibration requirements, there are 4 scenarios to examine

Interaction between proposed exposure calculation and minimum calibration requirements

Exposure calculation	Calibration: 3%	Calibration: 5-6% for G-SIBs; 3% for non-G-SIB AAs
Basel proposal[1]	**2** Basel proposed SLR at 3% calibration	**4** Basel proposed SLR at 5-6% calibration
US exposure measure[2]	**1** US proposed SLR at 3% calibration	**3** US proposed SLR at 5-6% calibration

- The Basel proposed SLR at 3% calibration and the US proposed SLR at 5-6% calibration are both currently under consideration for implementation
- The Basel proposed SLR at 5-6% calibration is a possible outcome should the US update its current Enhanced Supplementary Leverage Ratio proposal to include the Basel exposure calculation

1 As described in the Consultative Document “Revised Basel III Leverage Ratio Framework and Disclosure Requirements”, available at http://www.bis.org/publ/bcbs251.htm

2 As defined in the US Basel III Final Rule Section 2, definition of “Total Leverage Exposure”, page 552, available at http://www.federalreserve.gov/bcreg20130702a.pdf

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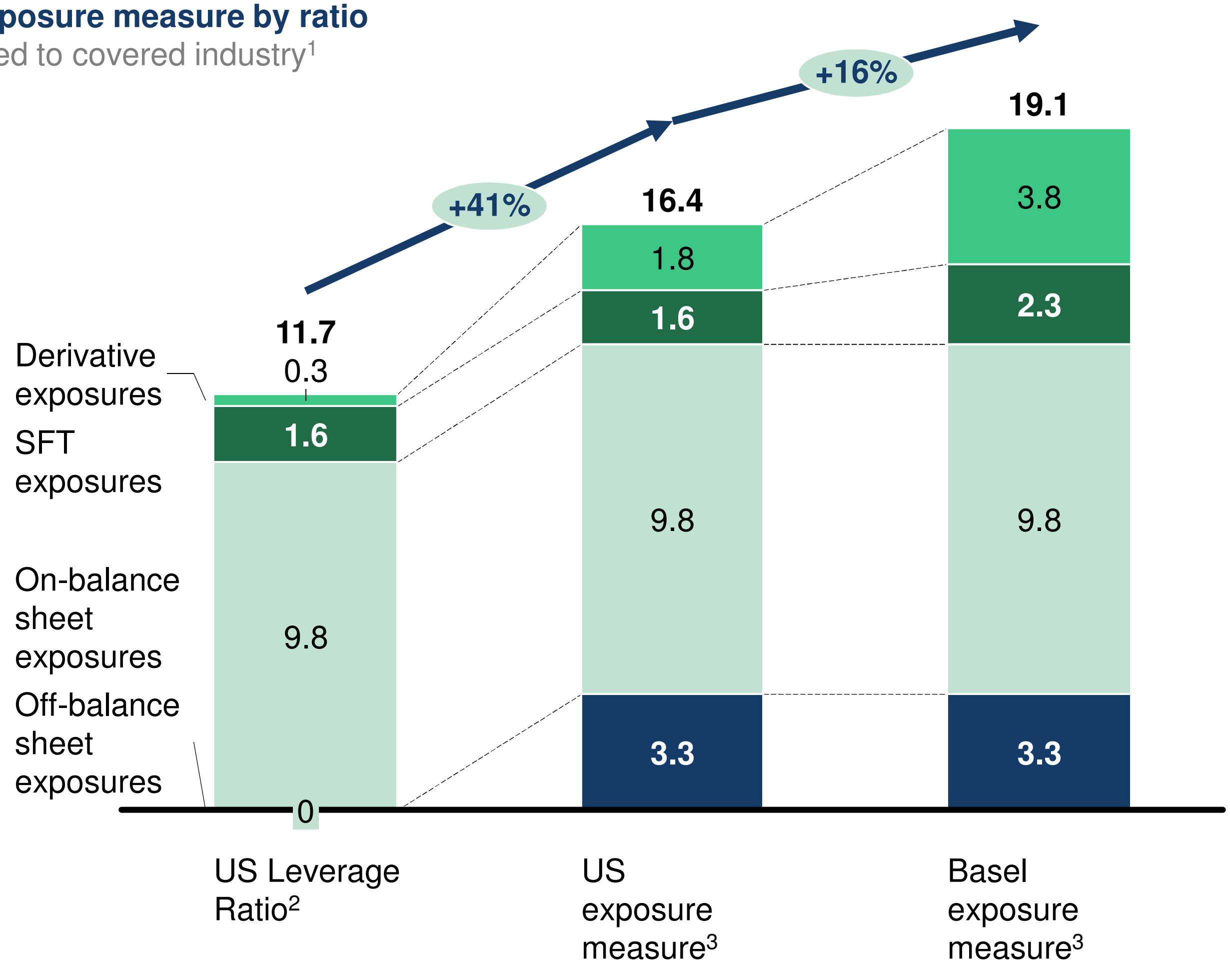
Increase in the exposure measure in the Basel proposed SLR is driven by SFT and derivative treatment

Overall exposure measure increases by 16% from US proposed to Basel proposed exposure measure

BHC exposure measure by ratio

$T, scaled to covered industry[1]



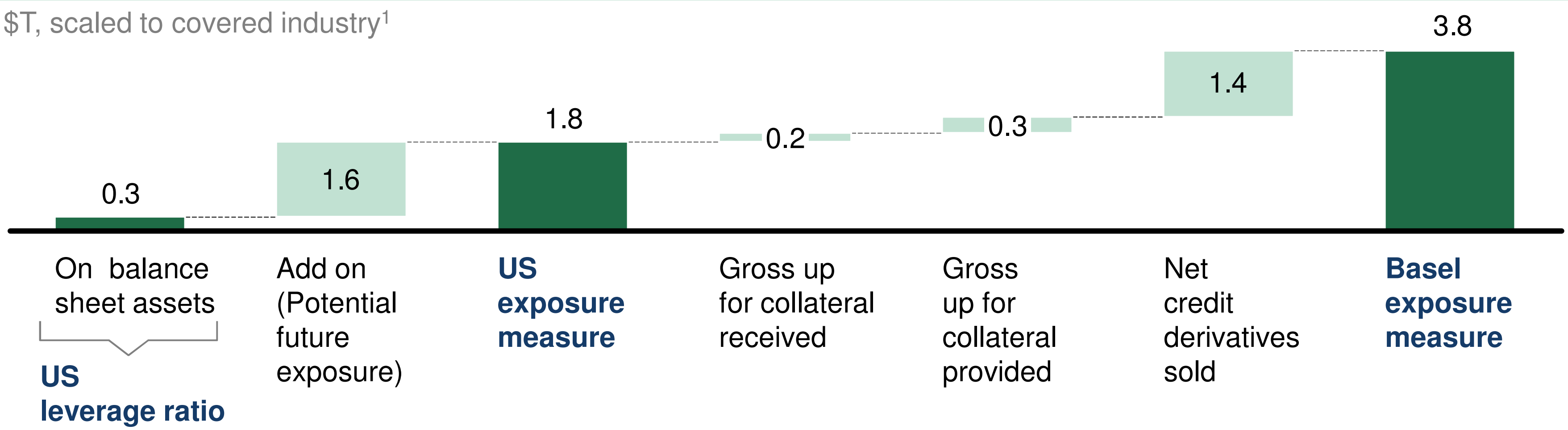
1 As estimated by all US domiciled Advanced Approach BHCs

2 On-balance sheet assets

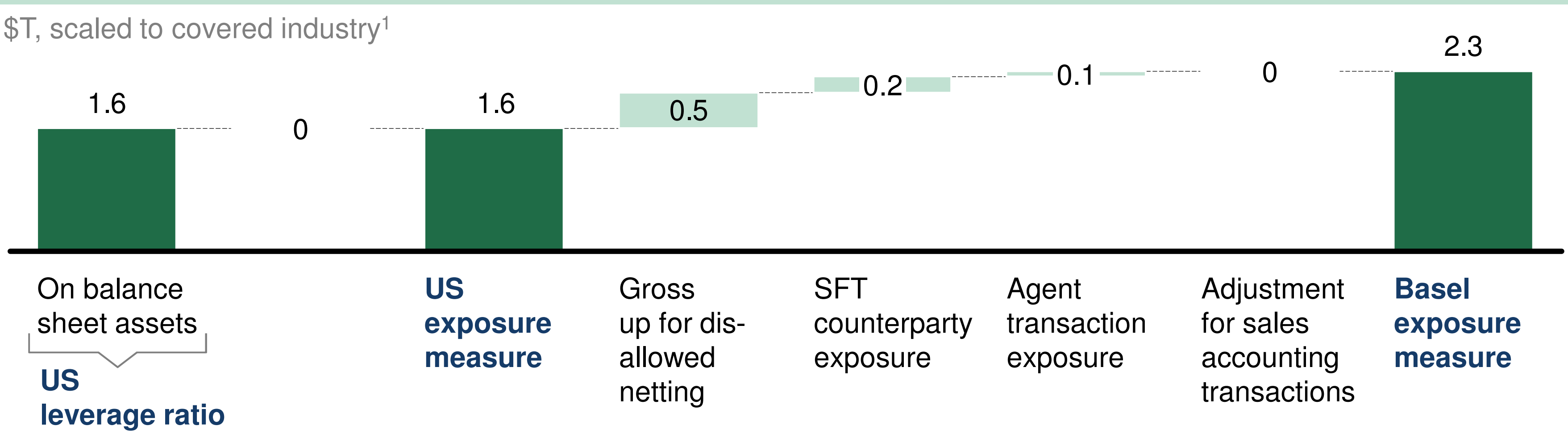
3 See notes 1 and 2 on page 2 of this document for definition of the relevant exposure measures

Buildup of derivative and SFT treatment across exposure measures

Derivative treatment across exposure measures



SFT treatment across exposure measures



1 As estimated by all US domiciled Advanced Approach BHCs
Note: Numbers may not add due to rounding to nearest $0.1T

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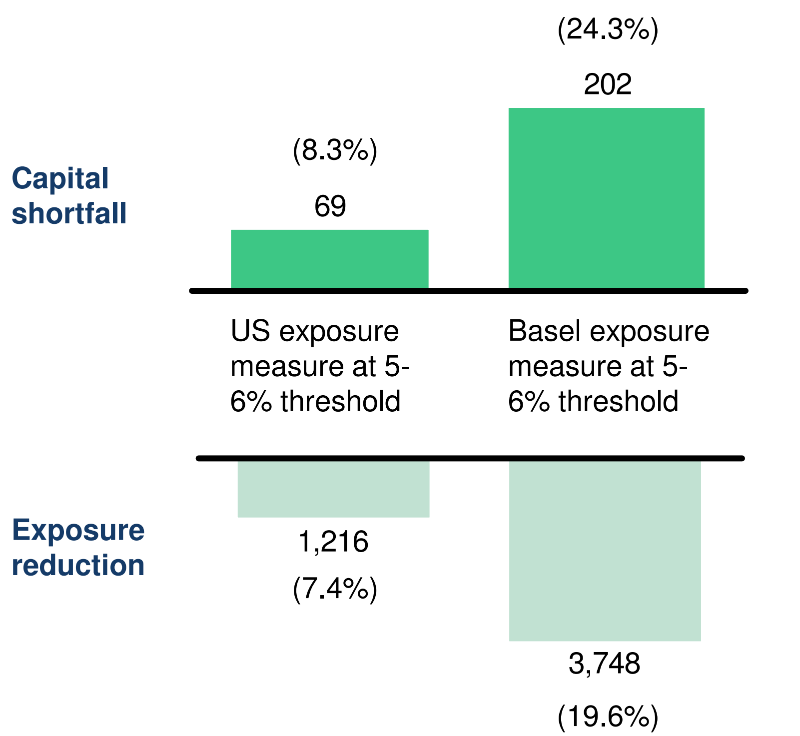
US BHCs may need to raise $202B[1] Tier 1 capital or reduce $3.7T of exposures if the US adopts the Basel proposed exposure measure in combination with a 5-6% minimum SLR for G-SIBs

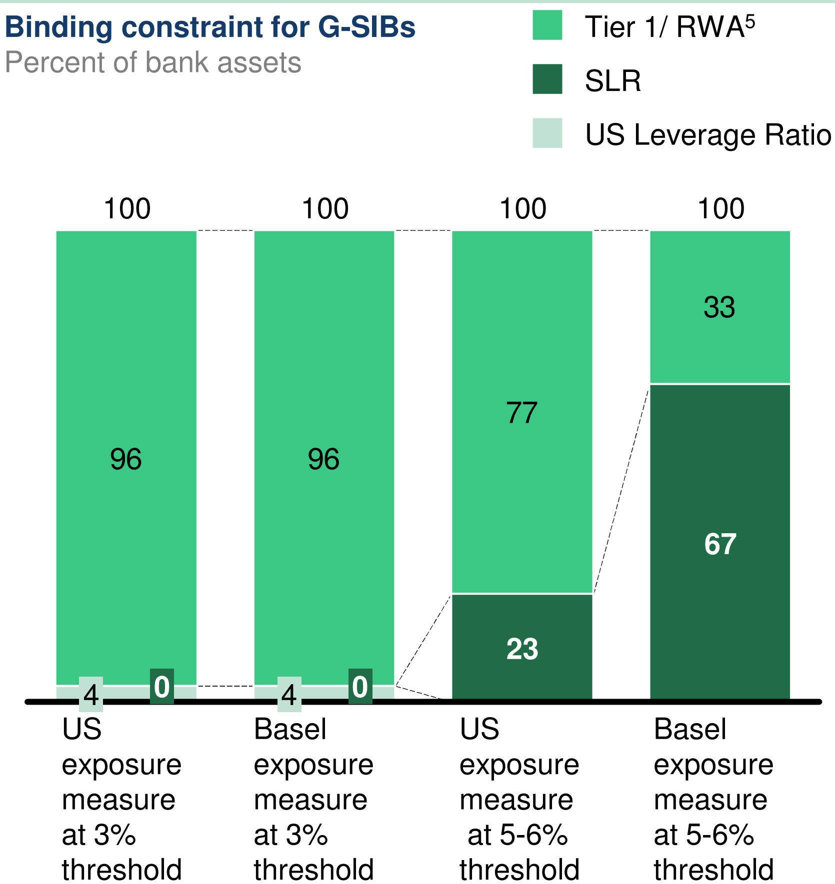
Should the US adopt the Basel proposed exposure measure in combination with the 5-6% calibration, banks would need to increase capital by 24%…

Total gap to compliance for reporting banks
(Percent of current, scaled to covered industry[2])
$B, scaled to covered industry[2]



… and the SLR would become the binding constraint[3] for 67% of US G-SIB assets or ~40% of US banking and security assets[4]

Binding constraint for G-SIBs
Percent of bank assets

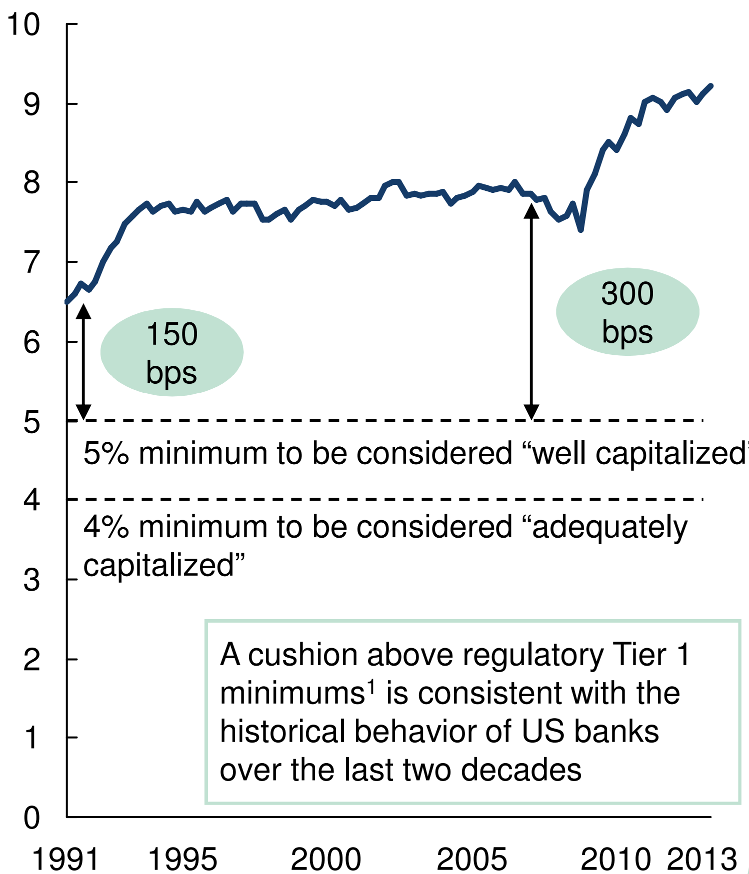


1 If U.S. advanced approaches banks first raised additional Tier 1 capital necessary to comply with the Basel III Framework's risk-based capital rules on a fully phased-in basis (including the capital conservation buffer and G-SIB surcharges where applicable), banks still need to raise an additional $185 billion of Tier 1 capital to be in compliance with the 5-6% minimum combined with the Basel exposure measure
2 As estimated by all US domiciled Advanced Approach BHCs
3 The SLR is binding on a bank if that bank has an SLR shortfall after meeting minimum Tier 1 to RWA ratios including capital conservation buffer and G-SIB surcharges
4 Calculated as the sum of Private Depository Institution ($15.24T) assets plus Broker-Dealer assets ($2.05T), as of 1Q 2013
5 Basel III RWA that is the binding constraint for each institution

Holding an additional capital buffer of 50-200 bps could increase the Tier 1 capital shortfall to $273-$501B

Banks have historically held buffers above the minimum required US leverage ratio…

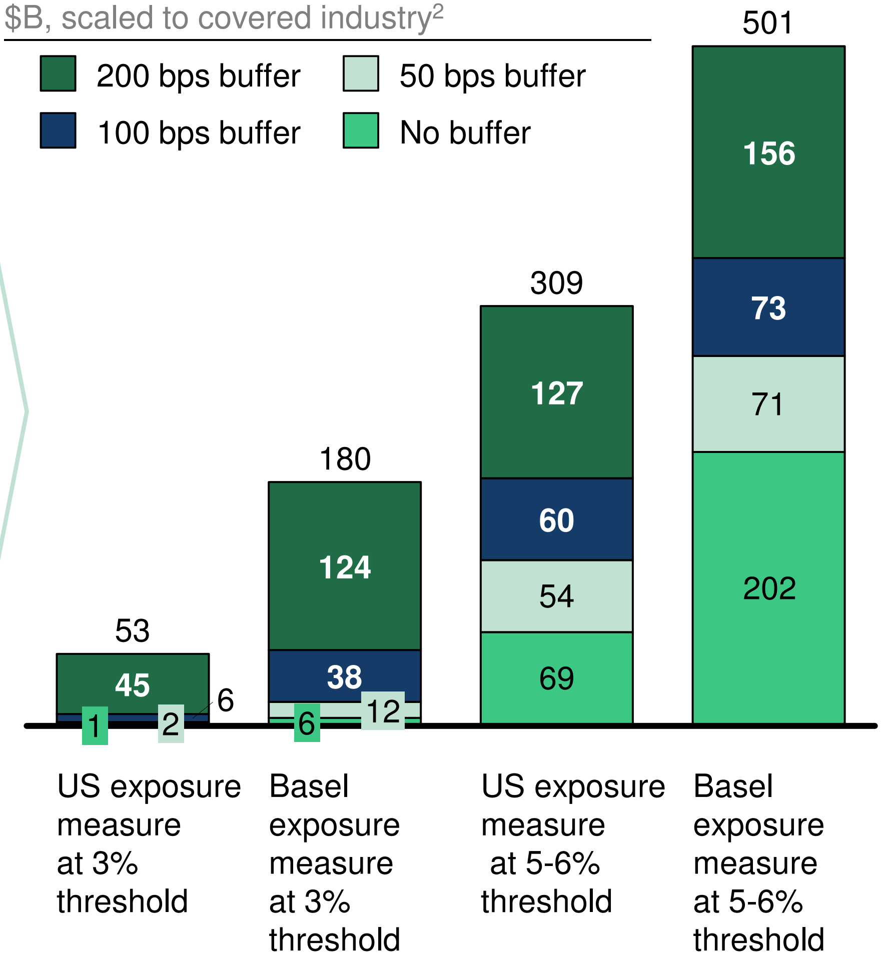
Historical average US Leverage ratio
Percent (1991-2013q2)



A cushion above regulatory Tier 1 minimums[1] is consistent with the historical behavior of US banks over the last two decades

…and could hold a capital buffer above the Supplementary Leverage Ratio

Capital shortfall
$B, scaled to covered industry[2]



1 Analysis on risk-based capital ratios Tier 1 to RWA over the same time period indicates that banks on average also maintained buffers from 200-350 bps above Tier 1 risk-based minimum requirements for "well capitalized"
2 As estimated by all US domiciled Advanced Approach BHCs

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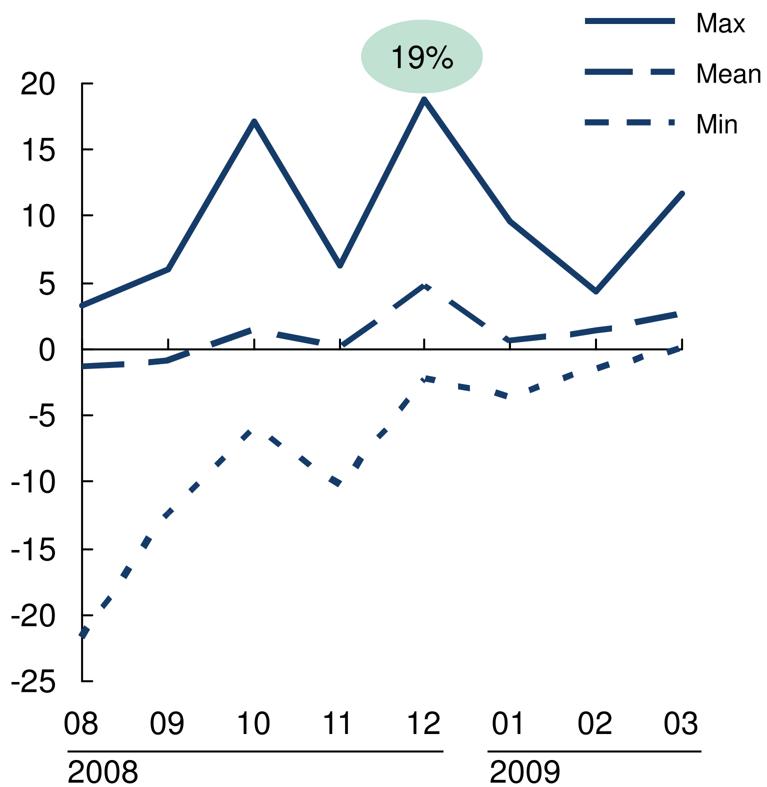
Fluctuations in deposit levels will help to inform the size of the Tier 1 capital buffer banks choose to hold

Flight to quality during the recession, increased individual bank monthly deposits by as much as 19%

Monthly change in deposit growth and run-off
Percent



- A **19% increase in deposits would require 95 bps of additional Tier 1 Capital** for banks to meet the SLR at the 5% calibration
- Banks will likely **consider past fluctuations in both deposit and asset levels when determining appropriate SLR capital buffer**
- **Changes to Tier 1 capital definition**, like the removal of the AOCI filter**, further increase the potential need for and size of the voluntary buffer**

Source: US Banking Industry Liquidity Update, TCH report December 2012 (http://www.theclearinghouse.org/index.html?f=074638) and Assessing the Liquidity Coverage Ratio, TCH report November 2011, (http://theclearinghouse.org/index.html?f=074617)

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Sensitivity analysis – impact of potential changes to exposure measure

		Impact on Tier 1 capital required (Base of $202B) $B	Impact on exposure reduction required (Base of $3,748B) $B
Off balance sheet assets	Calibrate CCF on undrawn commitments at 20%[1]	57	1,073
	Calibrate CCF on undrawn commitments at 50%[1]	39	737
On balance sheet assets	Exempt cash[2]	49	906
	Exempt US Treasuries[3]	11	217
SFTs	Allow netting	33	631
Derivatives	Exempt centrally cleared derivatives[4]	26	504
	Allow netting of cash collateral received	19	375
	Exempt gross up for collateral provided	18	343
	Allow netting of cash collateral received + Exempt gross up for collateral provided	~37	~718

1 Under the Basel proposed SLR, undrawn commitments are treated with a CCFs of 100%
2 Cash held at central bank and vault cash
3 As included in High Quality Liquid Assets (defined under the LCR)
4 Treatment of centrally cleared derivatives for leverage ratio purposes is still evolving; this study assumes no difference in leverage ratio treatment between centrally cleared and OTC

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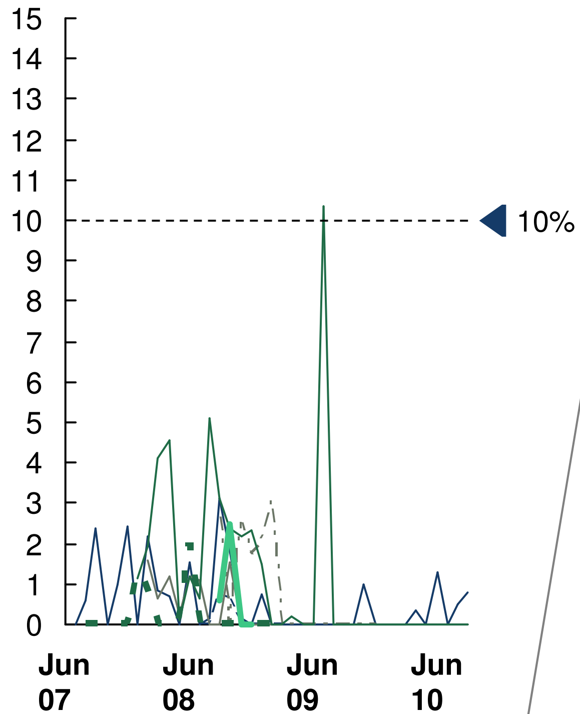
CCFs are 10x higher under the SLR than the maximum quarterly draw as seen in TCH-collected crisis experience

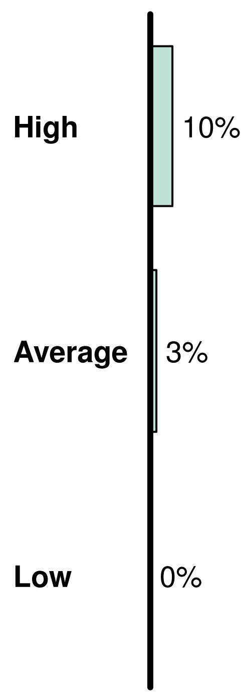
In the crisis, the maximum monthly draw down of credit lines was ~10%

Historical drawdown of credit lines at non-financial corporates[1]
Percent



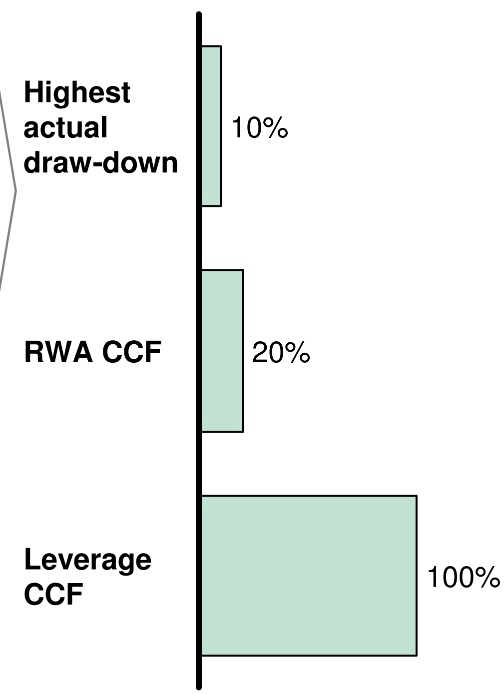
Over cumulative 3-month periods, the maximum draw down was also 10%...

Cumulative 3-month drawdown of credit lines at non-financial corporates
Percent



...which is 90% lower than the 100% potential draw-down implied under the leverage ratio

Implied potential draw-down of undrawn credit lines
Percent



1 Based on 57% of industry undrawn line credit in an industry with $816B in capacity
Source: TCH, *Assessing the Liquidity Coverage Ratio,* November 2011 available at http://theclearinghouse.org/index.html?f=074617

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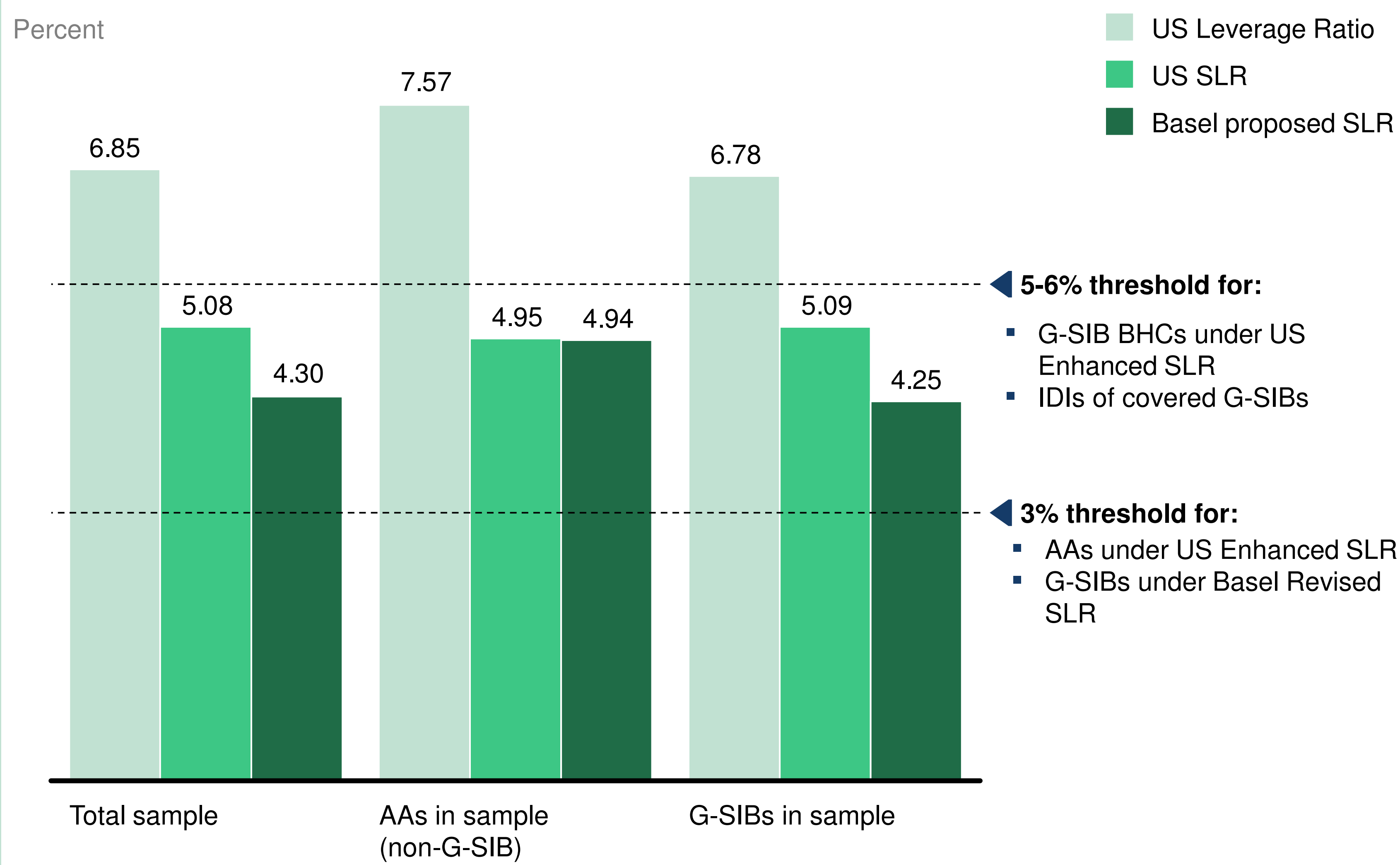
Based on inputs from member banks, we analyzed a set of products that might be impacted by the SLR

Category	Product
On balance sheet items	▪ Cash ▪ Treasuries ▪ Corporate bonds ▪ Corporate loans ▪ Mortgages
Off balance sheet items	▪ Credit cards ▪ Short-term unfunded revolvers ▪ Short-term, self-liquidating trade finance
SFTs	▪ Reverse repos on treasuries ▪ Reverse repos on Agency MBS ▪ Reverse repos on corporate bonds
Derivatives	▪ Cleared vanilla interest rate swaps ▪ OTC interest rate swaps ▪ CDS on Corporate bonds

Appendix

For our sample, the Basel proposed SLR has a more significant effect on G-SIBs than on non-G-SIB Advanced Approach (AA) banks

Average Supplementary Leverage Ratios for participating banks in sample



1 As estimated by all US domiciled Advanced Approach BHCs

ILLUSTRATIVE

Intercompany lending potentially inflates minimum capital required to meet the SLR

A BHC with a $200B inter-company loan will be required to hold more capital than a BHC without inter-company loans

	BHC	IDI 1	IDI 2	Non-IDI
Regulatory SLR minimum	5.00%	6.00%	6.00%	n/a
Bank A				
Current Tier 1 capital level	70	30	30	10
Current exposure level	**1,600**	**700**	**900**	**200**
Current SLR	4.38%	4.29%	3.33%	n/a
Gap to compliance	0.63%	1.71%	2.67%	n/a
Implied add. capital needed	10	12	24	n/a
Total add. capital needed	**36**			
Bank A (without inter-company loans)				
Current Tier 1 capital level	70	30	30	10
Current exposure level	**1,600**	**500**	**900**	**200**
Current SLR	4.38%	6.00%	3.33%	n/a
Gap to compliance	0.63%	0.00%	2.67%	n/a
Implied add. capital needed	10	0	24	n/a
Total add. capital needed	**24**			

Due to an inter-company loan between IDI 1 and IDI 2, there is $200B in exposure on IDI 1's balance sheet. At the BHC level, this loan is netted out. However, since IDI's are subject to a 6.00% SLR, IDI 1 must raise $12B to become compliant

If the inter-company loan is removed, Bank A's IDI 1 exposure is reduced by $200B, but the BHC exposure remains unchanged

The elimination of the inter-company loans reduces capital needed by $12B