A Closer Look

The Dodd-Frank Wall Street Reform and Consumer Protection Act

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Part of an ongoing series

SIFI standards

Single counterparty exposure limits

April 2012

Overview of the proposal

The new standards for systemically important financial institutions (SIFIs) introduce a single counterparty exposure (concentration) limit.

Key highlights

- **SIFI standards.** On Tuesday, December 20, 2011, the Federal Reserve Board (FRB) issued a proposal to implement Sections 165 and 166 of the Dodd-Frank Act (Dodd-Frank or the Act). These provisions and the proposal would impose a "package of enhanced prudential standards" on two classes of Systemically Important Financial Institutions (SIFIs) – bank holding companies (BHCs) with total consolidated assets of $50 billion or more and nonbank financial companies (NBFCs) that the Financial Stability Oversight Council (Council) has designated for supervision by the FRB (together, "covered companies" and each a "covered company"). The proposals have since been published in the Federal Register of January 5, 2012 and the comment period ends on April 30, 2012.
- **FS Reg Brief.** A PwC FS Reg Brief issued in late December reviewed at a high level the full menu of proposed SIFI standards; namely, (i) risk-based capital and leverage; (ii) liquidity; (iii) single-counterparty credit limits; (iv) overall risk management and risk committees; (v) stress tests; (vi) a debt-to-equity limit for covered companies that the Council has determined pose a grave threat to financial stability; and (vii) rules to implement early remediation requirements.

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- **Two-Tier Limit.** This Closer Look focuses on perhaps the most significant proposed SIFI standard in the package – Single Counterparty Credit Limits. The FRB's proposal introduces a two-tier limit, with a more stringent limit applied to the largest covered companies. The proposal establishes a 10% limit for aggregate net credit exposures between major covered companies and major counterparties (defined as major covered companies and foreign banks with US operations that have global assets of $500 billion or more). For other non-major covered companies, the limit for any counterparty would be aggregate net credit exposure not to exceed 25% of capital.
- **Application of the Limit.** A covered company's credit exposure to a counterparty would have to be calculated on a consolidated basis to include exposures to subsidiaries of the covered company. The definition of a counterparty includes a natural person (and their immediate family), a company and all of its subsidiaries and Governments (federal, state and foreign) calculated to include collectively agencies, instrumentalities and political subdivisions.
- **Definition of capital.** Capital stock and surplus is defined as the sum of (i) total regulatory capital, and (ii) balance of allowance for loan and lease losses (ALLL) not included in Tier 2 capital. This measure of capital is consistent with other existing Fed and Office of the Comptroller of the Currency (OCC) regulations.
- **Definition of exposure.** Credit exposures are broadly defined as "credit transactions" with counterparties, which include (i) extensions of credit, including loans, deposits, and lines of credit; (ii) repos and reverse repos with a counterparty; (iii) securities lending or borrowing, with a counterparty; (iv) credit exposure in derivative transactions with the counterparty; (v) investments in securities issued by the counterparty; (vi) credit exposure to a counterparty in connection with a credit derivative or equity derivative transaction between the covered company and a third party, the reference asset of which is an obligation or equity security of the counterparty; and (vii) a guarantee, acceptance, or letter of credit issued on behalf of a counterparty. In addition, collateral issued by a counterparty used to reduce other exposures needs to be considered.

  Covered companies can reduce their credit exposure to a counterparty for purposes of the limit by obtaining credit risk mitigants such as collateral, guarantees and credit derivative hedges. Derivatives exposures can also be reduced through a qualifying master netting agreement. The proposal describes the types of collateral, guarantees, and derivative hedges that are eligible under the rule and provides valuation rules for reflecting such credit risk mitigants.
- **Infrastructure requirements.** The usage of Basel II standardized approaches for derivatives exposures and collateral haircuts will generate the need for incremental infrastructure investments as the standardized proposed rules depart from current practice. As exposure is defined on a net basis, smaller banks might need to develop or upgrade a credit portfolio management functions to coordinate hedging activities for large exposures.

Our perspective

Depending on how the final rule responds to concerns of industry and others, it is possible that the proposed limit could reduce credit availability, especially for the largest financial firms and some States and municipalities and foreign governments, could increase the cost of derivatives transactions with counterparties that don't have master netting agreements and could impact the cost and availability of securities lending and borrowing activities.

How would the new concentration limits impact banks' business activities?

Based on current exposure measurement practices, we would not expect the proposed limits to reduce credit capacity for SIFIs. However, given proposed exposure calculation assumptions, certain institutions and markets will likely be constrained.

Lending between US large SIFIs would be constrained to a total of $424 billion, potentially creating the need to divert business to non-US SIFIs that will not be subject to the rule (e.g., borrowing deficits might be covered by foreign banks).

Lending capacity of pure-play investment banks will be more impacted than diversified financials due to relatively lower capital levels and intensity of financial services exposures.

Custodian banks, although not subject to the 10% limit applicable to large SIFIs, will be subject to stricter capacity constraints given their relatively low levels of capital and inclusion of securities lending exposures.

How conservative are the proposed exposure definitions?

The proposal takes a comprehensive view of credit exposure to a counterparty and includes lending, guarantees, repos and reverse repos, derivatives, securities lending and borrowing transactions, and securities issued. It also defines exposure on a net basis, allowing for credit risk mitigants such as collateral, guarantees, master netting agreements for derivatives and credit derivative hedges. This definition is generally in line with industry practices. It does not include intraday, settlement, or money market fund exposures.

While exposures to the US government and its agencies are excluded from limits, exposures to foreign sovereigns, including central banks, and state/local governments are included.

The usage of Total Capital represents a less stringent definition of capital when compared to Tier 1 Common Capital.

What is the impact on infrastructure and cost of compliance?

The usage of Basel II standardized approaches for derivatives exposures and collateral haircuts will generate the need for incremental infrastructure investments, as current practice will depart from standardized proposed rules. Other calculation rules will create additional management information system burdens.

As exposure is defined on a net basis, there are incentives for smaller banks to develop or upgrade credit portfolio management functions to hedge large exposures.

Credit concentration limits change the banking industry landscape with respect to SIFIs' ability to lend and borrow, as measured by total lending and borrowing capacity.

Zone 1: Large SIFIs to large SIFIs

Lending between US large SIFIs is constrained to a total of $424 billion, potentially creating the need to revisit existing counterparty limits and diverting business to non-US SIFIs that will not be subject to the rule (e.g., borrowing deficits might be covered by foreign banks).

Pure-play investment banks are more impacted than diversified financials due relatively lower capital levels.

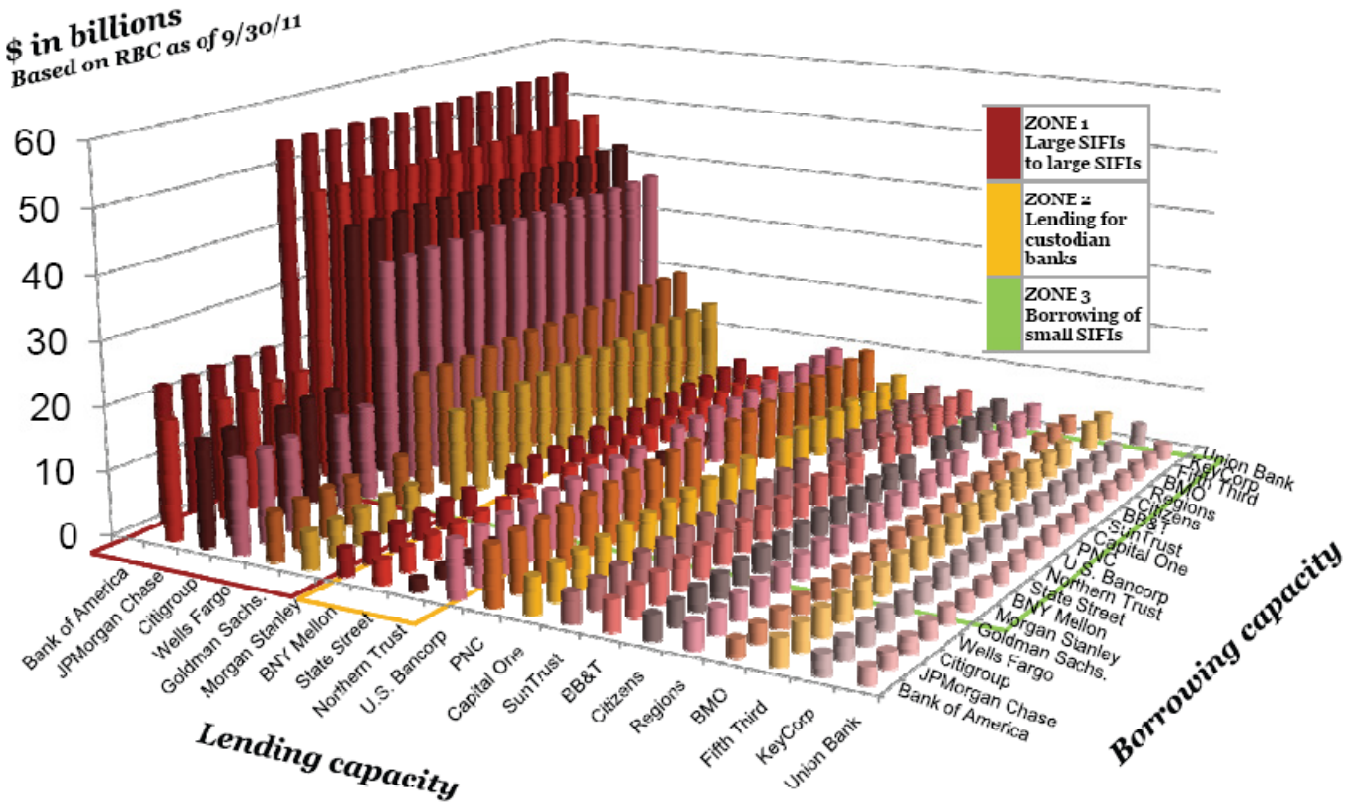
Zone 2: Lending for custodian banks

Due to the relatively low capital base and the inclusion of securities lending, limits in dollar terms are more restrictive for custodian banks.

The average lending capacity of custodian banks ($3 billion) is lower than that of large SIFIs ($13 billion) or regional banks ($5 billion).

Zone 3: Borrowing of small SIFIs

The borrowing capacity of small SIFIs is quite extensive — particularly if coming from large SIFIs, and not constrained by these new regulations.



We anticipate limited capacity in lending/borrowing markets between large SIFIs, as well as constrained lending capacity for custodian banks. The proposed rules will impact banks' business activities and markets in a number of ways.

$ Billions *Based on Total RBC as of 9/30/11*	***Maximum Lending Capacity****				***Maximum Borrowing Capacity****			
	Total	Large SIFIs	Custodians	Regionals	Total	Large SIFIs	Custodians	Regionals
Bank of America	$ 1,024	$ 108	$ 162	$ 754	$ 126	$ 63	$ 10	$ 53
JPMorgan Chase	$ 886	$ 93	$ 140	$ 653	$ 129	$ 66	$ 10	$ 53
Citigroup	$ 790	$ 83	$ 125	$ 582	$ 131	$ 68	$ 10	$ 53
Wells Fargo	$ 694	$ 73	$ 110	$ 512	$ 133	$ 70	$ 10	$ 53
Goldman Sachs.	$ 365	$ 38	$ 58	$ 269	$ 140	$ 77	$ 10	$ 53
Morgan Stanley	$ 270	$ 28	$ 43	$ 199	$ 142	$ 79	$ 10	$ 53
Total Large SIFIs	*$ 4,030*	*$ 424*	*$ 636*	*$ 2,969*	*$ 803*	*$ 424*	*$ 60*	*$ 319*
BNY Mellon	$ 90	$ 26	$ 9	$ 56	$ 271	$ 212	$ 6	$ 53
State Street	$ 77	$ 22	$ 7	$ 48	$ 272	$ 212	$ 6	$ 53
Northern Trust	$ 42	$ 12	$ 4	$ 26	$ 273	$ 212	$ 8	$ 53
Total Custodians	*$ 209*	*$ 60*	*$ 20*	*$ 130*	*$ 816*	*$ 636*	*$ 20*	*$ 160*
US Bancorp	$ 195	$ 53	$ 27	$ 115	$ 266	$ 212	$ 10	$ 44
PNC	$ 203	$ 55	$ 28	$ 120	$ 266	$ 212	$ 10	$ 44
Capital One	$ 126	$ 34	$ 17	$ 74	$ 270	$ 212	$ 10	$ 48
SunTrust	$ 100	$ 27	$ 14	$ 59	$ 271	$ 212	$ 10	$ 49
BB&T	$ 104	$ 28	$ 14	$ 61	$ 271	$ 212	$ 10	$ 49
Citizens	$ 81	$ 22	$ 11	$ 48	$ 272	$ 212	$ 10	$ 50
Regions	$ 84	$ 23	$ 12	$ 50	$ 271	$ 212	$ 10	$ 49
BMO	$ 60	$ 16	$ 8	$ 35	$ 273	$ 212	$ 10	$ 51
Fifth Third	$ 92	$ 25	$ 12	$ 54	$ 271	$ 212	$ 10	$ 49
KeyCorp	$ 71	$ 19	$ 10	$ 42	$ 272	$ 212	$ 10	$ 50
Union Bank	$ 56	$ 15	$ 8	$ 33	$ 273	$ 212	$ 10	$ 51
Total Regionals	*$ 1,171*	*$ 319*	*$ 160*	*$ 692*	*$ 2,975*	*$ 2,333*	*$ 110*	*$ 532*
TOTAL	**$ 5,410**	**$ 803**	**$ 816**	**$ 3,791**	**$ 4,594**	**$ 3,393**	**$ 190**	**$ 1,011**

* Note: Lending and borrowing capacity defined in comprehensive terms including all type of credit exposures covered in this proposal.

Limited Capacity
Excess Capacity

Lending

The impact of the new SIFI standards on the interbank credit market is uncertain. Lending to large SIFIs from large SIFIs will be restricted. The proposal would also limit placements and deposits at large SIFIs, which may reduce market liquidity.

Repo markets

The exclusion of private label mortgage-backed securities and asset-backed securities (MBS/ABS) as eligible collateral will have limited impact to repo markets, as only 5% of the tri-party repo market relies on private label MBS/ABS collateral. Tri-party repo market collateral allocations might create infrastructure challenges.

Securities lending

The high level of haircuts proposed (particularly for equities) and the lack of portfolio diversification benefits when calculating exposure are factors that might change the dynamics of the securities lending market. Approximately 40% of securities on loan are equities and 37% are lent versus non-cash collateral (see Appendix A for agency securities lending market). These are segments of the market that are penalized by the proposed rules.

Derivatives

The proposed SIFI rules will have some impact on the over-the-counter (OTC) derivatives market as exposure calculations will deviate from advanced models currently being used. Most of the derivatives activity is concentrated in the large SIFI segment (see Appendix B), where total derivatives exposure to all counterparties averages 300% of total capital per bank. Derivatives exposure calculated under the Current Exposure Method (CEM) outlined in the proposal is expected to be between two and six times higher than the exposure calculated with internal models currently used by most SIFIs.

The proposed rules will also have some impact in the cleared derivatives market, as contributions to a guaranty fund will be treated as credit exposure to the central counterparty and initial and variation margin posted to a counterparty will be treated as a credit exposure in derivative unless held in a segregated account.

Fixed income and equity markets

Limits could reduce the ability of SIFIs to hold, and thus reduce the demand for, securities issued by US banks, US states, foreign sovereigns, and foreign central banks.

Scope of application

Credit concentration limits will be applied to BHCs with total consolidated assets of $50 billion or more and to non-financial companies designated by the Financial Stability Oversight Council (FSOC). Since none have been designated, the proposal is largely a placeholder for such entities.

Nonbank financial companies (NBFCs) have to be specifically designated by the FSOC by a super-majority vote of the members. No designations are expected until later in 2012.

There are a number of firms that could be designated, but our current read of the situation is that the FSOC will be fairly conservative in designating NBFCs, probably designating no more than two to four initially.

Comments are solicited related to further evaluation criteria and unintended consequences created in nonbank covered companies.

Credit concentration limits are applied at the consolidated level of the BHC.

Key requirements

- Concentration limits include all credit exposures of the covered company and all its subsidiaries.
- Subsidiaries are defined in terms of “control” of a company through one of three criteria: (i) direct or indirect ownership or control of 25% or more of a class of voting securities of a company, (ii) direct or indirect ownership or control of 25% the company’s total equity, or (iii) consolidation for financial reporting purposes.
- Advised or sponsored funds are not considered subsidiaries unless controlled under the criteria above.
- Proposed concentration limits are broader and complementary to existing limits applied to bank subsidiaries (single-name investments and single-borrower lending not to exceed 10% and 15% of total capital, respectively).

Considerations and risks

- The definition of control departs from the typical regulatory control definition of 50% plus ownership, thus potentially creating the burden to track credit exposures of firms or joint ventures where participation exceeds 25%.
- Although advised/sponsored funds are not included under the proposed rule, the Fed asks rather pointedly whether the definition of subsidiary should include advised or sponsored money-market mutual funds due to implicit support considerations.
- There is potential for double counting exposure in cases where more than one counterparty is determined to have "control" over the same entity under the proposed definition.

Applicable counterparties

Credit concentration limits will be applied at the consolidated level of the counterparty.

Key requirements

- The limits are based on aggregate exposure to a counterparty. For a company, it includes all of its subsidiaries. For US federal and state and foreign sovereign entities, it includes the respective government and all of its agencies, instrumentalities, and subdivisions collectively.
- Exposures to the US government and its agencies, including Fannie Mae and Freddie Mac, are exempt from the limits.
- There is no similar exemption for exposures to state or local government, foreign sovereigns, or central banks. Similarly, obligations of Home Loan Banks and Farm Credit System are not explicitly mentioned as exempt.

Considerations and risks

- Inclusion of exposures to political subdivisions within a state (e.g., aggregate exposure to California) includes all exposures to its political subdivisions. Foreign, sovereign, and central banks can create credit capacity issues in a number of firms. The Proposal asks whether exposure to foreign state-owned companies and banks should be aggregated as part of the exposure to foreign sovereigns.

Limit level

A two-tier credit limit structure is proposed, with 25% of total capital as the general rule and a 10% more stringent limit applied to the large SIFIs.

Key requirements

- In addition to the 25% limit, the rule establishes a stricter 10% limit for exposures between major covered companies, defined as US BHCs and foreign banks with US operations that have total consolidated assets in excess of $500 billion.

Considerations and risks

- The $500 billion criteria applied to determine large SIFIs as part of the more stringent credit concentration limits departs from the criteria used to determine G-SIBs (global systemically important banks). As a result, there are banks that are part of the G-SIBs list that are not part of the large SIFI list.

- Size of credit limits is directly tied to total capital without considering business banking model differences. As a result, this approach creates deficits and excesses in credit lending/borrowing capacity of banks depending on whether they are large SIFIs, custodian banks, or regional banks.
- Some SIFIs may have to add a buffer to the 10% or 25% limits as exposure is not always known in real time and can be volatile. This would result in effective limits that are more restrictive than the ones proposed.

Definition of capital

A limit based on Total Capital represents a less stringent definition of capital versus Tier 1 common.

Key requirements

- Capital stock and surplus is defined as the sum of (i) total regulatory capital, and (ii) balance of ALLL not included in Tier 2 capital. This measure of capital is consistent with other existing Fed and OCC regulations.
- The inclusion of an excess allowance in the credit concentration limit increases credit capacity by 7%.

Considerations and risks

- The Fed asks whether the focus should be on Tier 1 common equity as a measure for determining the limit, given the increasing usage of Tier 1 as the supervisory metric used for Basel III and stress testing purposes. If Tier 1 common is used, the credit capacity among large SIFIs (10% limit) will be reduced 57% and the credit capacity across SIFIs (25% limit) will be reduced by 35%.

Definition of exposure

Gross exposure can be reduced through collateral, guarantees, or hedges, but exposure to a collateral issuer or protection provider is also subject to the limit.

Key requirements

The proposal provides specific rules to calculate gross and net exposure.

	1. Extensions of credit
+	2. Repos and reverse repos
+	3. Securities lending and securities borrowing
+	4. Guarantees, acceptances, and letters of credit
+	5. Investments in securities
+	6. Derivatives exposure
= GROSS EXPOSURE	
	1. Eligible collateral
-	2. Unused credit lines
-	3. Eligible guarantees
-	4. Eligible equity and credit derivatives
-	5. Other eligible hedges
-	6. Effect of bilateral agreements
= NET EXPOSURE	

Considerations and risks

Gross exposure

- The limit excludes intraday and settlement exposures but includes investments held in trading and investment portfolios.
- The add-on approach for potential exposure of OTC derivatives is in line with the Basel standardized approach but not with internal models, posing “use test” issues.
- Collateral haircut levels are in line with the Basel standardized approach, but for equities and corporate bonds are higher than existing market practice. The haircut approach differs from that adopted by the UK’s Financial Services Authority, which contains granular credit quality and liquidity horizons (see Appendix E).

Net exposure

- When a covered company uses collateral to reduce net credit exposure, it must include the value of collateral in its calculation of gross exposure to the issuer of the collateral (substitution rule). The same rule would apply for other protection providers under guarantees, and derivatives.
- Lack of portfolio diversification effects of collateral provided by single counterparties.
- Exclusion of private label MBS/ABS as eligible collateral.

- The credit portfolio management units (in non-large SIFIs) that coordinate hedging activities for large exposures will gain importance given eligible adjustment from the application of credit default swaps or equity hedges. However, this shifts exposure to protection providers.
- Treatment of portfolio/proxy hedges.

Highlights of proposed gross exposure calculation methodology

Extensions of credit. Face amounts owed by counterparty from loans, deposits, and committed lines of credit.

Repo and reverse repos. For repos, exposure is calculated as the market value of securities transferred by the covered company to the counterparty plus this amount multiplied by the collateral haircut.

For reverse repos, exposure is calculated as the amount of cash transferred by the covered company to the counterparty.

Securities lending and securities borrowing. For securities borrowing, exposure is defined as the amount of cash collateral plus the market value of securities collateral transferred by the covered company to the counterparty.

For securities lending, exposure is calculated as the market value of securities lent by the covered company to the counterparty plus an add-on calculated as the market value of the securities lent multiplied by the collateral haircut.

Guarantees, acceptances, and letters of credit. Lesser of face amount or maximum potential loss to the covered company.

Investments in securities. For debt securities in trading account and available-for-sale securities, the greater of market value or amortized purchase price; for held-to-maturity securities, the amortized purchase price. For equity securities, the greater of the purchase price or market value.

Derivatives exposure. For derivatives transactions not subject to netting agreements, exposure is measured by the sum of (i) the current exposure of the derivatives contract equal to the current exposure (greater of mark-to-market value of the contract or zero) and (ii) the potential future exposure, calculated by multiplying the notional principal amount of the derivatives contract by the appropriate conversion factor (in the proposal).

For derivatives transactions subject to qualifying master netting agreements, the exposure at default amount calculated under Fed BHC Capital rules 12 CFR part 225, Appendix G, § 32(c)(6). This rule allows the netting of positive and negative exposures (MTM+PFE) calculated using the Basel II standardized formula if there is a qualifying netting agreement in place.

For credit and equity derivatives, exposure is calculated as the lesser of the face amount of the transaction or the maximum potential loss to the covered company on the transaction.

For cleared derivatives, contributions to a guaranty fund are treated as credit exposure to the central counterparty. Initial and variation margin posted to a counterparty is treated as a credit exposure unless it is held in a segregated account.

Collateral haircut table

Sovereign entities

	Residual maturity	Haircut without currency mismatch[1]
OECD country risk classification[2] 0-1	≤ 1 year	0.005
	>1 year, ≤ 5 years	0.02
	>5 years	0.04
OECD country risk classification 2-3	≤ 1 year	0.01
	>1 year, ≤ 5 years	0.03
	>5 years	0.06

Corporate and municipal bonds that are Bank Eligible Investments

	Residual maturity for debt securities	Haircut without currency mismatch
All	≤ 1 year	0.02
All	>1 year, ≤ 5 years	0.06
All	>5 years	0.12

Other eligible collateral

Main index[3] equities (including convertible bonds)	0.15
Other publicly traded equities (including convertible bonds)	0.25
Mutual funds	Highest haircut applicable to any security in which the fund can invest
Cash collateral held	0

Derivatives add-on table

Remaining maturity[4]	Interest rate	FX rate	Credit* (bank-eligible investment reference obligor)[5]	Credit** (non-bank-eligible reference obligor)	Equity	Precious metals (except gold)	Other
≤ 1 year	0.00	0.01	0.05	0.10	0.06	0.07	0.10
>1 year, ≤ 5 years	0.005	0.05	0.05	0.10	0.08	0.07	0.12
>5 years	0.015	0.075	0.05	0.10	0.10	0.08	0.15

[1] In cases where the currency denomination of the collateral differs from the currency denomination of the credit transaction, an additional 8% haircut will apply.

[2] OECD country risk classification means the country risk classification as defined in Article 25 of the OECD's February 2011 Arrangement on Officially Supported Export Credits.

[3] Main index means the Standard & Poor's 500 Index, the FTSE All-World Index, and any other index for which the covered company can demonstrate to the satisfaction of the Fed that the equities represented in the index have comparable liquidity, depth of market, and size of bid-ask spreads as equities in the Standard & Poor's 500 Index and FTSE All-World Index.

[4] For an OTC derivative contract that is structured such that on specified dates any outstanding exposure is settled and the terms are reset so that the market value of the contract is zero, the remaining maturity equals the time until the next reset date. For an interest rate derivative contract with a remaining maturity of greater than one year that meets these criteria, the minimum conversion factor is 0.005.

[5] A company must use the column labelled "Credit (bank-eligible investment reference obligor)" for a credit derivative whose reference obligor has an outstanding unsecured debt security that is a bank-eligible investment. A company must use the column labelled "Credit (non-bank-eligible investment reference obligor)" for all other credit derivatives.

Highlights of the proposed net exposure calculation methodology

Eligible collateral. Gross credit exposure can be reduced by the "adjusted market value" of eligible collateral after applying proposed haircuts. The gross credit exposure to the collateral issuer cannot exceed the uncollateralized exposure to the counterparty. The covered company is required to track the value of the collateral during the duration of the transaction.

Eligible collateral includes cash, debt securities (including agency MBS and ABS but excluding private label MBS and ABS), equity securities, and convertible bonds.

Unused credit lines. Gross credit exposure can be reduced by the amount of the unused portion, provided the covered company does not have a legal obligation to advance funds until the counterparty provides qualifying collateral for an amount equal to or greater than the unused amount.

Eligible guarantees. Gross credit exposures reduced by the amount of any eligible guarantee from an eligible protection provider, provided that the guarantees are included in the gross credit exposure to the eligible protection provider. The exposure to the eligible protection provider cannot exceed the exposure to the counterparty before the application of the guarantee.

Eligible equity and credit derivatives. Gross credit exposures is reduced by the notional amount of any eligible credit or equity derivative hedge that references the counterparty if the covered company obtains the derivative from an eligible protection provider. The exposure to the eligible protection provider cannot exceed the unhedged exposure to the counterparty.

Other eligible hedges. Gross credit exposure may be reduced by the face amount of a short sale of the counterparty's debt or equity security.

Effect of bilateral agreements. In calculating credit exposure to a counterparty, a covered company may net the gross credit exposure amounts of (i) its repo and reverse repo transactions with a counterparty and (ii) its securities lending and borrowing transactions with a counterparty in each case where the transactions are subject to a bilateral netting agreement with that counterparty. The proposal does not define a bilateral netting agreement (unlike the case with a master netting agreement.

Examples for securities lending business: Agency

Cash collateral
A BHC acts as an agent for a mutual fund and lends equity securities valued at $100 to a broker dealer. The broker provides $105 in cash collateral.[6]

Broker dealer
- BHC gross exposure = $100 + $15 = $115
- BHC net exposure = $115 - $105 = $10

Non-cash collateral eligible: Equity
A BHC acts as an agent for a mutual fund and lends equity securities valued at $100 to a broker dealer. The broker provides $105 in equity collateral.

Broker dealer
- BHC gross exposure = $100 + $15 = $115
- BHC net exposure = $115 - $105*85% = $25.75

Equity issuer
- BHC gross exposure = $97.75

Non-cash collateral eligible: Fixed income
A BHC acts as an agent for a mutual fund and lends equity securities valued at $100 to a broker dealer. The broker provides $102 in five-year sovereign bond collateral (OECD country 0-1).

Broker dealer
- BHC gross exposure = $100 + $15 = $115
- BHC net exposure = $115 - $102*96% = $17.08

Foreign sovereign
- BHC gross exposure = $97.92

Non-cash collateral not eligible
A BHC acts as an agent for a mutual fund and lends equity securities valued at $100 to a broker dealer. The broker provides $105 in private label ABS.

Broker dealer
- BHC gross exposure = $100 + $15 = $115
- BHC net exposure = $115 - 0 = $115

Examples for securities lending business: Principal

Cash collateral
A BHC acts as a principal for a mutual fund. The BHC borrows $100 in equity securities and sends cash collateral of $105 to the mutual fund. The BHC lends equity securities valued at $100 to a broker dealer. The broker provides $105 in cash collateral.

Mutual fund
- BHC gross exposure = $105 = $105
- BHC net exposure = $105 -100*85% = $20

Broker dealer
- BHC gross exposure = $100 + $15 = $115
- BHC net exposure = $115 - $105 = $10

Non-cash collateral
A BHC acts as a principal for a mutual fund. The BHC borrows $100 in equity securities and sends cash collateral of $105 to the mutual fund. The BHC lends equity securities valued at $100 to a broker dealer. The broker provides $105 in equity collateral.

Mutual fund
- BHC gross exposure = $105 = $105
- BHC net exposure = $105 - 100*85% = $20

Broker dealer
- BHC gross exposure = $100 + $15 = $115
- BHC net exposure = $115 - $105*85% = $25.75

Equity issuer
- BHC gross exposure = $97.75

[6] Note: If cash collateral is invested in other securities, it is uncertain under the rules whether cash collateral gets 100% full credit.

Examples for repo

Fixed income
BHC acts as a borrower to a broker dealer. The BHC borrows $100 in cash from the broker dealer and provides $102 of >5 years OECD government bond securities (country 0-1) to the borrower as collateral.

Broker dealer
- BHC gross exposure = $102+102*4%=106.08
- BHC net exposure = $106.08 -$100= $6.08

Equity
BHC acts as a borrower to a broker dealer. The BHC borrows $100 in cash from the broker dealer and provides $110 of equity securities to the borrower as collateral.

Broker dealer
- BHC gross exposure = $110+110*15%=126.5
- BHC net exposure = $126.5-$100= $26.5

Examples for reverse repo

Fixed income
BHC acts as a lender to a broker dealer. The BHC lends $100 in cash to the broker dealer and receives $102 of >5 years OECD government bond securities (country 0-1) from the broker dealer as collateral.

Broker dealer
- BHC gross exposure = $100
- BHC net exposure = $100 -$102*96%= $2.08

Foreign sovereign
- BHC gross exposure = $97.92

Equity
BHC acts as a lender to a broker dealer. The BHC lends $100 in cash to the broker dealer and receives $105 in equity securities from the broker dealer as collateral.

Broker dealer
- BHC gross exposure = $100
- BHC net exposure = $100 -$105*85%= $10.75

Equity issuer
- BHC gross exposure = $89.25

Infrastructure

MIS and legal infrastructure investments will be substantial since the proposal will bring new standards that are not currently addressed in existing bank infrastructure.

Credit MIS

Credit exposure reporting requirements will be coordinated with the new proposed credit concentration limits and as a result we anticipate that the regulator will enforce exposure reports following the proposed rules.

Areas that particularly will bring significant infrastructure and MIS burden include:

- Collateral and guarantees tracking. If collateral/guarantees are used to reduce gross exposures, banks will have to include the value of the collateral/guarantee when calculating gross exposure to the issuer of the collateral/guarantee. This would be particularly challenging in business activities where collateral changes frequently.
- Tracking of issuer risk of securities in trading portfolios.
- Tracking of purchase price and amortized cost of securities for credit exposure measurement purposes, particularly for certain positions in the trading book.

- Application of proposed collateral haircuts and derivative add-ons will require a parallel calculation to the one within internal models currently used to monitor credit exposures at large institutions.
- Unused lines are integrated in exposure calculations through EAD factors.
- Application of new collateral haircuts.
- Inclusion of eligible hedges in the calculation, particularly for trading positions including equity derivatives and short positions.
- Daily aggregation, calculation and reporting of exposures and compliance with limits.
- Updating and tracking of consolidation hierarchies for aggregation of exposure to a single counterparty as defined in the proposal.
- Allocation of exposure of one entity to multiple counterparties that have "control" over it.
- Monitoring of middle market credit lending activities that will not likely be affected by the limit.

Legal

- Potential need to review legal contracts to ensure proper master netting agreements are in place to maximize netting of credit exposures on derivatives and ensure proper bilateral netting agreements are in place to reduce exposure on repos/reverse repos and securities lending and borrowing.

Compliance

- Calculations must be performed on a daily basis at the end of the business day.
- Firms will be required to submit a monthly compliance report.
- Provides a 90-day cure period under certain non-compliance circumstances.

Appendix A: Agency securities lending market

	LENDABLE ASSETS [1] ($MM)	ON LOAN VS. CASH COLLATERAL ($MM)	ON LOAN VS. NON-CASH COLLATERAL ($MM)	TOTAL ON LOAN ($MM)
North American Equities	**$3,669,079**	**$243,452**	**$17,859**	**$261,312**
US Equities (includes ADRs)	$3,500,819	$234,015	$10,728	$244,742
Canadian Equities	$168,259	$9,438	$7,132	$16,569
European Equities	**$1,182,114**	**$30,291**	**$35,687**	**$65,977**
Pac-Rim Equities (includes Australia)	**$707,273**	**$30,408**	**$29,540**	**$59,948**
All Other Equities (not previously listed)	**$124,518**	**$11,611**	**$3,697**	**$15,309**
Total Equities (Aggregate Total)	**$5,682,983**	**$315,763**	**$86,783**	**$402,546**
North American Treasuries/Bonds	**$2,576,606**	**$298,569**	**$180,643**	**$479,211**
US Treasuries/UST Strips (aggregate)	$876,957	$199,171	$160,291	$359,462
US Agencies	$188,358	$30,704	$8,963	$39,667
US Mortgage Backed Securities	$118,365	$2,262	$1,100	$3,362
US Corporate Bonds	$1,291,346	$63,006	$858	$63,864
Canadian Bonds (Gov't & Corporates)	$101,579	$3,426	$9,430	$12,856
EURO Denominated Sovereign Bonds	**$283,182**	**$43,552**	**$39,732**	**$83,284**
UK Gilts	$172,845	$10,653	$46,200	$56,853
Emerging Market Bonds (Latin America & Eastern Europe)	$44,893	$4,466	$68	$4,534
Eurobonds & Foreign Corporate Bonds	$309,604	$19,530	$4,055	$23,586
All Other Sovereign Bonds (not previously listed)	$88,762	$13,774	$1,345	$15,118
Total Bonds (Aggregate Total)	**$3,475,892**	**$390,543**	**$272,043**	**$662,586**
TOTALS	**$9,158,875**	**$706,306**	**$358,826**	**$1,065,132**

Source: RMA, Securities Lending Data Survey, 3Q 2011

The Survey reflects data provided by the following institutions:

- Bank of New York Mellon Corp
- Blackrock
- Brown Brothers Harriman & Co
- Citibank NA
- Comerica Bank
- Frost Bank
- Goldman Sachs Agency Lending
- J.P. Morgan
- M&I Global Securities Lending
- Northern Trust Company
- State Street Bank & Trust Co
- Union Bank, N.A.
- US Bank National Association
- Vanguard Group
- ClearLend

Appendix B: Credit equivalent exposures for the top 25 commercial banks and trust companies in derivatives

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL RISK-BASED CAPITAL	BILATERALLY NETTED CURRENT CREDIT EXPOSURE	POTENTIAL FUTURE EXPOSURE	TOTAL CREDIT EXPOSURE FROM ALL CONTRACTS	(%) TOTAL CREDIT EXPOSURE TO CAPITAL
1	JPMORGAN CHASE BANK NA	OH	$1,791,060	$78,113,753	$131,537	$144,459	$216,554	$361,013	274
2	CITIBANK NATIONAL ASSN	NV	1,216,291	56,096,970	114,330	59,768	171,898	231,666	203
3	BANK OF AMERICA NA	NC	1,454,051	53,157,271	154,416	60,962	220,573	281,535	182
4	GOLDMAN SACHS BANK USA	NY	88,832	47,736,747	19,447	23,522	129,674	153,196	788
5	HSBC BANK USA NATIONAL ASSN	VA	195,101	3,916,173	22,961	8,831	29,827	38,658	168
6	WELLS FARGO BANK NA	SD	1,104,833	3,725,749	117,565	24,825	21,712	46,537	40
7	MORGAN STANLEY BANK NA	UT	69,860	1,793,047	9,968	445	12	457	5
8	BANK OF NEW YORK MELLON	NY	236,330	1,438,858	13,999	5,018	5,371	10,389	74
9	STATE STREET BANK&TRUST CO	MA	185,499	1,360,855	13,180	5,730	12,063	17,793	135
10	PNC BANK NATIONAL ASSN	DE	254,826	337,598	32,551	2,790	946	3,736	11
11	SUNTRUST BANK	GA	165,801	319,359	16,927	2,583	1,355	3,938	23
12	NORTHERN TRUST CO	IL	84,416	260,164	6,487	4,792	2,627	7,419	114
13	REGIONS BANK	AL	126,720	138,428	14,052	821	263	1,083	8
14	U S BANK NATIONAL ASSN	OH	310,100	87,404	31,546	1,468	214	1,682	5
15	FIFTH THIRD BANK	OH	108,668	80,315	14,751	1,600	744	2,344	16
16	TD BANK NATIONAL ASSN	DE	179,971	69,974	14,210	1,378	750	2,128	15
17	KEYBANK NATIONAL ASSN	OH	85,930	63,852	12,552	1,092	134	1,227	10
18	BRANCH BANKING&TRUST CO	NC	153,342	61,516	17,821	908	422	1,330	7
19	UNION BANK NATIONAL ASSN	CA	79,615	45,755	9,631	652	772	1,424	15
20	RBS CITIZENS NATIONAL ASSN	RI	109,284	40,981	10,385	917	298	1,216	12
21	ALLY BANK	UT	77,424	37,409	12,591	126	273	399	3
22	TD BANK USA NATIONAL ASSN	ME	12,366	34,132	1,204	632	428	1,060	88
23	DEUTSCHE BANK TR CO AMERICAS	NY	47,446	27,659	9,501	1,373	840	2,213	23
24	CAPITAL ONE NATIONAL ASSN	VA	127,631	26,767	11,182	416	184	600	5
25	FIRST TENNESSEE BANK NA	TN	24,832	22,207	3,627	285	72	357	10
TOP 25 COMMERCIAL BANKS & TCs WITH DERIVATIVES			$8,290,228	$248,992,942	$816,420	$355,392	$818,005	$1,173,398	144
OTHER COMMERCIAL BANKS & TCs WITH DERIVATIVES			2,678,798	344,132	316,009	8,292	2,824	11,117	4
TOTAL AMOUNT FOR COMMERCIAL BANKS & TCs WITH DERIVATIVES			10,969,026	249,337,074	1,132,429	363,684	820,830	1,184,514	105

Notes:

- Total credit exposure is defined as the credit equivalent amount from derivative contracts (RC-R line 54), which is the sum of netted current credit exposure and PFE.
- The total credit exposure to capital ratio is calculated using risk-based capital (Tier 1 plus Tier 2 capital).
- Currently, the call report does not differentiate credit derivatives by contract type. Credit derivatives have been included in the sum of total derivatives here.
- Numbers may not add due to rounding.
- Beginning in 2Q09, the methodology to calculate the credit risk exposure to capital ratio for the aggregated categories (Top 25, Other, and Overall Total) was adjusted to a summing methodology.

Source: *OCC's Quarterly Report on Bank Trading and Derivatives Activities Second Quarter 2011.*

Appendix C: Net derivatives current credit exposure of commercial banks by counterparty type

Net current credit exposure by counterparty type as a% of total NCCE	Banks & securities firms	Monoline financial firms	Hedge funds	Sovereign governments	Corp and all other counterparties	Total
Top five commercial banks	61%	0%	2%	4%	33%	100 %
Total commercial banks	58%	0%	2%	4%	36%	100 %

The distribution of net current credit exposure in the banking system is concentrated in banks/securities firms (58%) and corporations (36%).
The concentration in banks and securities as counterparties for derivatives is even higher for the top five commercial banks – JP Morgan Chase Bank NA, Citibank, Bank of America, Goldman Sachs and Morgan Stanley.

Source: *OCC's Quarterly Report on Bank Trading and Derivatives Activities Second Quarter 2011*

Appendix D: Interbank loans for commercial banks in the United States

Asset account (seasonally adjusted, in $ billions)	Nov 2010	May 2011	Jun 2011	Jul 2011	Aug 2011	Sep 2011	Oct 2011	Nov 2011	Dec 7, 2011	Dec 14, 2011	Dec 21, 2011	Dec 28, 2011
Interbank loans	29.0	26.8	37.1	11.7	12.3	12.0	11.5	10.1	10.0	9.9	10.8	11.0
Fed funds and reverse repos with banks	184.7	137.2	144.7	120.6	127.0	119.6	114.7	110.1	109.8	110.7	106.8	108.4
Loans to commercial banks	155.6	110.4	107.5	108.9	114.6	107.6	103.2	100.0	99.7	100.8	96.0	97.4

Note: Data includes the following types of institutions in the 50 states and the District of Columbia: domestically chartered commercial banks, US branches and agencies of foreign banks, and Edge Act and agreement corporations (foreign-related institutions). Data excludes international banking facilities.

Source: Federal Reserve System

Appendix E: Comparison of collateral haircuts in the proposed SIFI standards vs. UK prudential standards volatility adjustments

Sovereign entities and central banks

SIFI standards

Sovereign entities

	Residual maturity	Haircut without currency mismatch[7]* (%)
OECD country risk classification[8] 0-1	≤ 1 year	0.5
	>1 year, ≤ 5 years	2
	>5 years	4
OECD country risk classification 2-3	≤ 1 year	1
	>1 year, ≤ 5 years	3
	>5 years	6

Source: Federal Reserve System, 12 CFR Part 252, E*nhanced Prudential Standards and Early Remediation Requirements for Covered Companies*

* Conversion factor has been expressed in "%" for consistency with the BIPRU standards.

BIPRU

Central governments and central banks as described in BIPRU 5.4.2 R (2)[9]

Credit quality step with which the credit assessment of the debt security is associated	Residual maturity	20-day liquidation period (%)	10-day liquidation period (%)	5-day liquidation period (%)
1	≤ 1 year	0.71	0.5	0.35
	>1 year, ≤ 5 years	2.83	2	1.41
	>5 years	5.66	4	2.83
2-3	≤ 1 year	1.41	1	0.71
	>1 year, ≤ 5 years	4.24	3	2.12
	>5 years	8.49	6	4.24
4	≤ 1 year	21.21	15	10.61
	>1 year, ≤ 5 years	21.21	15	10.61
	>5 years	21.21	15	10.61

Source: FSA, *Prudential Sourcebook for Banks, Building Societies and Investment Firms*

[7] In cases where the currency denomination of the collateral differs from the currency denomination of the credit transaction, an addition 8% haircut will apply. This compares to a range of 11.3% to 5.6% depending on the liquidation period used.

[8] OECD country risk classification means the country risk classification as defined in Article 25 of the OECD's February 2011 Arrangement on Officially Supported Export Credits.

[9] For secured lending transactions, the liquidation period is 20 business days. For repurchase transactions and securities lending or borrowing transactions, the liquidation period is 5 business days. For other capital-market-driven transactions, the liquidation period is 10 business days.

Corporates

SIFI standards

Corporate and municipal bonds that are bank-eligible investments

	Residual maturity for debt securities	Haircut without currency mismatch* (%)
All	≤ 1 year	2
All	>1 year, ≤ 5 years	6
All	>5 years	12

Source: Federal Reserve System, 12 CFR Part 252: Enhanced Prudential Standards and Early Remediation Requirements for Covered Companies

* Conversion factor has been expressed in "%" for consistency with the BIPRU standards.

BIPRU

Credit institutions and corporate as described in BIPRU 5.4.2 R (3) and (4) [3]

Credit quality step with which the credit assessment of the debt security is associated	Residual maturity	20-day liquidation period (%)	10-day liquidation period (%)	5-day liquidation period (%)
1	≤ 1 year	1.41	1	0.71
	>1 year, ≤ 5 years	5.66	4	2.83
	>5 years	11.31	8	5.66
2-3	≤ 1 year	2.83	2	1.41
	>1 year, ≤ 5 years	8.49	6	4.24
	>5 years	16.97	12	8.49
4	≤ 1 year	N/A	N/A	N/A
	>1 year, ≤ 5 years	N/A	N/A	N/A
	>5 years	N/A	N/A	N/A

Source: *Prudential Sourcebook for Banks, Building Societies and Investment Firms*

Other eligible collateral

SIFI standards

Other eligible collateral* (%)	
Main index[10] equities (including convertible bonds)	15
Other publicly traded equities (including convertible bonds)	25
Mutual funds	Highest haircut applicable to any security in which the fund can invest
Cash collateral held	0
Gold	N/A

Source: Federal Reserve System, 12 CFR Part 252, Enhanced Prudential Standards and Early Remediation Requirements for Covered Companies

* Conversion factor has been expressed in "%" for consistency with the BIPRU standards.

BIPRU

Other eligible collateral [11]	20-day liquidation period (%)	10-day liquidation period (%)	5-day liquidation period (%)
Main index equities/main index convertible bonds	21.21	15	10.61
Other equities/convertible bonds traded on a recognized investment exchange or designated investment exchange	35.36	25	17.68
Mutual funds	N/A	N/A	N/A
Cash collateral held	0	0	0
Gold	21.21	15	10.61

Source: Prudential sourcebook for Banks, Building Societies and Investment Firms

[10] Main index means the Standard & Poor's 500 Index, the FTSE All-World Index, and any other index for which the covered company can demonstrate to the satisfaction of the Fed that the equities represented in the index have comparable liquidity, depth of market, and size of bid-ask spreads as equities in the Standard & Poor's 500 Index and FTSE All-World Index.

[11] For secured lending transactions, the liquidation period is 20 business days. For repurchase transactions and securities lending or borrowing transactions, the liquidation period is 5 business days. For other capital-market-driven transactions, the liquidation period is 10 business days.

Appendix F: Tri-party repo statistics as of April 9, 2010

Composition and concentration of tri-party repo collateral

Asset group	Collateral value ($ billions)	Share of total	Concentration by top 3 dealers
ABS (Investment and non-investment grade)	41.7	2.4%	45%
Agency CMOs	112.7	6.6%	46%
Agency debentures (including strips)	179.5	10.5%	33%
Agency MBS	584.9	34.2%	45%
CMOs private label investment grade	25.2	1.5%	48%
CMOs private label non-investment grade	18.9	1.1%	47%
Corporates investment grade	79.6	4.7%	39%
Corporates non-investment grade	34.7	2.0%	54%
Equities	73.3	4.3%	59%
Money markets	27.4	1.6%	74%
US Treasuries excluding strips	474.4	27.7%	39%
US Treasury strips	38.7	2.3%	46%
Other	19.5	1.1%	
Total	**1,710.5**	**100%**	**38%**

Distribution of investor haircuts in tri-party repo

		Haircuts		
Asset group	Collateral value ($ billions)	10th percentile	Median	90th percentile
ABS (IG and non-IG)	41.7	0%	5%	
Agency CMOs	112.7	2%	3%	5%
Agency debentures (including strips)	179.5	2%	2%	5%
Agency MBS	584.9	2%	2%	4%
CMOs private label investment grade	25.2	2%	5%	7%
CMOs private label non-investment grade	18.9	0%	8%	8%
Corporates investment grade	79.6	2%	5%	8%
Corporates non-investment grade	34.7	5%	8%	15%
Equities	73.3	5%	8%	20%
Money markets	27.4	2%	3%	5%
US Treasuries excluding strips	474.4	2%	2%	2%
US Treasury strips	38.7	2%	2%	2%
Other	19.5			
Total	**1,710.5**			

Source: Federal Reserve Bank of New York, Tri-Party Repo Infrastructure Reform (May 17, 2010)

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