OCC Lending Limits Final Rule: Credit Exposures from Derivatives and Securities Financing Transactions
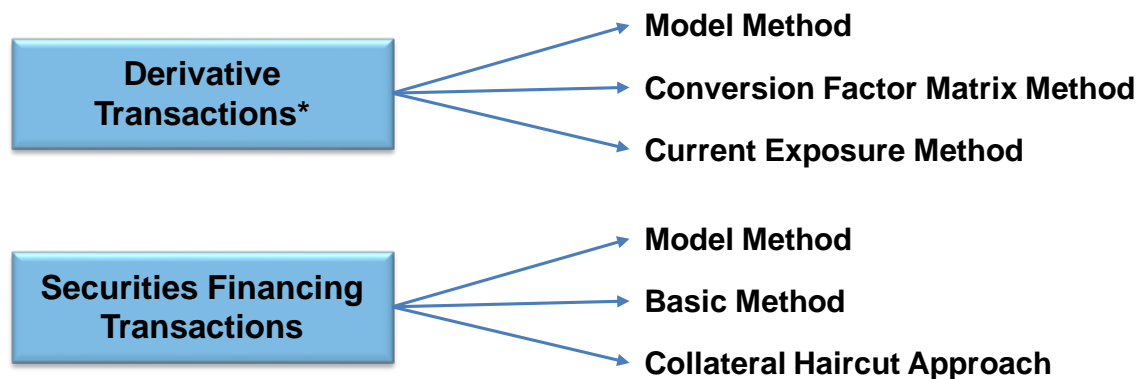
June 24, 2013

The OCC has issued a **final rule** specifying the methods for calculating credit exposure arising from derivatives and securities financing transactions for purposes of the federal lending limits that apply to national banks, federal and state branches and agencies of foreign banks and federal and state savings associations. The final rule, like the June 2012 OCC interim final rule that it revises, implements Section 610 of the Dodd-Frank Act, which requires federal lending limits to take into account credit exposure arising from derivatives and securities financing transactions.

The OCC's final rule reflects a further convergence in methods for measuring credit exposure from derivatives and securities financing transactions between bank capital rules and legal lending limits. Among other changes, the OCC's final rule **(1)** further extends the compliance date of the Section 610-related provisions to October 1, 2013; **(2)** replaces the Remaining Maturity Method for calculating credit exposure arising from derivatives with the Current Exposure Method in the bank capital rules, which takes into account, to a certain extent, the effects of netting and collateral; **(3)** revises the treatment of credit derivatives; and **(4)** permits banks to calculate credit exposure arising from securities financing transactions using the Collateral Haircut Approach, which also takes into account the effects of netting and collateral.

Section 610 is one of several provisions in the Dodd-Frank Act that requires banks to take into account credit exposure arising from derivatives and securities financing transactions in calculating prudential limits. It remains to be seen whether the Federal Reserve Board will propose similar methods for purposes of implementing the Dodd-Frank Act's amendments to Section 23A of the Federal Reserve Act, which became effective on July 21, 2012. Among other things, the Dodd-Frank Act expanded the definition of "covered transaction" in Section 23A to include derivative and securities lending or borrowing transactions with an affiliate, to the extent they give rise to credit exposure to the affiliate. Similarly, it is unclear to what extent the methods used in the OCC's lending limits final rule may also be reflected in the Federal Reserve's final Dodd-Frank single counterparty credit limits for large U.S. bank holding companies, large foreign banking organizations and systemically important nonbank financial companies.

Using visuals, tables and examples, this memorandum describes the key changes to the OCC's interim final rule and the methods for calculating credit exposure arising from derivatives and securities financing transactions.

OCC Lending Limits Final Rule: Methods for Calculating Credit Exposure

Derivative Transactions*
- Model Method
- Conversion Factor Matrix Method
- Current Exposure Method

Securities Financing Transactions
- Model Method
- Basic Method
- Collateral Haircut Approach

* There are special rules for calculating credit exposure arising from credit derivatives and credit exposure to central counterparties.

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Background on Lending Limits as Amended by the Dodd-Frank Act

National Banks and Savings Associations: Section 5200 of the Revised Statutes, 12 U.S.C. 84, generally provides that the total "loans and extensions of credit" by a national bank to a person outstanding at one time may not exceed 15 percent of the unimpaired capital and unimpaired surplus of the bank if the loan is not fully secured, plus an additional 10 percent of unimpaired capital and unimpaired surplus if the loan is fully secured.[1] Section 5(u)(1) of the Home Owners' Loan Act ("**HOLA**") provides that the lending limits applicable to national banks generally apply to federal and state-chartered savings associations in the same manner and to the same extent as they apply to national banks, subject to certain statutory exceptions.

U.S. Branches and Agencies of Foreign Banks: Federal branches and agencies of foreign banks are subject to the same lending limits as national banks,[2] except that limits are based on the U.S. dollar equivalent of the foreign bank's capital.[3] To determine compliance, a foreign bank must aggregate exposures at all federal branches and agencies with any state branch and agency exposures.[4] State-licensed U.S. branches and agencies of foreign banks are subject to the same lending limits applicable to federal branches and agencies, which are themselves subject to the same lending limits as national banks.[5]

Dodd-Frank Act's Lending Limits Amendments: Section 610 of the Dodd-Frank Act expanded the definition of "loans and extensions of credit" for purposes of lending limits to include credit exposure arising from repurchase agreements, reverse repurchase agreements, securities lending transactions and securities borrowing transactions (collectively, "**securities financing transactions**") and credit exposure arising from derivatives. The statute does not specify the methods for calculating such credit exposure. Section 610 went into effect on July 21, 2012.

June 2012 OCC Interim Final Rule: In June 2012, the OCC issued an interim final rule that amended the OCC's lending limits regulation to implement Section 610 of the Dodd-Frank Act and to consolidate the lending limits rules applicable to national banks and savings associations. The interim final rule provided a number of alternative methods to calculate credit exposure arising from derivatives and securities financing transactions, which vary in complexity to accommodate banks of different size and complexity. Specifically, the interim final rule provided three alternative methods for calculating credit exposure arising from derivatives (other than credit derivatives, which are subject to special rules) and two alternative methods for calculating credit exposure arising from securities financing transactions.

The original effective date of the interim final rule was January 1, 2013. However, the OCC extended the compliance date of the Section 610-related provisions to July 1, 2013. The OCC's final rule further extends this compliance date to October 1, 2013 to allow institutions that wish to use an internal model to calculate credit exposure for lending limits purposes sufficient time to develop a model, receive approval for its use and implement it.

State-Chartered Banks: Effective January 21, 2013, Section 611 of the Dodd-Frank Act provides that an insured state-chartered bank may engage in derivative transactions only if "the law with respect to lending limits of the state in which the insured state bank is chartered takes into consideration credit exposure to

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[1] Under the OCC's lending limits regulation, 12 C.F.R. Part 32, capital and surplus means a national bank's Tier 1 and Tier 2 capital plus the balance of the bank's allowance for loan and lease losses not included in its Tier 2 capital, as reported in its Call Report.

[2] *See* 12 U.S.C. § 3102(b).

[3] 12 C.F.R. § 28.14.

[4] 12 C.F.R. § 28.14(c).

[5] *See* Section 4(b) of the International Banking Act of 1978, 12 U.S.C. § 3102(b); Section 7(h)(2) of the International Banking Act of 1978, 12 U.S.C. § 3105(h)(2).

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derivative transactions." To comply with Section 611, states have generally either amended their state lending limit statutes to expressly take into account credit exposure arising from derivatives or concluded that existing statutes already take into account such credit exposure.

A number of states have issued guidance or regulations setting forth methods for calculating credit exposure arising from derivatives. Some of those methods are similar to or are based on the methods in the OCC's interim final rule. It remains to be seen whether states will now revise those methods to reflect the OCC's final rule.

OCC's Lending Limits Final Rule: Key Changes

The OCC's lending limits final rule provides a number of alternative methods for calculating credit exposure arising from derivatives and securities financing transactions. Unless required to use a specific method by the appropriate federal banking agency for safety and soundness reasons, a bank may choose which of these methods it will use. The final rule clarifies that the appropriate federal banking agency may, at its discretion, permit a bank to use a specific method to calculate credit exposure, and that this method may apply to all or *specific transactions* if the appropriate federal banking agency finds that such method is consistent with the safety and soundness of the bank.[6]

The final rule makes the following key changes to the interim final rule:

- further extends the compliance date of the Section 610-related provisions to October 1, 2013;

- replaces the Remaining Maturity Method for calculating credit exposure arising from derivatives with the Current Exposure Method in the bank capital rules, which takes into account, to a certain extent, the effects of netting and collateral;

- for calculating counterparty credit exposure arising from a credit derivative, the final rule increases the $1 million threshold in the interim final rule's definition of "effective margining arrangement" to $25 million, which would allow banks with certain existing margining agreements to use the Model Method without having to renegotiate and modify these agreements;

- permits banks to calculate credit exposure arising from securities financing transactions using the Collateral Haircut Approach, which also takes into account the effects of netting and collateral;

- allows credit protection purchased by a bank to offset all types of credit exposures, including traditional loans and extensions of credit, but subject to certain conditions and an overall limit on the exclusion equal to 10 percent of the bank's capital and surplus; and

- clarifies the treatment of credit exposures to central counterparties.

The OCC stated that it will consider whether further amendments to the final rule are necessary and appropriate in view of the Basel Committee's ongoing work to revise the large exposures framework for internationally active banks.

Methods for Calculating Credit Exposure Arising From Derivatives

The final rule provides three methods (Model Method, Conversion Factor Matrix Method and Current Exposure Method) for calculating credit exposure arising from derivatives other than credit derivatives, and contains a special set of rules for credit derivatives.

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[6] In contrast, under the interim final rule, a bank had to use the same method for calculating credit exposure arising from all derivative transactions and the same method for all securities financing transactions.

Key Definitions: The final rule retains the interim final rule's definition of "derivative transaction" as any transaction that is a contract, agreement, swap, warrant, note, or option that is based, in whole or in part, on the value of, any interest in, or any quantitative measure or the occurrence of any event relating to, one or more commodities, securities, currencies, interest or other rates, indices, or other assets.[7] The final rule incorporates the definition of "credit derivative" contained in the existing U.S. bank capital rules to implement the internal-ratings-based and advanced measurement approaches ("**advanced approaches capital rules**"),[8] which defines credit derivative as a financial contract executed under standard industry credit derivative documentation that allows one party (the protection purchaser) to transfer the credit risk of one or more exposures (reference exposure) to another party (the protection provider).

Methods for Non-Credit Derivatives

1. Model Method

> **Credit Exposure = Current credit exposure + Potential future credit exposure**

Like the interim final rule, the final rule permits a bank to use a regulator-approved internal model to calculate credit exposure arising from derivatives. The OCC noted that the use of an internal model improves the accuracy of the calculation of a bank's credit exposures. The Model Method is only available to a bank that calculates potential future credit exposure ("**PFE**") arising from its derivatives using either:

- an internal model that has been approved in writing by the appropriate federal banking agency for purposes of Section 32(d) of the advanced approaches capital rules, provided that the bank gives prior written notice to the appropriate federal banking agency of the model's use for lending limits purposes;[9] or

- any other appropriate model the use of which for lending limits purposes has been approved in writing by the appropriate federal banking agency.[10]

Under the Model Method, current credit exposure equals the greater of the mark-to-market value of the derivative and zero. PFE is determined using the bank's regulator-approved internal model, which may be a model that has been approved for purposes of Section 32(d) of the advanced approaches capital rules, provided that the bank gives prior written notice to the appropriate federal banking agency of its use for lending limits purposes. Section 32(d) of the advanced approaches capital rules permits banks to use the Internal Models Methodology ("**IMM**") to determine the exposure at default ("**EAD**") for a derivative or group

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[7] In the preamble to the final rule, the OCC clarified that options sold and fully paid for do not give rise to credit exposure for the purpose of lending limits. As the OCC explained, when a bank sells an option that is fully paid, there is no counterparty credit risk because the bank is not entitled to anything further from the counterparty.

[8] A banking organization is subject to the advanced approaches capital rules if its total consolidated assets are $250 billion or more, its consolidated total on-balance sheet foreign exposures are $10 billion or more, or if it elects, subject to supervisory approval, to use the advanced approaches capital rules.

[9] The OCC noted that, technically, under the advanced approaches capital rules, the appropriate federal banking agency does not separately approve the use of a bank's model but instead approves its exit from the parallel run and its use of the advanced approaches, for which the bank has developed the internal model. The OCC confirmed that this approval to exit the parallel run constitutes "approval" of the bank's model.

[10] For the use of a model not previously approved pursuant to the advanced approaches capital rules, the OCC stated that its approval process will include a thorough review of the model's specific use for lending limits purposes and the bank's ability to monitor the risks associated with the transactions, and will be separate and apart from any approval of the use of a model for other purposes. The approval of the use of the model will be in writing. The OCC noted that the FDIC, in the case of state savings associations, and the Federal Reserve Board, in the case of state-licensed branches and agencies of foreign banks, will have their own internal processes for approving the use of models.

of derivatives subject to a qualifying master netting agreement. To obtain supervisory approval to use the IMM, the model must satisfy a number of stringent qualitative and quantitative requirements. Using the IMM, a bank may capture the effects of netting and collateral in calculating EAD. Under the Model Method, a bank also may net credit exposures of derivatives arising under the same qualifying master netting agreement.

The final rule clarifies that if a bank makes a substantive revision to a model after receiving the appropriate federal banking agency's approval, the use of the revised model must be approved by the agency before it may be used for purposes of calculating lending limits. The OCC also declined to allow the use of a model on a provisional basis pending its approval.

2. Conversion Factor Matrix Method

> **Credit Exposure = Notional amount x Conversion factor in look-up table**

The OCC's final rule retains the Conversion Factor Matrix Method in the interim final rule. Under this method, which is available to all banks, credit exposure will equal and **remain fixed** at the PFE of a derivative transaction. Unlike under the Model Method, PFE in this case is an amount equal to the notional amount of the derivative multiplied by the conversion factor set forth in a look-up table.

The Conversion Factor Matrix Method is conceptually similar to the Current Exposure Method (described below), except that the exposure amount remains fixed under the former. This is achieved by removing the current credit exposure component (which is based on the derivative transaction's mark-to-market value) of the Current Exposure Method formula, which can fluctuate over time, and by adjusting the values in the conversion factor matrix to reflect the absence of the current credit exposure component. The Conversion Factor Matrix Method does not appear to take into account the effects of netting or collateral.

Conversion Factor Matrix[11]

Original maturity[12]	Interest Rate	Foreign exchange rate and gold	Equity	Other (includes commodities and precious metals except gold)
1 year or less	0.015	0.015	0.20	0.06
Over 1 to 3 years	0.03	0.03	0.20	0.18
Over 3 to 5 years	0.06	0.06	0.20	0.30
Over 5 to 10 years	0.12	0.12	0.20	0.60
Over 10 years	0.30	0.30	0.20	1.00

- **Example:** Bank A enters into a $10 million, 5-year, interest rate swap. Bank A receives a fixed rate and pays a floating rate. The conversion factor for this swap is 6%. Regardless of the transaction's mark-to-market value, Bank A's credit exposure under the Conversion Factor Matrix Method equals and remains fixed at **$600,000** ($10 million notional amount x 6%).

The OCC acknowledged that, under the Conversion Factor Matrix Method, the actual mark-to-market value of a derivative transaction could at some point exceed its PFE, resulting in a potential under-estimation of

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[11] For an OTC derivative contract with multiple exchanges of principal, the conversion factor is multiplied by the number of remaining payments in the derivative contract.

[12] 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.

the transaction's actual credit exposure. The OCC stated that it could use the supervisory process to address any such risk relating to specific transactions or concentrations, including by requiring a different method of measuring credit exposure.

3. Current Exposure Method

> For a single derivative transaction that is <u>not</u> subject to a qualifying master netting agreement:
>
> **Credit Exposure = Current credit exposure + PFE**
>
> For multiple derivative transactions subject to a qualifying master netting agreement:
>
> **Credit Exposure = _Net_ current credit exposure + Adjusted sum of PFE amounts**
>
> The Current Exposure Method ("**CEM**"), when combined with the Collateral Haircut Approach, allows a bank to take into account the credit risk-mitigating benefits of collateral.

The final rule replaces the Remaining Maturity Method with the CEM. The OCC stated that the CEM is superior to the Remaining Maturity Method for banks that do not model exposures but want to adopt a more risk-sensitive method than the Conversion Factor Matrix Method. The OCC also noted that the CEM is familiar to both the industry and regulators as an available measure of derivative exposures under the U.S. banking agencies' existing bank capital rules and proposed Basel III rules. However, it is noteworthy that the Basel Committee recently indicated that it is working on a non-models-based successor to the CEM.[13]

Under the CEM, the exposure amount of a single derivative that is **not** subject to a qualifying master netting agreement is the sum of (1) a bank's current credit exposure, which is the greater of the mark-to-market value and zero, and (2) the bank's PFE, which, as under the Conversion Factor Matrix Method, is calculated by multiplying the notional principal amount of the derivative contract by the appropriate conversion factor.[14]

CEM Conversion Factors[15]

Remaining maturity[16]	Interest rate	Foreign exchange rate and gold	Credit (investment-grade reference obligor)	Credit (non-investment-grade reference obligor)	Equity	Precious metals (except gold)	Other
1 year or less	0.00	0.01	0.05	0.10	0.06	0.07	0.10
Over 1 to 5 years	0.005	0.05	0.05	0.10	0.08	0.07	0.12
Over 5 years	0.015	0.075	0.05	0.10	0.10	0.08	0.15

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[13] _See_ Basel Committee, Supervisory Framework for Measuring and Controlling Large Exposures (consultative document) (Mar. 2013) ¶ 58, available **here**.

[14] _See_ advanced approaches capital rules § 32(c)(5).

[15] For an OTC derivative contract with multiple exchanges of principal, the conversion factor is multiplied by the number of remaining payments in the derivative contract.

[16] 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.

- **Example:** Bank A enters into a $10 million, 5-year, interest rate swap. Bank A receives a fixed rate and pays a floating rate. The current mark-to-market value of the swap is $10,000. The swap is not collateralized and is not subject to a qualifying master netting agreement. Bank A's credit exposure equals the current mark-to-market value plus PFE, which is determined by multiplying the notional amount by the applicable conversion factor. The conversion factor for a 5-year interest rate swap is 0.5%. Bank A's credit exposure is $60,000 ($10,000 + ($10 million notional amount x 0.5%)).

Limited Recognition of Netting: Under the CEM, the exposure amount for multiple derivative contracts subject to a qualifying master netting agreement (together, a "**netting set**") is calculated differently to provide for limited recognition of netting.[17] Specifically, the exposure amount is determined by adding the *net* current credit exposure and the adjusted sum of the PFE amounts for all derivative contracts subject to the qualifying master netting agreement. The *net* current credit exposure is the greater of (1) the net sum of all positive and negative mark-to-market values of the individual derivative contracts subject to the qualifying master netting agreement and (2) zero. The adjusted sum of the PFE amounts, A_{net}, is calculated using the following formula, which takes into account the effects of netting to a limited extent:

$$A_{net} = (0.4 \times A_{gross}) + (0.6 \times NGR \times A_{gross}),\ where:$$

A_{gross} = the gross PFE, which is the sum of the PFE amounts (as determined by multiplying the notional principal amount of the derivative contract by the appropriate conversion factor) for each individual derivative contract subject to the qualifying master netting agreement; and

NGR = net to gross ratio, which is the ratio of the net current credit exposure to the gross current credit exposure. In calculating the NGR, the gross current credit exposure equals the sum of the positive current credit exposures of all individual derivative contracts subject to the qualifying master netting agreement.

Recognition of Collateral: If an OTC derivative contract or a netting set is collateralized by financial collateral, a bank must first determine the exposure amount of the OTC derivative contract or netting set using the CEM. If the financial collateral is marked-to-market on a daily basis and subject to a daily margin maintenance requirement, a bank can recognize the credit risk mitigation benefits of the collateral by adjusting the exposure amount using the Collateral Haircut Approach.[18] The Collateral Haircut Approach is described below.

The advanced approaches capital rules define financial collateral as collateral:

- in the form of:
  - cash on deposit with the bank (including cash held for the bank by a third-party custodian or trustee);
  - gold bullion;
  - long-term debt securities that have an applicable external rating of one category below investment grade or higher;

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[17] *See* advanced approaches capital rules § 32(c)(6).

[18] *See* advanced approaches capital rules § 32(c)(7)(collateralized OTC derivative contracts).

- short-term debt instruments that have an applicable external rating of at least investment grade;

- equity securities that are publicly traded;

- convertible bonds that are publicly traded;

- money market mutual fund shares and other mutual fund shares if a price for the shares is publicly quoted daily; or

- conforming residential mortgages; and

- in which the bank has a perfected, first priority security interest or, outside of the United States, the legal equivalent thereof (with the exception of cash on deposit and notwithstanding the prior security interest of any custodial agent).[19]

Special Rules for Credit Derivatives

Counterparty Credit Exposure to Protection Seller: Under the final rule, a bank that uses the Conversion Factor Matrix Method or the CEM, or that uses the Model Method **without** entering into an "effective margining arrangement," must calculate the counterparty credit exposure arising from credit derivatives by adding the net notional value of all protection **purchased** from the counterparty against loss on each third-party reference entity.[20]

- **Example:** Bank A buys and sells credit protection from and to Bank B on Firms X, Y and Z. Bank A and Bank B either do not use the Model Method or there is no effective margining arrangement between the banks. Bank A's net notional protection purchased from Bank B is $50 for Firm X and $100 for Firm Y. Bank A's net protection sold to Bank B is $35 for Firm Z. The **counterparty credit exposure** of Bank A to Bank B is $150 ($100 + $50). Bank A also has a **reference entity credit exposure** to Firm Z of $35.

A bank that uses the Model Method and has entered into an "effective margining arrangement" with a counterparty may calculate counterparty credit exposure arising from a credit derivative using the Model Method. Under the final rule, "effective margining arrangement" means a master legal agreement governing derivative transactions between a bank and a counterparty that requires the counterparty to post, on a daily basis, variation margin to fully collateralize that amount of the bank's net credit exposure to the counterparty that exceeds **$25 million** created by the derivative transactions covered by the agreement.

The final rule increases the $1 million threshold in the interim final rule's definition of "effective margining arrangement" to $25 million. According to the OCC, this change would allow banks with such existing margining agreements to use the Model Method without having to renegotiate and modify the agreements. However, to ensure that this increase in the threshold amount will not raise new safety and soundness concerns, the final rule also provides that the amount of the threshold under an effective margining arrangement must be added to the amount of counterparty exposure calculated by the Model Method. Therefore, the amount of the threshold is subject to a bank's lending limit.

- **Example:** Bank A buys and sells credit protection from and to Bank B on Firms X, Y and Z. There is an effective margining arrangement between the banks with a collateralization threshold of $2,000,000. Banks A and B use their regulator-approved internal models to determine their **counterparty credit exposures** and add to the calculation $2,000,000, the amount of the threshold.

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[19] *See* advanced approaches capital rules § 2.

[20] The OCC explained that the protection buyer is exposed to the counterparty risk of the seller. Technically, the seller also bears a degree of counterparty credit risk; but this risk is not captured by the lending limits.

Credit Exposure to Reference Entity: A bank must calculate the credit exposure to a reference entity arising from credit derivatives relating to a reference entity by adding the net notional[21] value of all protection **sold** on the reference entity. The bank may reduce its exposure to a reference entity by the amount of any "eligible credit derivative"[22] purchased on that reference entity from an "eligible protection provider,"[23] as such terms are defined in the final rule. Of course, as a result of purchasing such credit protection, the bank must also calculate its counterparty credit exposure to the eligible protection provider.

- ▪ **Example:** Bank A sells credit protection on Firms 1 and 2. Bank A's gross notional protection sold is $100 for Firm 1 and $200 for Firm 2. Bank A also purchases $25 of protection on Firm 2 from an eligible protection provider (EPP) via an eligible credit derivative. The **reference entity credit exposure** of Bank A to Firm 1 is $100 and to Firm 2 is $175. If Bank A uses a regulator-approved internal model and has an effective margining agreement with the EPP, its **counterparty credit exposure** to the EPP for this transaction, as well as all other derivative transactions in the same netting set, is calculated using its internal model. If Bank A has no effective margining agreement with the EPP or does not use an internal model, its **counterparty credit exposure** to the EPP is $25.

Using Credit Derivatives to Offset Other Types of Exposures to a Borrower: Under the interim final rule, the purchase of credit protection could only be used to reduce credit derivative exposure to a reference obligor, and not other exposures such as traditional loans and extensions of credit. Commenters requested that the OCC permit banks to purchase credit protection, such as credit default swaps or total return swaps, to reduce all types of credit exposure to a borrower.

The OCC agreed with commenters that credit protection purchased should be allowed to offset other types of credit exposures, but only under certain circumstances and subject to an overall limit. Specifically, the final rule excludes from the lending limits rule that part of a loan or extension of credit for which a bank has purchased protection if:

- ▪ the protection is in the form of a single-name credit derivative that meets the final rule's definition of "eligible credit derivative";

- ▪ the credit derivative is purchased from an "eligible protection provider;"

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[21] Commenters noted that the interim final rule required banks to use the notional value to calculate credit exposure on protection sold, but there are several different notional amounts identified in tranched index CDS documentation, and none of these can reasonably be understood as a proxy for credit exposure. The OCC stated that it intends to address this issue through OCC interpretations, which will allow it to "more thoroughly examine the transactions at issue and apply approaches that most accurately calculate the notional amount attributable to each reference entity in a specific tranche."

[22] "Eligible credit derivative" is a single-name credit derivative or standard, non-tranched index credit derivative that meets certain requirements. The OCC declined to amend the interim final rule's definition of "eligible credit derivative" to include standard **tranched** index credit derivatives. The OCC stated that it will address this issue if it later determines, after experience implementing the final rule, that such a change is warranted. However, the OCC amended the definition of "eligible credit derivative" by specifically including a restructuring for obligors not subject to bankruptcy or insolvency as a credit event for a credit default swap.

[23] The final rule retains the interim final rule's definition of "eligible protection provider," which includes: (1) a sovereign entity (a central government, including the U.S. government; an agency; department; ministry; or central bank); (2) the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Commission, or a multilateral development bank; (3) a Federal Home Loan Bank; (4) the Federal Agricultural Mortgage Corporation; (5) a depository institution, as defined in Section 3 of the Federal Deposit Insurance Act, 12 U.S.C. 1813(c); (6) a bank holding company, as defined in Section 2 of the Bank Holding Company Act, as amended, 12 U.S.C. 1841; (7) a savings and loan holding company, as defined in Section 10 of the Home Owners' Loan Act, 12 U.S.C. 1467a; (8) a securities broker or dealer registered with the SEC under the Securities Exchange Act of 1934, 15 U.S.C. 78o et seq; (9) an insurance company that is subject to the supervision of a state insurance regulator; (10) a foreign banking organization; (11) a non-U.S.-based securities firm or a non-U.S.-based insurance company that is subject to consolidated supervision and regulation comparable to that imposed on U.S. depository institutions, securities broker-dealers, or insurance companies; and (12) a qualifying central counterparty.

- the reference obligor is the same legal entity as the borrower in the loan or extension of credit; and

- the maturity of the protection purchased equals or exceeds the maturity of the loan or extension of credit.

However, even if all of these requirements are satisfied, the total amount of such exclusion may not exceed 10 percent of the bank's capital and surplus. The OCC noted that if a protection seller reduces its *credit derivative* exposure to a reference entity using an eligible credit derivative purchased on that reference entity from an eligible protection provider, this reduction is not subject to the 10 percent limit. As a result of purchasing credit protection, the bank must also calculate its counterparty credit exposure to the eligible protection provider.

- **Example:** Bank A makes a loan to Borrower Inc. in the amount of $100,000. Bank A purchases protection on Borrower Inc. in the amount of $40,000 from an eligible protection provider (EPP) through a single-name credit derivative that meets the definition of "eligible credit derivative," the maturity of which equals or exceeds the maturity of the loan. The $40,000 amount does not exceed 10% of Bank A's capital and surplus. Bank A's exposure to Borrower Inc. is $60,000 for lending limits purposes ($100,000 – $40,000). If Bank A uses a regulator-approved internal model and has an effective margining agreement with the EPP, its **counterparty credit exposure** to the EPP for this transaction, as well as all other derivative transactions in the same netting set, is calculated using its internal model. If Bank A has no effective margining agreement with the EPP or does not use an internal model, its **counterparty credit exposure** to the EPP is $40,000.

Special Rules for Credit Exposures to Central Counterparties

Under the interim final rule, credit exposures to central counterparties were subject to lending limits. In view of the trend towards central clearing of standardized derivatives, commenters recommended that the OCC either exclude exposures to central counterparties from lending limits or assign the exposures a higher lending limit.

The OCC did not accept these recommendations. Therefore, the final rule subjects credit exposures to central counterparties arising from derivatives to lending limits. In addition, the measure of counterparty exposure to a central counterparty must include the sum of the initial margin posted, plus any contribution to a guaranty fund at the time the contribution is made.

The OCC noted that the role of central counterparties in the global financial markets is dynamic and that uncertainties exist as to how this role will evolve. Accordingly, the OCC will continue to monitor the role of central counterparties and, if necessary, will revisit its lending limits final rule with respect to credit exposures to such entities.

Methods for Calculating Credit Exposure Arising From Securities Financing Transactions

The final rule provides three methods (Model Method, Basic Method and Basel Collateral Haircut Method) for calculating credit exposure arising from securities financing transactions.[24]

1. Model Method

Under the Model Method, a bank may calculate credit exposure arising from a securities financing transaction by using either:

- an internal model that has been approved in writing by the appropriate federal banking agency for purposes of Section 32(b) of the advanced approaches capital rules, provided that the bank gives prior written notice to the appropriate federal banking agency of the model's use for lending limits purposes; or

- any other appropriate model the use of which for lending limits purposes has been approved by writing by the appropriate federal banking agency.

The final rule refers to Section 32(**b**) of the advanced approaches capital rules, instead of Section 32(**d**), because the OCC believes that "the model provided for by Section 32(b) . . . is the more appropriate model for measuring credit exposure of securities financing transactions." Section 32(b) permits a bank to determine the EAD of securities financing transactions using the Collateral Haircut Approach (described in Section 32(b)(2) and below), the simple VaR methodology described in Section 32(b)(3) or the internal models methodology described in Section 32(d).[25]

The final rule clarifies that if a bank makes a substantive revision to a model after receiving the appropriate federal banking agency's approval, the use of the revised model must be approved by the agency before it may be used for purposes of calculating lending limits. The OCC also declined to allow the use of a model on a provisional basis pending its approval.

2. Basic Method

The OCC's final rule renames the Non-Model Method in the interim final rule the Basic Method, but does not make material changes. The specific methodology under the Basic Method for calculating credit exposure for each type of securities financing transaction is described below. Examples of calculations under the Basic Method and the Collateral Haircut Approach are also discussed below.

A. Repurchase Agreement

> **Credit Exposure = Market value of securities transferred – Cash received**

The credit exposure arising from a repurchase agreement is equal to and **_remains fixed_** at the market value at execution of the transaction of the securities transferred to the other party less cash received.

B. Securities Lending

i) Cash Collateral Transactions

> **Credit Exposure = Market value of securities transferred – Cash received**

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[24] The final rule adds a definition of "security" to clarify that "**securities** financing transactions" for the final rule are transactions that involve securities as defined in Section 3(a)(10) of the Securities Exchange Act of 1934, 15 U.S.C. § 78c(a)(10).

[25] *See* advanced approaches capital rules § 32(b)(1).

The credit exposure arising from a securities lending transaction where the collateral is cash is equal to and **remains fixed** at the market value at execution of the transaction of securities transferred less cash received.

ii) Securities Collateral Transactions

> **Credit Exposure = Higher of 2 collateral haircuts on securities lent and received x Higher of 2 securities' par values**

The credit exposure arising from a securities lending transaction where the collateral is other securities is equal to and **remains fixed** at the product of: (1) the higher of the two collateral haircuts associated with the two securities, as determined by the collateral haircuts table (below), and (2) the higher of the two par values of the securities. The final rule clarifies that if more than one security is provided as collateral, the applicable haircut is the higher of the haircut associated with the security lent and the notional-weighted average of the haircuts associated with the securities provided as collateral.

C. Reverse Repurchase Agreements

> **Credit Exposure = Collateral haircut on securities received x Cash transferred**

The credit exposure arising from a reverse repurchase agreement is equal to and **remains fixed** at the product of the haircut associated with the collateral received, as determined by the collateral haircuts table, and the amount of cash transferred.

D. Securities Borrowing

i) Cash Collateral Transactions

> **Credit Exposure = Collateral haircut on securities borrowed x Cash collateral provided**

The credit exposure arising from a securities borrowing transaction where the collateral is cash is equal to and **remains fixed** at the product of the haircut associated with the securities borrowed, as determined by the collateral haircuts table, and the amount of cash collateral provided to the other party.

ii) Securities Collateral Transactions

> **Credit Exposure = Higher of 2 collateral haircuts on securities borrowed and provided as collateral x Higher of 2 securities' par values**

The credit exposure arising from a securities borrowing transaction where the collateral is other securities is equal to and **remains fixed** at the product of: (1) the higher of the two collateral haircuts associated with the securities borrowed and provided as collateral, as determined by the collateral haircuts table, and (2) the higher of the two par values of the securities. The final rule clarifies that if more than one security is provided as collateral, the applicable haircut is the higher of the haircut associated with the security borrowed and the notional-weighted average of the haircuts associated with the securities provided as collateral.

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Collateral Haircuts Table

Sovereign Entities	Residual maturity	Haircut without currency mismatch[26]
OECD Country Risk Classification[27] 0-1	≤ 1 year >1 year, ≤ 5 years > 5 years	0.005 0.02 0.04
OECD Country Risk Classification 2-3	≤ 1 year >1 year, ≤ 5 years > 5 years	0.01 0.03 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	Haircut
Main index[28] 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

3. Collateral Haircut Approach

The OCC added the Collateral Haircut Approach to the final rule because it "permits a more accurate characterization of the true exposure over the life of the [securities financing] transaction for those [banks] that do not use an internal model and for which the existing non-model approach in the interim final rule is not optimal."

The Collateral Haircut Approach is set forth in Sections 32(b)(2)(i) and 32(b)(2)(ii) of the advanced approaches capital rules. Under the Collateral Haircut Approach, credit exposure is determined using the following formula:

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

[27] OECD Country Risk Classification ("**CRC**") means the country risk classification as defined in Article 25 of the OECD's February 2011 Arrangement on Officially Supported Export Credits Arrangement.

[28] 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 appropriate federal banking agency 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.

> **Credit exposure = max $\{0, [(\Sigma E - \Sigma C) + \Sigma(Es \times Hs) + \Sigma(Efx \times Hfx)]\}$**, where:
>
> **ΣE** equals the value of the exposure, which is the sum of the current market values of all instruments, gold, and cash the bank has lent, sold subject to repurchase, or provided as collateral to the counterparty under the transaction (or netting set);
>
> **ΣC** equals the value of the collateral, which is the sum of the current market values of all instruments, gold, and cash the bank has borrowed, purchased subject to resale, or received as collateral from the counterparty under the transaction (or netting set);
>
> **Es** equals the absolute value of the net position in a given instrument or in gold, where the net position in a given instrument or in gold equals the sum of the current market values of the instrument or gold the bank has lent, sold subject to repurchase, or provided as collateral to the counterparty minus the sum of the current market values of that same instrument or gold the bank has borrowed, purchased subject to resale, or received as collateral from the counterparty;
>
> **Hs** equals the market price volatility haircut appropriate to the instrument or gold referenced in Es;
>
> **Efx** equals the absolute value of the net position of instruments and cash in a currency that is different from the settlement currency (where the net position in a given currency equals the sum of the current market values of any instruments or cash in the currency the bank has lent, sold subject to repurchase, or provided as collateral to the counterparty minus the sum of the current market values of any instruments or cash in the currency the bank has borrowed, purchased subject to resale, or received as collateral from the counterparty); and
>
> **Hfx** equals the haircut appropriate to the mismatch between the currency referenced in Efx and the settlement currency.

Under the Collateral Haircut Approach, as described in Sections 32(b)(2)(i) and 32(b)(2)(ii) of the advanced approaches capital rules, banks must use standard supervisory haircuts for market price and foreign exchange rate volatilities (Hs and Hfx). The fact that the OCC's final rule does not expressly refer to 32(b)(iii) of the advanced approaches capital rules suggests that a bank may not use internal estimates of haircuts.[29]

The supervisory haircuts for market price volatility under the Collateral Haircut Approach in the bank capital rules are broadly similar to those contained in the Basic Approach's collateral haircut table, except that the former have not yet been revised to remove references to external credit ratings, as mandated by the Section 939A of the Dodd-Frank Act. The June 2012 U.S. Basel III proposals, which have not yet been finalized, would revise the supervisory haircuts in the Collateral Haircut Approach to remove references to external credit ratings. Davis Polk's memorandum and visuals on the U.S. Basel III proposals are available **here**.

The supervisory haircuts for market price volatility under the Collateral Haircut Approach in the advanced approaches capital rules are based on a ten-business-day holding period. Section 32(b)(2)(ii)(A)(3) of the advanced approaches capital rules *permits* a bank to multiply the supervisory haircuts by the square root of

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[29] *See* advanced approaches capital rules § 32(b)(2)(iii) (Own internal estimates for haircuts).

½ (~0.707107), in effect using a square root of time formula to adjust the haircuts to the five-business-day minimum holding period for "repo-style transactions," which is the term used by the bank capital rules to describe securities financing transactions.[30] Section 32(b)(2)(ii)(A)(3) is part of Section 32(b)(2)(ii), which, in turn, is incorporated by reference in the section of the OCC's final rule that permits banks to use the Collateral Haircut Approach to calculate credit exposure arising from securities financing transactions.[31] The Collateral Haircut Approach calculation examples in the preamble to the OCC's final rule do not appear to apply the square root of time adjustment to the applicable supervisory haircuts. This appears to be an unintentional omission, as it is unclear why banks should not be permitted to make the same adjustment for purposes of the lending limits final rule. For **illustrative purposes only**, the examples provided below in this memorandum apply such an adjustment to the supervisory haircuts prescribed in the Collateral Haircut Approach.

For currency mismatches, a bank must use a supervisory haircut for foreign exchange rate volatility (Hfx) of 8 percent, subject to the square root of time formula adjustment described above for securities financing transactions.[32]

Examples of Credit Exposure Calculations under the Basic Method and the Collateral Haircut Approach

Transaction	Basic Method	Collateral Haircut Approach
Repo	Bank enters into a repo in which it receives $100, transferring 7-year Treasury securities with a market value of $102. Bank's credit exposure is **$2**, the market value of securities transferred less the cash received.	Bank enters into a repo in which it receives $100, transferring 7-year Treasury securities with a market value of $102 and an adjusted supervisory haircut of 2.83% (4% x 0.707107). Bank's credit exposure is ($102 − $100) + ($100 x 0%) + ($102 x 2.83%) = **$4.88**
Securities Lending: Cash Collateral Transaction	Bank lends $100 par value 7-year Treasury securities with a market value of $102 and receives $100 in cash collateral. Bank's credit exposure is **$2**, the market value of securities transferred less the cash received.	Bank lends $100 par value 7-year Treasury securities with a market value of $102 and receives $100 in cash collateral. The adjusted supervisory haircut on the security is 2.83% (4% x 0.707107). Bank's credit exposure is ($102 − $100) + ($100 x 0%) + ($102 x 2.83%) = **$4.88**

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[30] *See* advanced approaches capital rules § 32(b)(2)(ii)(A)(3) ("For repo-style transactions, a bank may multiply the supervisory haircuts provided in paragraphs (b)(2)(ii)(A)(1) and (2) of this section by the square root of 1⁄2 (which equals 0.707107)."). *See also* advanced approaches capital rules § 2 ("Repo-style transaction means a repurchase or reverse repurchase transaction, or a securities borrowing or securities lending transaction. . . . provided that: (1) the transaction is based solely on liquid and readily marketable securities, cash, gold, or conforming residential mortgages; (2) the transaction is marked-to-market daily and subject to daily margin maintenance requirements; [and certain other conditions regarding the transaction's legal status and enforceability are satisfied] ").

[31] OCC lending limits final rule § 32.9(c)(1)(iii) ("A national bank or savings association may calculate the credit exposure of a securities financing transaction pursuant to 12 CFR part 3, Appendix C, Sections 32(b)(2)(i) and **(ii)**; 12 CFR part 167, Appendix C, Sections 32(b)(2)(i) and **(ii)**; or 12 CFR part 390, subpart Z, Appendix A, Sections 32(b)(2)(i) and **(ii)**, as appropriate." (emphasis added)).

[32] *See* advanced approaches capital rules § 32(b)(2)(ii)(A)(2) ("For currency mismatches, a bank must use a haircut for foreign exchange rate volatility (Hfx) of 8 percent, as adjusted in certain circumstances as provided in paragraph **(b)(2)(ii)(A)(3)** and (4) of this section." (emphasis added)).

Transaction	Basic Method	Collateral Haircut Approach
Securities Lending: Securities Collateral Transaction	Bank lends $100 par value 7-year Treasury securities with a market value of $101 and receives as collateral a 5-year corporate bond with a $100 par value and a $102 market value. The haircuts on the lent and borrowed securities are 4% and 6%, respectively. Bank's credit exposure is **$6** ($100 x 6%), based upon the higher of the two security haircuts and the higher of the two par values (here the par values are the same).	Bank lends a $100 par value 7-year Treasury security with a market value of $101 and receives a 5-year corporate bond as collateral, with a $100 par value and a $102 market value. The adjusted supervisory haircuts on the lent and borrowed securities are 2.83% (4% x 0.707107) and 4.24% (6% x 0.707107), respectively. Credit exposure is ($101 – $102) + ($101 x 2.83%) + ($102 x 4.24%) = **$6.18**
Reverse Repo	Bank enters into a reverse repo in which it transfers $100 and receives 7-year Treasury securities with a market value of $102 that have a haircut of 4%. Bank's credit exposure is **$4** ($100 x 4%).	Bank enters into a reverse repo in which it transfers $100 and receives 7-year Treasury securities with a market value of $102 and an adjusted supervisory haircut of 2.83% (4% x 0.707107). Bank's credit exposure is ($100 – $102) + ($100 x 0%) + ($102 x 2.83%) = **$0.88**
Securities Borrowing: Cash Collateral Transaction	Bank borrows $100 par value 7-year Treasury securities with a market value of $102. Bank provides $100 in cash as collateral. The haircut associated with the security is 4%. Bank's credit exposure is **$4** ($100 x 4%).	Bank borrows $100 par value 7-year Treasury securities with a market value of $102. Bank provides $100 in cash as collateral. The adjusted supervisory haircut associated with the securities is 2.83% (4% x 0.707107). Bank's credit exposure is ($100 – $102) +($100 x 0%) + ($102 x 2.83%) = **$0.88**
Securities Borrowing: Securities Collateral Transaction	Bank borrows $100 par value 7-year Treasury securities with a market value of $101 and provides as collateral 5-year corporate bonds with a par value of $100 and a market value of $102. The haircut on the borrowed security is 4% and the haircut on the security provided as collateral is 6%. Bank's credit exposure is **$6** ($100 x 6%), based upon the higher of the two security haircuts and the higher of the two par values (here the par values are the same).	Bank borrows $100 par value 7-year Treasury securities with a market value of $101 and provides as collateral 5-year corporate bonds with a par value of $100 and a market value of $102. The adjusted supervisory haircut on the borrowed security is 2.83% (4% x 0.707107) and the adjusted supervisory haircut on the security provided as collateral is 4.24% (6% x 0.707107). Bank's credit exposure is: ($102 – $101) + ($101 x 2.83%) + ($102 x 4.24%) = **$8.18**

Exemption for Intraday Credit Exposures

Like the interim final rule, the OCC's final rule exempts from the lending limits intraday credit exposures arising from a derivative or securities financing transaction. According to the OCC, this exemption is intended to minimize the impact of lending limits on the payment and settlement of financial transactions.

Nonconforming Loans and Extensions of Credit

The final rule provides that a credit exposure arising from a derivative or securities financing transaction that is measured using the Model Method, the Current Exposure Method or the Collateral Haircut Approach will not be deemed a violation of the lending limits and will be treated as "nonconforming" if the transaction was within the bank's lending limit at execution but is no longer in conformity because the exposure has increased since execution.[33] Under the lending limits regulations, a bank must use reasonable efforts to bring this type of nonconforming transaction into conformity with its lending limit unless doing so would be inconsistent with safe and sound banking practices.[34]

Implications for Other Dodd-Frank Rules

Section 610 is one of several provisions in the Dodd-Frank Act that requires banks to take into account credit exposure arising from derivatives and securities financing transactions in calculating prudential limits.[35]

It remains to be seen whether the Federal Reserve Board will propose similar methods for purposes of implementing the Dodd-Frank Act's amendments to Section 23A of the Federal Reserve Act, which became effective on July 21, 2012. Among other things, the Dodd-Frank Act expanded the definition of "covered transaction" in Section 23A to include derivative and securities lending or borrowing transactions with an affiliate, to the extent they give rise to credit exposure to the affiliate.

Similarly, it is unclear to what extent the methods used in the OCC's lending limits final rule may also be reflected in the Federal Reserve's final Dodd-Frank single counterparty credit limits for large U.S. bank holding companies, large foreign banking organizations and nonbank financial companies that are designated as systemically important by the U.S. Financial Stability Oversight Council ("**nonbank SIFIs**").

Davis Polk's memorandum on the Federal Reserve's proposed enhanced prudential standards (including single counterparty credit limits) for large U.S. bank holding companies and U.S. nonbank SIFIs is available here. Davis Polk's visual memorandum on the Federal Reserve's proposed enhanced prudential standards (including single counterparty credit limits) for large foreign banking organizations and foreign nonbank SIFIs is available here.

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[33] It is not necessary to include the Conversion Factor Matrix Method for derivatives or the Basic Method for securities financing transactions in this treatment because the measured credit exposure of a transaction for lending limits purposes remains fixed under these methods.

[34] 12 C.F.R. § 32.6(b).

[35] *See, e.g.*, Dodd-Frank Act § 165(e) (single counterparty credit limits for large U.S. bank holding companies, large foreign banking organizations and nonbank financial companies that are designated as systemically important by the U.S. Financial Stability Oversight Council); § 608 (amending Section 23A of the Federal Reserve Act, which imposes quantitative and qualitative restrictions on a bank's transactions with its affiliates); § 611 (providing that an insured state-chartered bank may engage in derivative transactions only if "the law with respect to lending limits of the state in which the insured state bank is chartered takes into consideration credit exposure to derivative transactions."); § 614 (amending Section 22(h) of the Federal Reserve Act, which imposes restrictions on a bank's extensions of credit to insiders).

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If you have any questions regarding the matters covered in this publication, please contact any of the lawyers listed below or your regular Davis Polk contact.

Luigi L. De Ghenghi	212 450 4296	luigi.deghenghi@davispolk.com
Randall D. Guynn	212 450 4239	randall.guynn@davispolk.com
Lena V. Kiely	212 450 4619	lena.kiely@davispolk.com
Cristina Victoria Regojo	202 962 7067	cristina.regojo@davispolk.com
Reena Agrawal Sahni	212 450 4801	reena.sahni@davispolk.com
Margaret E. Tahyar	212 450 4379	margaret.tahyar@davispolk.com
Andrew S. Fei	212 450 4063	andrew.fei@davispolk.com