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# Part II

## Department of the Treasury

**Office of the Comptroller of the Currency**

**Office of Thrift Supervision**

**12 CFR Part 3 and 566**

## Federal Reserve System

**12 CFR Parts 208 and 225**

## Federal Deposit Insurance Corporation

**12 CFR Part 325**

**Risk-Based Capital Standards: Advanced Capital Adequacy Framework and Market Risk; Proposed Rules and Notices**

**DEPARTMENT OF THE TREASURY**

**Office of the Comptroller of the Currency**

**12 CFR Part 3**

**[Docket No. 06–09]**

**RIN 1557–AC91**

**FEDERAL RESERVE SYSTEM**

**12 CFR Parts 208 and 225**

**[Regulations H and Y; Docket No. R–1261]**

**FEDERAL DEPOSIT INSURANCE CORPORATION**

**12 CFR Part 325**

**RIN 3064–AC73**

**DEPARTMENT OF THE TREASURY**

**Office of Thrift Supervision**

**12 CFR Part 566**

**RIN 1550–AB56**

## Risk-Based Capital Standards: Advanced Capital Adequacy Framework

**AGENCIES:** Office of the Comptroller of the Currency, Treasury; Board of Governors of the Federal Reserve System; Federal Deposit Insurance Corporation; and Office of Thrift Supervision, Treasury.

**ACTION:** Joint notice of proposed rulemaking.

**SUMMARY:** The Office of the Comptroller of the Currency (OCC), the Board of Governors of the Federal Reserve System (Board), the Federal Deposit Insurance Corporation (FDIC), and the Office of Thrift Supervision (OTS) (collectively, the agencies) are proposing a new risk-based capital adequacy framework that would require some and permit other qualifying banks [1] to use an internal ratings-based approach to calculate regulatory credit risk capital requirements and advanced measurement approaches to calculate regulatory operational risk capital requirements. The proposed rule describes the qualifying criteria for banks required or seeking to operate under the proposed framework and the applicable risk-based capital requirements for banks that operate under the framework.

**DATES:** Comments must be received on or before January 23, 2007.

**ADDRESSES:** Comments should be directed to:

*OCC:* You should include OCC and Docket Number 06–09 in your comment. You may submit comments by any of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *OCC Web Site: http://www.occ.treas.gov.* Click on ''Contact the OCC,'' scroll down and click on ''Comments on Proposed Regulations.''
- *E-mail address: regs.comments@occ.treas.gov.*
- *Fax:* (202) 874–4448.
- *Mail:* Office of the Comptroller of the Currency, 250 E Street, SW., Mail Stop 1–5, Washington, DC 20219.
- *Hand Delivery/Courier:* 250 E Street, SW., *Attn:* Public Information Room, Mail Stop 1–5, Washington, DC 20219.

*Instructions:* All submissions received must include the agency name (OCC) and docket number or Regulatory Information Number (RIN) for this notice of proposed rulemaking. In general, OCC will enter all comments received into the docket without change, including any business or personal information that you provide. You may review comments and other related materials by any of the following methods:

- *Viewing Comments Personally:* You may personally inspect and photocopy comments at the OCC's Public Information Room, 250 E Street, SW., Washington, DC. You can make an appointment to inspect comments by calling (202) 874–5043.

*Board:* You may submit comments, identified by Docket No. R–1261, by any of the following methods:

- *Agency Web Site: http://www.federalreserve.gov.* Follow the instructions for submitting comments at *http://www.federalreserve.gov/generalinfo/foia/ProposedRegs.cfm.*
- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *E-mail: regs.comments@federalreserve.gov.* Include docket number in the subject line of the message.
- *FAX:* 202/452–3819 or 202/452–3102.
- *Mail:* Jennifer J. Johnson, Secretary, Board of Governors of the Federal Reserve System, 20th Street and Constitution Avenue, NW., Washington, DC 20551.

All public comments are available from the Board's Web site at *www.federalreserve.gov/generalinfo/foia/ProposedRegs.cfm* as submitted, unless modified for technical reasons. Accordingly, your comments will not be edited to remove any identifying or contact information. Public comments may also be viewed electronically or in paper in Room MP–500 of the Board's Martin Building (20th and C Streets, NW.) between 9 a.m. and 5 p.m. on weekdays.

*FDIC:* You may submit comments, identified by RIN number, by any of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *Agency Web Site: http://www.fdic.gov/regulations/laws/federal/propose.html.*
- *Mail:* Robert E. Feldman, Executive Secretary, Attention: Comments, Federal Deposit Insurance Corporation, 550 17th Street, NW., Washington, DC 20429.
- *Hand Delivery/Courier:* Guard station at rear of the 550 17th Street Building (located on F Street) on business days between 7 a.m. and 5 p.m.
- *E-mail: Comments@FDIC.gov.*
- *Public Inspection:* Comments may be inspected at the FDIC Public Information Center, Room E–1002, 3502 Fairfax Drive, Arlington, VA 22226, between 9 a.m. and 5 p.m. on business days.

*Instructions:* Submissions received must include the agency name and RIN for this rulemaking. Comments received will be posted without change to *http://www.fdic.gov/regulations/laws/federal/propose.html* including any personal information provided.

*OTS:* You may submit comments, identified by No. 2006–33, by any of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *E-mail address: regs.comments@ots.treas.gov.* Please include No. 2006–33 in the subject line of the message and include your name and telephone number in the message.
- *Fax:* (202) 906–6518.
- *Mail:* Regulation Comments, Chief Counsel's Office, Office of Thrift Supervision, 1700 G Street, NW., Washington, DC 20552, Attention: No. 2006–33.
- *Hand Delivery/Courier:* Guard's Desk, East Lobby Entrance, 1700 G Street, NW., from 9 a.m. to 4 p.m. on business days, *Attention:* Regulation Comments, Chief Counsel's Office, *Attention:* No. 2006–33.

*Instructions:* All submissions received must include the agency name and

[1] For simplicity, and unless otherwise indicated, this notice of proposed rulemaking (NPR) uses the term ''bank'' to include banks, savings associations, and bank holding companies (BHCs). The terms ''bank holding company'' and ''BHS'' refer only to bank holding companies regulated by the board and do not include savings and loan holding companies regulated by the OTS.

docket number or Regulatory Information Number (RIN) for this rulemaking. All comments received will be posted without change to the OTS Internet Site at *http://www.ots.treas.gov/pagehtml.cfm?catNumber=67&an=1,* including any personal information provided.

*Docket:* For access to the docket to read background documents or comments received, go to *http://www.ots.treas.gov/pagehtml.cfm?catNumber=67&an=1.*

In addition, you may inspect comments at the Public Reading Room, 1700 G Street, NW., by appointment. To make an appointment for access, call (202) 906–5922, send an e-mail to *public.info@ots.treas.gov,* or send a facsimile transmission to (202) 906–7755. (Prior notice identifying the materials you will be requesting will assist us in serving you.) We schedule appointments on business days between 10 a.m. and 4 p.m. In most cases, appointments will be available the next business day following the date we receive a request.

**FOR FURTHER INFORMATION CONTACT:**

*OCC:* Roger Tufts, Senior Economic Advisor, Capital Policy (202–874–4925) or Ron Shimabukuro, Special Counsel, Legislative and Regulatory Activities Division (202–874–5090). Office of the Comptroller of the Currency, 250 E Street, SW., Washington, DC 20219.

*Board:* Barbara Bouchard, Deputy Associate Director (202–452–3072 or *barbara.bouchard@frb.gov*) or Anna Lee Hewko, Senior Supervisory Financial Analyst (202–530–6260 or *anna.hewko@frb.gov*), Division of Banking Supervision and Regulation; or Mark E. Van Der Weide, Senior Counsel (202–452–2263 or *mark.vanderweide@frb.gov*), Legal Division. For users of Telecommunications Device for the Deaf (''TDD'') only, contact 202–263–4869.

*FDIC:* Jason C. Cave, Associate Director, Capital Markets Branch, (202) 898–3548, Bobby R. Bean, Senior Quantitative Risk Analyst, Capital Markets Branch, (202) 898–3575, Kenton Fox, Senior Capital Markets Specialist, Capital Markets Branch, (202) 898–7119, Division of Supervision and Consumer Protection; or Michael B. Phillips, Counsel, (202) 898–3581, Supervision and Legislation Branch, Legal Division, Federal Deposit Insurance Corporation, 550 17th Street, NW., Washington, DC 20429.

*OTS:* Michael D. Solomon, Director, Capital Policy, Supervision Policy (202) 906–5654; David W. Riley, Senior Analyst, Capital Policy (202) 906–6669; or Karen Osterloh, Special Counsel, Regulations and Legislation Division (202) 906–6639, Office of Thrift Supervision, 1700 G Street, NW., Washington, DC 20552.

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## I. Introduction

### *A. Background*

On August 4, 2003, the agencies issued an advance notice of proposed rulemaking (ANPR) (68 FR 45900) that sought public comment on a new risk-based regulatory capital framework based on the Basel Committee on Banking Supervision (BCBS)[2] April 2003 consultative paper entitled '' New Basel Capital Accord'' (Proposed New Accord). The Proposed New Accord set forth a ''three pillar'' framework encompassing risk-based capital requirements for credit risk, market risk, and operational risk (Pillar 1); supervisory review of capital adequacy (Pillar 2); and market discipline through enhanced public disclosures (Pillar 3). The Proposed New Accord incorporated several methodologies for determining a bank's risk-based capital requirements for credit, market, and operational risk.[3]

The ANPR sought comment on selected regulatory capital approaches contained in the Proposed New Accord that the agencies believe are appropriate for large, internationally active U.S. banks. These approaches include the internal ratings-based (IRB) approach for credit risk and the advanced measurement approaches (AMA) for operational risk (together, the advanced approaches). The IRB framework uses risk parameters determined by a bank's internal systems in the calculation of the bank's credit risk capital requirements. The AMA relies on a bank's internal estimates of its operational risks to generate an operational risk capital requirement for the bank. The ANPR included a number of questions highlighting various issues for the industry's consideration. The agencies received approximately 100 public comments on the ANPR from banks, trade associations, supervisory authorities, and other interested parties. These comments addressed the agencies' specific questions as well as a range of other issues. Commenters generally encouraged further development of the framework, and most supported the overall direction of the ANPR. Commenters did, however, raise a number of conceptual and technical issues that they believed required additional consideration.

Since the issuance of the ANPR, the agencies have worked domestically and with other BCBS member countries to modify the methodologies in the Proposed New Accord to reflect comments received during the international consultation process and the U.S. ANPR comment process. In June 2004, the BCBS issued a document entitled ''International Convergence of Capital Measurement and Capital Standards: A Revised Framework'' (New Accord or Basel II). The New Accord recognizes developments in financial products, incorporates advances in risk measurement and management practices, and assesses capital requirements that are generally more sensitive to risk. It is intended for use by individual countries as the basis for national consultation and implementation. Accordingly, the agencies are issuing this proposed rule to implement the New Accord for banks in the United States.

### *B. Conceptual Overview*

The framework outlined in this proposal (IRB framework) is intended to produce risk-based capital requirements that are more risk-sensitive than the existing risk-based capital rules of the agencies (general risk-based capital rules). The proposed framework seeks to build on improvements to risk assessment approaches that a number of large banks have adopted over the last decade. In particular, the proposed framework requires banks to assign risk parameters to exposures and provides specific risk-based capital formulas that would be used to transform these risk parameters into risk-based capital requirements.

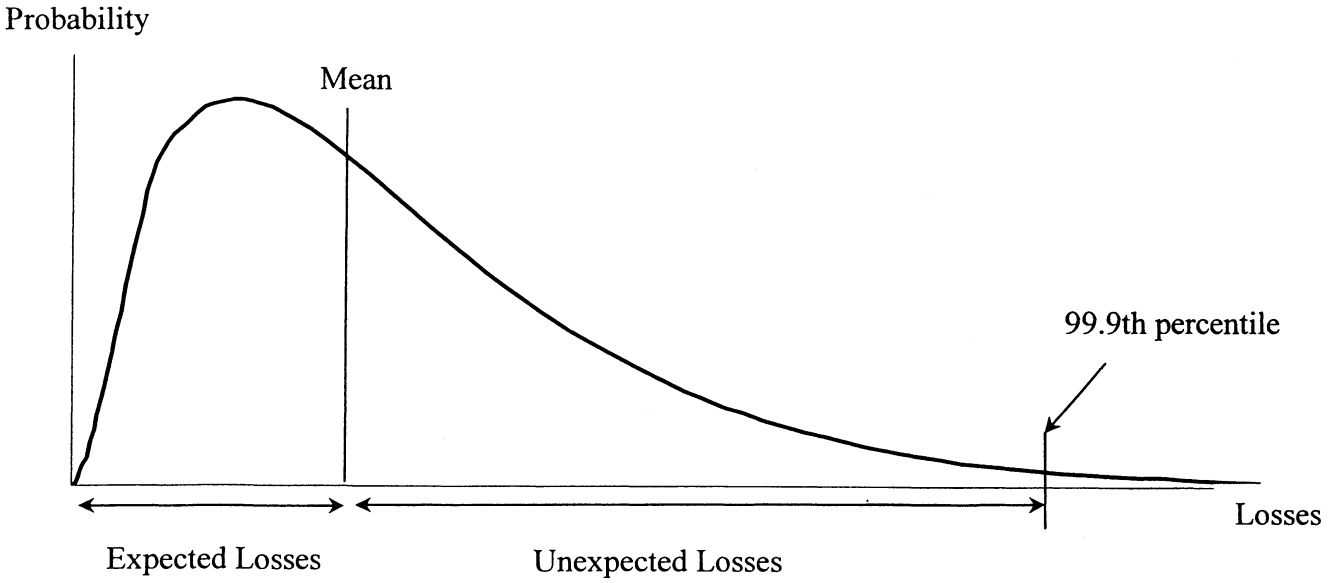
The proposed framework is based on the ''value-at-risk'' (VaR) approach to measuring credit risk and operational risk. VaR modeling techniques for measuring risk have been the subject of economic research and are used by large banks. The proposed framework has benefited significantly from comments on the ANPR, as well as consultations organized in conjunction with the BCBS's development of the New Accord. Because bank risk measurement practices are both continually evolving and subject to model and other errors, the proposed framework should be viewed less as an effort to produce a statistically precise measurement of risk, and more as an effort to improve the risk sensitivity of the risk-based capital requirements for banks.

The proposed framework's conceptual foundation is based on the view that risk can be quantified through the assessment of specific characteristics of the probability distribution of potential losses over a given time horizon. This approach assumes that a suitable estimate of that probability distribution, or at least of the specific characteristics to be measured, can be produced. Figure 1 illustrates some of the key concepts associated with the proposed framework. The figure shows a probability distribution of potential losses associated with some time horizon (for example, one year). It could reflect, for example, credit losses, operational losses, or other types of losses.

[2] The BCBS is a committee of banking supervisory authorities, which was established by the central bank governors of the G–10 countries in 1975. It consists of senior representatives of bank supervisory authorities and central banks from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

[3] The BCBS developed the Proposed New Accord to modernize its first capital Accord, which was endorsed by the G–10 governors in 1988 and implemented by the agencies in the United States in 1989. The BCBS's 1988 Accord is described in a document entitled ''International Convergence of Capital Measurement and Capital Standards.'' This document and other documents issued by the BCBS are available through the Bank for International Settlements Web site at *http://www.bis.org.* The agencies' implementing regulations are available at 12 CFR part 3, Appendices A and B (national banks); 12 CFR part 208, Appendices A and E (state member banks); 12 CFR part 225, Appendixes A and E (bank holding companies); 12 CFR part 325, Appendices A and C (state nonmember banks); and 12 CFR part 567 (savings associations).

Figure 1 – Probability Distribution of Potential Losses




The area under the curve to the right of a particular loss amount is the probability of experiencing losses exceeding this amount within a given time horizon. The figure also shows the statistical mean of the loss distribution, which is equivalent to the amount of loss that is ''expected'' over the time horizon. The concept of ''expected loss'' (EL) is distinguished from that of ''unexpected loss'' (UL), which represents potential losses over and above the expected loss amount. A given level of unexpected loss can be defined by reference to a particular percentile threshold of the probability distribution. In the figure, for example, the 99.9th percentile is shown. Unexpected losses, measured at the 99.9th percentile level, are equal to the value of the loss distribution corresponding to the 99.9th percentile, less the amount of expected losses. This is shown graphically at the bottom of the figure.

The particular percentile level chosen for the measurement of unexpected losses is referred to as the ''confidence level'' or the ''soundness standard'' associated with the measurement. If capital is available to cover losses up to and including this percentile level, then the bank will remain solvent in the face of actual losses of that magnitude. Typically, the choice of confidence level or soundness standard reflects a very high percentile level, so that there is a very low estimated probability that actual losses would exceed the unexpected loss amount associated with that confidence level or soundness standard.

Assessing risk and assigning regulatory capital requirements by reference to a specific percentile of a probability distribution of potential losses is commonly referred to as a VaR approach. Such an approach was adopted by the FDIC, Board, and OCC for assessing a bank's risk-based capital requirements for market risk in 1996 (market risk amendment or MRA). Under the MRA, a bank's own internal models are used to estimate the 99th percentile of the bank's market risk loss distribution over a ten-business-day horizon. The bank's market risk capital requirement is based on this VaR estimate, generally multiplied by a factor of three. The agencies implemented this multiplication factor to provide a prudential buffer for market volatility and modeling error.

1. The IRB Framework for Credit Risk

The conceptual foundation of this proposal's approach to credit risk capital requirements is similar to the MRA's approach to market risk capital requirements, in the sense that each is VaR-oriented. That is, the proposed framework bases minimum credit risk capital requirements largely on estimated statistical measures of credit risk. Nevertheless, there are important differences between this proposal and the MRA. The MRA approach for assessing market risk capital requirements currently employs a nominal confidence level of 99.0 percent and a ten-business-day horizon, but otherwise provides banks with substantial modeling flexibility in determining their market risk loss distribution and capital requirements. In contrast, the IRB framework for assessing credit risk capital requirements is based on a 99.9 percent nominal confidence level, a one-year horizon, and a supervisory model of credit losses embodying particular assumptions about the underlying drivers of portfolio credit risk, including loss correlations among different asset types.[4]

The IRB framework is broadly similar to the credit VaR approaches used by many banks as the basis for their internal assessment of the economic capital necessary to cover credit risk. It is common for a bank's internal credit risk models to consider a one-year loss horizon, and to focus on a high loss threshold confidence level. As with the internal credit VaR models used by banks, the output of the risk-based capital formulas in the IRB framework is an estimate of the amount of credit losses above expected credit losses (ECL) over a one-year horizon that would only be exceeded a small percentage of the time. The agencies believe that a one-year horizon is

[4] The theoretical underpinnings for the supervisory model of credit risk underlying this proposal are provided in Michael Gordy, ''A Risk-Factor Model Foundation for Ratings-Based Bank Capital Rules,'' *Journal of Financial Intermediation,* July 2003. The IRB formulas are derived as an application of these results to a single-factor CreditMetrics-style model. For mathematical details on this model, see Michael Gordy, ''A Comparative Anatomy of Credit Risk Models,'' *Journal of Banking and Finance,* January 2000, or H.U. Koyluogu and A. Hickman, ''Reconcilable Differences,'' *Risk,* October 1998. For a less technical overview of the IRB formulas, see the BCBS's ''An Explanatory Note on the Basel II Risk Weight Functions,'' July 2005 (Explanatory Note). The document can be found on the Bank for International Settlements Web site at *http://www.bis.org.*

appropriate because it balances the fact that banking book positions likely could not be easily or rapidly exited with the possibility that in many cases a bank can cover credit losses by raising additional capital should the underlying credit problems manifest themselves gradually. The nominal confidence level of the IRB risk-based capital formulas (99.9 percent) means that if all the assumptions in the IRB supervisory model for credit risk were correct for a bank, there would be less than a 0.1 percent probability that credit losses at the bank in any year would exceed the IRB risk-based capital requirement.[5]

As noted above, the supervisory model of credit risk underlying the IRB framework embodies specific assumptions about the economic drivers of portfolio credit risk at banks. As with any modeling approach, these assumptions represent simplifications of very complex real-world phenomena and, at best, are only an approximation of the actual credit risks at any bank. To the extent these assumptions (described in greater detail below) do not characterize a given bank precisely, the actual confidence level implied by the IRB risk-based capital formulas may exceed or fall short of the framework's nominal 99.9 percent confidence level.

In combination with other supervisory assumptions and parameters underlying this proposal, the IRB framework's 99.9 percent nominal confidence level reflects a judgmental pooling of available information, including supervisory experience. The framework underlying this proposal reflects a desire on the part of the agencies to achieve (i) *relative* risk-based capital requirements across different assets that are broadly consistent with maintaining at least an investment grade rating (for example, at least BBB) on the liabilities funding those assets, even in periods of economic adversity; and (ii) for the U.S. banking system as a whole, aggregate minimum regulatory capital requirements that are not a material reduction from the aggregate minimum regulatory capital requirements under the general risk-based capital rules.

A number of important explicit generalizing assumptions and specific parameters are built into the IRB framework to make the framework applicable to a range of banks and to obtain tractable information for calculating risk-based capital requirements. Chief among the assumptions embodied in the IRB framework are: (i) Assumptions that a bank's credit portfolio is infinitely granular; (ii) assumptions that loan defaults at a bank are driven by a single, systematic risk factor; (iii) assumptions that systematic and non-systematic risk factors are log-normal random variables; and (iv) assumptions regarding correlations among credit losses on various types of assets.

The specific risk-based capital formulas in this proposed rule require the bank to estimate certain risk parameters for its wholesale and retail exposures, which the bank may do using a variety of techniques. These risk parameters are probability of default (PD), expected loss given default (ELGD), loss given default (LGD), exposure at default (EAD), and, for wholesale exposures, effective remaining maturity (M). The risk-based capital formulas into which the estimated risk parameters are inserted are simpler than the economic capital methodologies typically employed by banks (which often require complex computer simulations). In particular, an important property of the IRB risk-based capital formulas is portfolio invariance. That is, the risk-based capital requirement for a particular exposure generally does not depend on the other exposures held by the bank. Like the general risk-based capital rules, the total credit risk capital requirement for a bank's wholesale and retail exposures is the sum of the credit risk capital requirements on individual wholesale exposures and retail exposures.

The IRB risk-based capital formulas contain supervisory asset value correlation (AVC) factors, which have a significant impact on the capital requirements generated by the formulas. The AVC assigned to a given portfolio of exposures is an estimate of the degree to which any unanticipated changes in the financial conditions of the underlying obligors of the exposures are correlated (that is, would likely move up and down together). High correlation of exposures in a period of economic downturn conditions is an area of supervisory concern. For a portfolio of exposures having the same risk parameters, a larger AVC implies less diversification within the portfolio, greater overall systematic risk, and, hence, a higher risk-based capital requirement.[6] For example, a 15 percent AVC for a portfolio of residential mortgage exposures would result in a lower risk-based capital requirement than a 20 percent AVC and a higher risk-based capital requirement than a 10 percent AVC.

The AVCs that appear in the IRB risk-based capital formulas for wholesale exposures decline with increasing PD; that is, the IRB risk-based capital formulas generally imply that a group of low-PD wholesale exposures are more correlated than a group of high-PD wholesale exposures. Thus, under the proposed rule, a low-PD wholesale exposure would have a higher relative risk-based capital requirement than that implied by its PD were the AVC in the IRB risk-based capital formulas for wholesale exposures fixed rather than a function of PD. This inverse relationship between PD and AVC for wholesale exposures is broadly consistent with empirical research undertaken by G10 supervisors and moderates the sensitivity of IRB risk-based capital requirements for wholesale exposures to the economic cycle. *Question 1: The agencies seek comment on and empirical analysis of the appropriateness of the proposed rule's AVCs for wholesale exposures in general and for various types of wholesale exposures (for example, commercial real estate exposures).*

The AVCs included in the IRB risk-based capital formulas for retail exposures also reflect a combination of supervisory judgment and empirical evidence.[7] However, the historical data available for estimating these correlations was more limited than was the case with wholesale exposures, particularly for non-mortgage retail exposures. As a result, supervisory judgment played a greater role. Moreover, the flat 15 percent AVC for residential mortgage exposures is based largely on empirical analysis of traditional long-term, fixed-rate mortgages. *Question 2: The agencies seek comment on and empirical analysis of the appropriateness and risk sensitivity of the proposed rule's AVC for residential mortgage exposures—not only for long-term, fixed-rate mortgages, but also for adjustable-rate mortgages, home equity lines of credit, and other mortgage products—and for other retail portfolios.*

Another important conceptual element of the IRB framework concerns the treatment of EL. The ANPR generally would have required banks to hold capital against the measured amount of UL plus EL over a one-year horizon, except in the limited instance of credit card exposures where future

[5] Banks' internal economic capital models typically focus on measures of equity capital, whereas the total regulatory capital measure underlying this proposal includes not only equity capital, but also certain debt and hybrid instruments, such as subordinated debt. Thus, the 99.9 percent nominal confidence level embodied in the IRB framework is not directly comparable to the nominal solvency standards underpinning banks' economic capital models.

[6] *See* Explanatory Note.

[7] *See* Explanatory Note, section 5.3.

margin income (FMI) was allowed to offset EL. The ANPR treatment also would have maintained the existing definition of regulatory capital, which includes the allowance for loan and lease losses (ALLL) in tier 2 capital up to a limit equal to 1.25 percent of risk-weighted assets. The ANPR requested comment on the proposed treatment of EL. Many commenters on the ANPR objected to this treatment on conceptual grounds, arguing that capital is not the appropriate mechanism for covering EL. In response to this feedback, the agencies sought and obtained changes to the BCBS's proposals in this area.

The agencies supported the BCBS's proposal, announced in October 2003, to remove ECL (as defined below) from the risk-weighted assets calculation. This NPR, consistent with the New Accord, removes ECL from the risk-weighted assets calculation but requires a bank to compare its ECL to its eligible credit reserves (as defined below). If a bank's ECL exceeds its eligible credit reserves, the bank must deduct the excess ECL amount 50 percent from tier 1 capital and 50 percent from tier 2 capital. If a bank's eligible credit reserves exceed its ECL, the bank would be able to include the excess eligible credit reserves amount in tier 2 capital, up to 0.6 percent of the bank's credit risk-weighted assets. This treatment is intended to maintain a capital incentive to reserve prudently and seeks to ensure that ECL over a one-year horizon is covered either by reserves or capital. This treatment also recognizes that prudent reserving that considers probable losses over the life of a loan may result in a bank holding reserves in excess of ECL measured with a one-year horizon. The BCBS calibrated the proposed 0.6 percent limit on inclusion of excess reserves in tier 2 capital to be approximately as restrictive as the existing cap on the inclusion of ALLL under the general risk-based capital rules, based on data obtained in the BCBS's Third Quantitative Impact Study (QIS–3).[8] *Question 3: The agencies seek comment and supporting data on the appropriateness of this limit.*

The agencies are aware that certain banks believe that FMI should be eligible to cover ECL for the purposes of such a calculation, while other banks have asserted that, for certain business lines, prudential reserving practices do not involve setting reserves at levels consistent with ECL over a horizon as long as one year. The agencies nevertheless believe that the proposed approach is appropriate because banks should receive risk-based capital benefits only for the most highly reliable ECL offsets.

The combined impact of these changes in the treatment of ECL and reserves will depend on the reserving practices of individual banks. Nevertheless, if other factors are equal, the removal of ECL from the calculation of risk-weighted assets will result in a lower amount of risk-weighted assets than the proposals in the ANPR. However, the impact on risk-based capital ratios should be partially offset by related changes to the numerators of the risk-based capital ratios—specifically, (i) the ALLL will be allowed in tier 2 capital up to certain limits only to the extent that it and certain other reserves exceed ECL, and (ii) if ECL exceeds reserves, the reserve shortfall must be deducted 50 percent from tier 1 capital and 50 percent from tier 2 capital.

Using data from QIS–3, the BCBS conducted an analysis of the risk-based capital requirements that would be generated under the New Accord, taking into account the aggregate effect of ECL-related changes to both the numerator and the denominator of the risk-based capital ratios. The BCBS concluded that to offset these changes relative to the credit risk-based capital requirements of the Proposed New Accord, it might be necessary under the New Accord to apply a ''scaling factor'' (multiplier) to credit risk-weighted assets. The BCBS, in the New Accord, indicated that the best estimate of the scaling factor using QIS–3 data adjusted for the EL–UL decisions was 1.06. The BCBS noted that a final determination of any scaling factor would be reconsidered prior to full implementation of the new framework. The agencies are proposing a multiplier of 1.06 at this time, consistent with the New Accord.

The agencies note that a 1.06 multiplier should be viewed as a placeholder. The BCBS is expected to revisit the determination of a scaling factor based on the results of the latest international QIS (QIS–5, which was not conducted in the United States).[9] The agencies will consider the BCBS's determination, as well as other factors including the most recent QIS conducted in the United States (QIS–4, which is described below),[10] in determining a multiplier for the final rule. As the agencies gain more experience with the proposed advanced approaches, the agencies will revisit the scaling factor along with other calibration issues identified during the parallel run and transitional floor periods (described below) and make changes to the rule as necessary. While a scaling factor is one way to ensure that regulatory capital is maintained at a certain level, particularly in the short- to medium-term, the agencies also may address calibration issues through modifications to the underlying IRB risk-based capital formulas.

2. The AMA for Operational Risk

The proposed rule also includes the AMA for determining risk-based capital requirements for operational risk. Under the proposed rule, operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events. This definition of operational risk includes legal risk—which is the risk of loss (including litigation costs, settlements, and regulatory fines) resulting from the failure of the bank to comply with laws, regulations, prudent ethical standards, and contractual obligations in any aspect of the bank's business—but excludes strategic and reputational risks.

Under the AMA, a bank would use its internal operational risk management systems and processes to assess its exposure to operational risk. Given the complexities involved in measuring operational risk, the AMA provides banks with substantial flexibility and, therefore, does not require a bank to use specific methodologies or distributional assumptions. Nevertheless, a bank using the AMA must demonstrate to the satisfaction of its primary Federal supervisor that its systems for managing and measuring operational risk meet established standards, including producing an estimate of operational risk exposure that meets a 1-year, 99.9th percentile soundness standard. A bank's estimate of operational risk exposure includes both expected operational loss (EOL) and unexpected operational loss (UOL) and forms the basis of the bank's risk-based capital requirement for operational risk.

The AMA allows a bank to base its risk-based capital requirement for operational risk on UOL alone if the bank can demonstrate to the satisfaction of its primary Federal supervisor that the bank has eligible operational risk offsets, such as certain operational risk reserves, that equal or exceed the bank's EOL. To the extent that eligible operational risk offsets are less than EOL, the bank's risk-based capital requirement for operational risk must incorporate the shortfall.

[8] BCBS, ''QIS 3: Third Quantitative Impact Study,'' May 2003.

[9] *See http://www.bis.org/bcbs/qis/qis5.htm.*

[10] *See* ''Summary Findings of the Fourth Quantitative Impact Study,'' February 24, 2006.

*C. Overview of Proposed Rule*

The proposed rule maintains the general risk-based capital rules' minimum tier 1 risk-based capital ratio of 4.0 percent and total risk-based capital ratio of 8.0 percent. The components of tier 1 and total capital are also generally the same, with a few adjustments described in more detail below. The primary difference between the general risk-based capital rules and the proposed rule is the methodologies used for calculating risk-weighted assets. Banks applying the proposed rule generally would use their internal risk measurement systems to calculate the inputs for determining the risk-weighted asset amounts for (i) general credit risk (including wholesale and retail exposures); (ii) securitization exposures; (iii) equity exposures; and (iv) operational risk. In certain cases, however, external ratings or supervisory risk weights would be used to determine risk-weighted asset amounts. Each of these areas is discussed below.

Banks using the proposed rule also would be subject to supervisory review of their capital adequacy (Pillar 2) and certain public disclosure requirements to foster transparency and market discipline (Pillar 3). In addition, each bank using the advanced approaches would continue to be subject to the tier 1 leverage ratio requirement, and each depository institution (DI) (as defined in section 3 of the Federal Deposit Insurance Act (12 U.S.C. 1813)) using the advanced approaches would continue to be subject to the prompt corrective action (PCA) thresholds. Those banks subject to the MRA also would continue to be subject to the MRA.

Under the proposed rule, a bank must identify whether each of its on- and off-balance sheet exposures is a wholesale, retail, securitization, or equity exposure. Assets that are not defined by any exposure category (and certain immaterial portfolios of exposures) generally would be assigned risk-weighted asset amounts equal to their carrying value (for on-balance sheet exposures) or notional amount (for off-balance sheet exposures).

Wholesale exposures under the proposed rule include most credit exposures to companies and governmental entities. For each wholesale exposure, a bank would assign five quantitative risk parameters: PD (which is stated as a percentage and measures the likelihood that an obligor will default over a 1-year horizon); ELGD (which is stated as a percentage and is an estimate of the economic loss rate if a default occurs); LGD (which is stated as a percentage and is an estimate of the economic loss rate if a default occurs during economic downturn conditions); EAD (which is measured in dollars and is an estimate of the amount that would be owed to the bank at the time of default); and M (which is measured in years and reflects the effective remaining maturity of the exposure). Banks would be able to factor into their risk parameter estimates the risk mitigating impact of collateral, credit derivatives, and guarantees that meet certain criteria. Banks would input the risk parameters for each wholesale exposure into an IRB risk-based capital formula to determine the risk-based capital requirement for the exposure.

Retail exposures under the proposed rule include most credit exposures to individuals and small businesses that are managed as part of a segment of exposures with similar risk characteristics, not on an individual-exposure basis. A bank would classify each of its retail exposures into one of three retail subcategories—residential mortgage exposures, qualifying revolving exposures (QREs) (for example, credit cards and overdraft lines), and other retail exposures. Within these three subcategories, the bank would group exposures into segments with similar risk characteristics. The bank would then assign the risk parameters PD, ELGD, LGD, and EAD to each retail segment. The bank would be able to take into account the risk mitigating impact of collateral and guarantees in the segmentation process and in the assignment of risk parameters to retail segments. Like wholesale exposures, the risk parameters for each retail segment would be used as inputs into an IRB risk-based capital formula to determine the risk-based capital requirement for the segment. *Question 4: The agencies seek comment on the use of a segment-based approach rather than an exposure-by-exposure approach for retail exposures.*

For securitization exposures, the bank would apply one of three general approaches, subject to various conditions and qualifying criteria: the Ratings-Based Approach (RBA), which uses external ratings to risk-weight exposures; an Internal Assessment Approach (IAA), which uses internal ratings to risk-weight exposures to asset-backed commercial paper programs (ABCP programs); or the Supervisory Formula Approach (SFA). Securitization exposures in the form of gain-on-sale or credit-enhancing interest-only strips (CEIOs)[11] and securitization exposures that do not qualify for the RBA, the IAA, or the SFA would be deducted from regulatory capital.

Banks would be able to use an internal models approach (IMA) for determining risk-based capital requirements for equity exposures, subject to certain qualifying criteria and floors. If a bank does not have a qualifying internal model for equity exposures, or chooses not to use such a model, the bank must apply a simple risk weight approach (SRWA) in which publicly traded equity exposures would have a 300 percent risk weight and non-publicly traded equity exposures would have a 400 percent risk weight. Under both the IMA and the SRWA, equity exposures to certain entities or made pursuant to certain statutory authorities would be subject to a 0 to 100 percent risk weight.

Banks would have to develop qualifying AMA systems to determine risk-based capital requirements for operational risk. Under the AMA, a bank would use its own methodology to identify operational loss events, measure its exposure to operational risk, and assess a risk-based capital requirement for operational risk.

Under the proposed rule, a bank would calculate its risk-based capital ratios by first converting any dollar risk-based capital requirements for exposures produced by the IRB risk-based capital formulas into risk-weighted asset amounts by multiplying the capital requirements by 12.5 (the inverse of the overall 8.0 percent risk-based capital requirement). After determining the risk-weighted asset amounts for credit risk and operational risk, a bank would sum these amounts and then subtract any allocated transfer risk reserves and excess eligible credit reserves not included in tier 2 capital (defined below) to determine total risk-weighted assets. The bank would then calculate its risk-based capital ratios by dividing its tier 1 capital and total qualifying capital by the total risk-weighted assets amount.

The proposed rule contains specific public disclosure requirements to provide important information to market participants on the capital structure, risk exposures, risk assessment processes, and, hence, the

[11] A CEIO is an on-balance-sheet asset that (i) represents the contractual right to receive some or all of the interest and no more than a minimal amount of principal due on the underlying exposures of a securitization and (ii) exposes the holder to credit risk directly or indirectly associated with the underlying exposures that exceeds its pro rata claim on the underlying exposures whether through subordination provisions or other credit-enhancement techniques.

capital adequacy of a bank. The public disclosure requirements would apply only to the DI or bank holding company representing the top consolidated level of the banking group that is subject to the advanced approaches. In addition, the agencies are also publishing today proposals to require certain disclosures from subsidiary DIs in the banking group through the supervisory reporting process. The agencies believe that the reporting of key risk parameter estimates for each DI applying the advanced approaches will provide the primary Federal supervisor of the DI and other relevant supervisors with important data for assessing the reasonableness and accuracy of the institution's calculation of its risk-based capital requirements under this proposal and the adequacy of the institution's capital in relation to its risks. Some of the proposed supervisory reports would be publicly available (for example, on the Call Report or Thrift Financial Report), and others would be confidential disclosures to the agencies to augment the supervisory process.

*D. Structure of Proposed Rule*

The agencies are considering implementing a comprehensive regulatory framework for the advanced approaches in which each agency would have an advanced approaches regulation or appendix that sets forth (i) the elements of tier 1 and tier 2 capital and associated adjustments to the risk-based capital ratio numerator, (ii) the qualification requirements for using the advanced approaches, and (iii) the details of the advanced approaches. For proposal purposes, the agencies are issuing a single proposed regulatory text for comment. Unless otherwise indicated, the term ''bank'' in the regulatory text includes banks, savings associations, and bank holding companies (BHCs). The term ''[AGENCY]'' in the regulatory text refers to the primary Federal supervisor of the bank applying the rule. Areas where the regulatory text would differ by agency—for example, provisions that would only apply to savings associations or to BHCs—are generally indicated in appropriate places.

In this proposed rule, the agencies are not restating the elements of tier 1 and tier 2 capital, which would generally remain the same as under the general risk-based capital rules. Adjustments to the risk-based capital ratio numerators specific to banks applying the advanced approaches are in part II of the proposed rule and explained in greater detail in section IV of this preamble. The OCC, Board, and FDIC also are proposing to incorporate their existing market risk rules by cross-reference and are proposing modifications to the market risk rules in a separate NPR issued concurrently.[12] The OTS is proposing its own market risk rule, including the proposed modifications, as a part of that separate NPR. In addition, the agencies may need to make additional conforming amendments to certain of their regulations that use tier 1 or total qualifying capital or the risk-based capital ratios for various purposes.

The proposed rule is structured in eight broad parts. Part I identifies criteria for determining which banks are subject to the rule, provides key definitions, and sets forth the minimum risk-based capital ratios. Part II describes the adjustments to the numerator of the risk-based capital ratios for banks using the advanced approaches. Part III describes the qualification process and provides qualification requirements for obtaining supervisory approval for use of the advanced approaches. This part incorporates critical elements of supervisory oversight of capital adequacy (Pillar 2).

Parts IV through VII address the calculation of risk-weighted assets. Part IV provides the risk-weighted assets calculation methodologies for wholesale and retail exposures; on-balance-sheet assets that do not meet the regulatory definition of a wholesale, retail, securitization, or equity exposure; and certain immaterial portfolios of credit exposures. This part also describes the risk-based capital treatment for over-the-counter (OTC) derivative contracts, repo-style transactions, and eligible margin loans. In addition, this part describes the methodology for reflecting eligible credit risk mitigation techniques in risk-weighted assets for wholesale and retail exposures. Furthermore, this part sets forth the risk-based capital requirements for failed and unsettled securities, commodities, and foreign exchange transactions.

Part V identifies operating criteria for recognizing risk transference in the securitization context and outlines the approaches for calculating risk-weighted assets for securitization exposures. Part VI describes the approaches for calculating risk-weighted assets for equity exposures. Part VII describes the calculation of risk-weighted assets for operational risk. Finally, Part VIII provides public disclosure requirements for banks employing the advanced approaches (Pillar 3).

The structure of the preamble generally follows the structure of the proposed regulatory text. Definitions, however, are discussed in the portions of the preamble where they are most relevant.

*E. Quantitative Impact Study 4 and Overall Capital Objectives*

1. Quantitative Impact Study 4

After the BCBS published the New Accord, the agencies conducted the additional quantitative impact study referenced above, QIS–4, in the fall and winter of 2004–2005, to better understand the potential impact of the proposed framework on the risk-based capital requirements for individual U.S. banks and U.S. banks as a whole. The results showed a substantial dollar-weighted average decline and variation in risk-based capital requirements across the 26 participating U.S. banks and their portfolios.[13] In an April 2005 press release,[14] the agencies expressed their concern about the magnitude of the drop in QIS–4 risk-based capital requirements and the dispersion of those requirements and decided to undertake further analysis.

The QIS–4 analysis indicated a dollar-weighted average reduction of 15.5 percent in risk-based capital requirements at participating banks when moving from the current Basel I-based framework to a Basel II-based framework.[15] Table A provides a numerical summary of the QIS–4 results, in total and by portfolio, aggregated across all QIS–4 participants.[16] The first column shows

[12] See elsewhere in today's issue of the **Federal Register**.

[13] Since neither an NPR and associated supervisory guidance nor final regulations implementing a Basel II-based framework had been issued in the United States at the time of data collection, all QIS–4 results relating to the U.S. implementation of Basel II are based on the description of the framework contained in the QIS–4 instructions. These instructions differed from the framework issued by the BCBS in June 2004 in several respects. For example, the QIS–4 articulation of the Basel II framework does not include the 1.06 scaling factor. The QIS–4 instructions are available at *http://www.ffiec.gov/qis4*.

[14] *See* ''Banking Agencies to Perform Additional Analysis Before Issuing Notice of Proposed Rulemaking Related to Basel II,'' Apr. 29, 2005.

[15] The Basel II framework on which QIS–4 is based uses a UL-only approach (even though EL requirements were included in QIS–4). But the current Basel I risk-based capital requirements use a UL+EL approach. Therefore, in order to compare the Basel II results from QIS–4 with the current Basel I requirements, the EL requirements from QIS–4 had to be added to the UL capital requirements from QIS–4.

[16] In the table, ''Minimum required capital'' (MRC) refers to the total risk-based capital requirement before incorporating the impact of reserves. ''Effective MRC'' is equal to MRC adjusted for the impact of reserves. As noted above, under the Basel II framework, a shortfall in reserves generally increases the total risk-based capital requirement and a surplus in reserves generally

Continued

changes in dollar-weighted average minimum required capital (MRC) both by portfolio and overall, as well as in dollar-weighted average overall effective MRC. Column 2 shows the relative contribution of each portfolio to the overall dollar-weighted average decline of 12.5 percent in MRC, representing both the increase/decrease and relative size of each portfolio. The table also shows (column 3) that risk-based capital requirements declined by more than 26 percent in half the banks in the study. Most portfolios showed double-digit declines in risk-based capital requirements for over half the banks, with the exception of credit cards. It should be noted that column 3 gives every participating bank equal weight. Column 4 shows the analogous weighted median change, using total exposures as weights.

## Table A — QIS-4 Results

**QIS-4 Results: Changes in Minimum Required Capital**

| Portfolio | Column 1: % Change in Portfolio MRC | Column 2: % Point Contrib. to MRC Change | Column 3: Median % Change in Port. MRC | Column 4: Weighted Median % Chg in Port. MRC | Column 5: Share of Basel I MRC | Column 6: Share of Basel II MRC* |
|---|---|---|---|---|---|---|
| **Wholesale Credit** | **(24.6%)** | **(10.9%)** | **(24.5%)** | **(21.6%)** | **44.3%** | **38.2%** |
| Corporate, Bank, Sovereign | (21.9%) | (7.4%) | (29.7%) | (13.5%) | 33.9% | 30.3% |
| Small Business | (26.6%) | (1.2%) | (27.1%) | (24.8%) | 4.6% | 3.9% |
| High Volatility CRE | (33.4%) | (0.6%) | (23.2%) | (42.4%) | 1.8% | 1.3% |
| Income Producing RE | (41.4%) | (1.7%) | (52.5%) | (52.4%) | 4.0% | 2.7% |
| **Retail Credit** | **(25.6%)** | **(7.8%)** | **(49.8%)** | **(28.7%)** | **30.6%** | **26.0%** |
| Home Equity (HELOC) | (74.3%) | (4.6%) | (78.6%) | (76.8%) | 6.1% | 1.8% |
| Residential Mortgage | (61.4%) | (6.8%) | (72.7%) | (64.4%) | 11.1% | 4.9% |
| Credit Card (QRE) | 66.0% | 4.0% | 62.8% | 72.2% | 6.1% | 11.6% |
| Other Consumer | (6.5%) | (0.4%) | (35.2%) | (18.3%) | 6.0% | 6.4% |
| Retail Business Exposures | (5.8%) | (0.1%) | (29.2%) | 11.6% | 1.2% | 1.3% |
| Equity | 6.6% | 0.1% | (24.4%) | 9.6% | 1.3% | 1.6% |
| Other assets | (11.7%) | (1.2%) | (3.2%) | (11.6%) | 10.0% | 10.1% |
| Securitization | (17.9%) | (1.4%) | (39.7%) | (45.8%) | 8.1% | 7.6% |
| **Operational Risk** | | **9.2%** | | | **0.0%** | **10.5%** |
| Trading Book | 0.0% | 0.0% | 0.0% | | 5.2% | 5.9% |
| **Change in MRC** | **(12.5%)** | **(12.5%)** | **(23.8%)** | **(17.1%)** | **100.0%** | **100.0%** |
| **Change in Effective MRC** | **(15.5%)** | | **(26.3%)** | **(21.7%)** | | |

* QIS-4 interpretation of Basel II framework as articulated in QIS-4 instructions

Notes to the table: The first two columns of the table show the *dollar-weighted* average percentage change in MRC by portfolio and the percentage point contribution of each portfolio to the overall average percentage change (of 12.5%). The third column shows the *unweighted* median percentage change in MRC by portfolio. The fourth column shows the *weighted* median percentage change in MRC by portfolio, weighting by total exposures at the portfolio level. The next two columns show the share each portfolio contributes to MRC, under the current framework (column 5) and the QIS-4 interpretation of Basel II as defined in the QIS-4 instructions (column 6). Entries in parentheses denote negative numbers. There are no percentage change numbers for operational risk because it is not separated out as a specific risk-based capital requirement under Basel I.

QIS–4 results (not shown in Table A) also suggested that tier 1 risk-based capital requirements under a Basel II-based framework would be lower for many banks than they are under the general risk-based capital rules, in part reflecting the move to a UL-only risk-based capital requirement. Tier 1 risk-based capital requirements declined by 22 percent in the aggregate. The unweighted median indicates that half of the participating banks reported reductions in tier 1 risk-based capital requirements of over 31 percent. The MRC calculations do not take into account the impact of the tier 1 leverage ratio requirement. Were such results produced under a fully implemented Basel II-based risk-based capital regime, the existing tier 1 leverage ratio requirement could be a more important constraint than it is currently.

Evidence from some of the follow-up analysis also illustrated that similar loan products at different banks may have resulted in very different risk-based capital requirements. Analysis

reduces the total risk-based capital requirement, though not with equal impact.

determined that this dispersion in capital requirements not only reflected differences in actual risk or portfolio composition, but also reflected differences in the banks' estimated risk parameters for similar exposures.

Although concerns with dispersion might be remedied to some degree with refinements to internal bank risk measurement and management systems and through the rulemaking process, the agencies also note that some of the dispersion encountered in the QIS–4 exercise is a reflection of the flexibility in methods to quantify the risk parameters that may be allowed under implementation of the proposed framework.

The agencies intend to conduct other analyses of the impact of the Basel II framework during both the parallel run and transitional floor periods. These analyses will look at both the impact of the Basel II framework and the preparedness of banks to compute risk-based capital requirements in a manner consistent with the Basel II framework.

2. Overall Capital Objectives

The ANPR stated: ''The Agencies do not expect the implementation of the New Accord to result in a significant decrease in aggregate capital requirements for the U.S. banking system. Individual banking organizations may, however, face increases or decreases in their minimum risk-based capital requirements because the New Accord is more risk sensitive than the 1988 Accord and the Agencies' existing risk-based capital rules (general risk-based capital rules).'' [17] The ANPR was in this respect consistent with statements made by the BCBS in its series of Basel II consultative papers and its final text of the New Accord, in which the BCBS stated as an objective broad maintenance of the overall level of risk-based capital requirements while allowing some incentives for banks to adopt the advanced approaches.

The agencies remain committed to these objectives. Were the QIS–4 results just described produced under an up-and-running risk-based capital regime, the risk-based capital requirements generated under the framework would not meet the objectives described in the ANPR, and thus would be considered unacceptable.

When considering QIS–4 results and their implications, it is important to recognize that banking organizations participated in QIS–4 on a best-efforts basis. The agencies had not qualified any of the participants to use the Basel II framework and had not conducted any formal supervisory review of their progress toward meeting the Basel II qualification requirements. In addition, the risk measurement and management systems of the QIS–4 participants, as indicated by the QIS–4 exercise, did not yet meet the Basel II qualification requirements outlined in this proposed rule.

As banks work with their supervisors to refine their risk measurement and management systems, it will become easier to determine the actual quantitative impact of the advanced approaches. The agencies have decided, therefore, not to recalibrate the framework at the present time based on QIS–4 results, but to await further experience with more fully developed bank risk measurement and management systems.

If there is a material reduction in aggregate minimum regulatory capital requirements upon implementation of Basel II-based rules, the agencies will propose regulatory changes or adjustments during the transitional floor periods. In this context, materiality will depend on a number of factors, including the size, source, and nature of any reduction; the risk profiles of banks authorized to use Basel II-based rules; and other considerations relevant to the maintenance of a safe and sound banking system. In any event, the agencies will view a 10 percent or greater decline in aggregate minimum required risk-based capital (without reference to the effects of the transitional floors described in a later section of this preamble), compared to minimum required risk-based capital as determined under the existing rules, as a material reduction warranting modifications to the supervisory risk functions or other aspects of this framework.

The agencies are, in short, identifying a numerical benchmark for evaluating and responding to capital outcomes during the parallel run and transitional floor periods that do not comport with the overall capital objectives outlined in the ANPR. At the end of the transitional floor periods, the agencies would re-evaluate the consistency of the framework, as (possibly) revised during the transitional floor periods, with the capital goals outlined in the ANPR and with the maintenance of broad competitive parity between banks adopting the framework and other banks, and would be prepared to make further changes to the framework if warranted. *Question 5: The agencies seek comment on this approach to ensuring that overall capital objectives are achieved.*

The agencies also noted above that tier 1 capital requirements reported in QIS–4 declined substantially more than did total capital requirements. The agencies have long placed special emphasis on the importance of tier 1 capital in maintaining bank safety and soundness because of its ability to absorb losses on a going concern basis. The agencies will continue to monitor the trend in tier 1 capital requirements during the parallel run and transitional floor periods and will take appropriate action if reductions in tier 1 capital requirements are inconsistent with the agencies' overall capital goals.

Similar to the attention the agencies will give to overall risk-based capital requirements for the U.S. banking system, the agencies will carefully consider during the transitional floor periods whether dispersion in risk-based capital results across banks and portfolios appropriately reflects differences in risk. A conclusion by the agencies that dispersion in risk-based capital requirements does not appropriately reflect differences in risk could be another possible basis for proposing regulatory adjustments or refinements during the transitional floor periods.

It should also be noted that given the bifurcated regulatory capital framework that would result from the adoption of this rule, issues related to overall capital may be inextricably linked to the competitive issues discussed elsewhere in this document. The agencies indicated in the ANPR that if the competitive effects of differential capital requirements were deemed significant, ''the Agencies would need to consider potential ways to address those effects while continuing to seek the objectives of the current proposal. Alternatives could potentially include modifications to the proposed approaches, as well as fundamentally different approaches.'' [18] In this regard, the agencies view the parallel run and transitional floor periods as a trial of the new framework under controlled conditions. While the agencies hope and expect that regulatory changes proposed during those years would be in the nature of adjustments made within the framework described in this proposed rule, more fundamental changes cannot be ruled out if warranted based on future experience or comments received on this proposal.

The agencies reiterate that, especially in light of the QIS–4 results, retention of the tier 1 leverage ratio and other existing prudential safeguards (for example, PCA) is critical for the

[17] 68 FR 45900, 45902 (Aug. 4, 2003).

[18] 68 FR 45900, 45905 (August 4, 2003).

preservation of a safe and sound regulatory capital framework. In particular, the leverage ratio is a straightforward and tangible measure of solvency and serves as a needed complement to the risk-sensitive Basel II framework based on internal bank inputs.

*F. Competitive Considerations*

A fundamental objective of the New Accord is to strengthen the soundness and stability of the international banking system while maintaining sufficient consistency in capital adequacy regulation to ensure that the New Accord will not be a significant source of competitive inequity among internationally active banks. The agencies support this objective and believe that it is crucial to promote continual advancement of the risk measurement and management practices of large and internationally active banks. For this reason, the agencies propose to implement only the advanced approaches of the New Accord because these approaches utilize the most sophisticated and risk-sensitive risk measurement and management techniques.

While all banks should work to enhance their risk management practices, the advanced approaches and the systems required to support their use may not be appropriate for many banks from a cost-benefit point of view. For these banks, the agencies believe that, with some modifications, the general risk-based capital rules are a reasonable alternative. As discussed in section E.2. above, this proposal's bifurcated approach to risk-based capital requirements raises difficult issues and inextricably links competitive considerations with overall capital issues. One such issue relates to concerns about competitive inequities between U.S. banks operating under different regulatory capital regimes. The ANPR cited this concern, and a number of commenters expressed their belief that in some portfolios competitive inequities would be worsened under the proposed bifurcated framework. These commenters expressed the concern that the Proposed New Accord might place community banks operating under the general risk-based capital rules at a competitive disadvantage to banks applying the advanced approaches because the IRB framework would likely result in lower risk-based capital requirements on some types of exposures, such as residential mortgage exposures, other retail exposures, and small business loans.

Some commenters asserted that the application of lower risk-based capital requirements under the Proposed New Accord would create a competitive disadvantage for banks operating under the general risk-based capital rules, which in turn may adversely affect their asset quality and cost of capital. Other commenters suggested that if the advanced approaches in the Proposed New Accord are implemented, the agencies should consider revising their general risk-based capital rules to enhance risk sensitivity and to mitigate potential competitive inequities associated with the bifurcated system.

The agencies recognize that the industry has concerns with the potential competitive inequities associated with a bifurcated risk-based capital framework. The agencies reaffirm their intention, expressed in the ANPR, to address competitive issues while continuing to pursue the objectives of the current proposal. In addition to the QIS–4 analysis discussed above, the agencies have also researched discrete topics to further understand where competitive pressures might arise. As part of their effort to develop a bifurcated risk-based capital framework that minimizes competitive inequities and is not disruptive to the banking sector, the agencies issued an Advance Notice of Proposed Rulemaking (Basel IA ANPR) considering various modifications to the general risk-based capital rules to improve risk sensitivity and to reduce potential competitive disparities between Basel II banks and non-Basel II banks.[19] The comment period for the Basel IA ANPR ended on January 18, 2006, and the agencies intend to consider all comments and issue for public comment a more fully developed risk-based capital proposal for non-Basel II banks. The comment period for the non-Basel II proposal is expected to overlap that of this proposal, allowing commenters to analyze the effects of the two proposals concurrently.

In addition, some commenters expressed concern about competitive inequities arising from differences in implementation and application of the New Accord by supervisory authorities in different countries. In particular, some commenters expressed concern about the different implementation timetables of various jurisdictions, and differences in the scope of application in various jurisdictions or in the range of approaches that different jurisdictions will allow. The BCBS has established an Accord Implementation Group, comprised of supervisors from member countries, whose primary objectives are to work through implementation issues, maintain a constructive dialogue about implementation processes, and harmonize approaches as much as possible within the range of national discretion embedded in the New Accord.

While supervisory judgment will play a critical role in the evaluation of risk measurement and management practices at individual banks, supervisors are committed to developing protocols and information-sharing arrangements that should minimize burdens on banks operating in multiple countries and ensure that supervisory authorities are implementing the New Accord as consistently as possible. The New Accord identifies numerous areas where national discretion is encouraged. This design was intended to enable national supervisors to implement the methodology, or combination of methodologies, most appropriate for banks in their jurisdictions. Disparate implementation decisions are expected, particularly during the transition years. Over time, the agencies expect that industry and supervisory practices likely will converge in many areas, thus mitigating differences across countries. Competitive considerations, both internationally and domestically, will be monitored and discussed by the agencies on an ongoing basis. With regard to implementation timing concerns, the agencies believe that the transitional arrangements described in section III.A. of this preamble below provide a prudent and reasonable framework for moving to the advanced approaches. Where international implementation differences affect an individual bank, the agencies expect to work with the bank and appropriate national supervisory authorities for the bank to ensure that implementation proceeds as smoothly as possible.

*Question 6: The agencies seek comment on all potential competitive aspects of this proposal and on any specific aspects of the proposal that might raise competitive concerns for any bank or group of banks.*

**II. Scope**

The agencies have identified three groups of banks: (i) Large or internationally active banks that would be required to adopt the advanced approaches in the proposed rule (core banks); (ii) banks that voluntarily decide to adopt the advanced approaches (opt-in banks); and (iii) banks that do not adopt the advanced approaches (general banks). Each core and opt-in bank would be required to meet certain qualification requirements to the satisfaction of its primary Federal supervisor, in consultation with other

[19] *See* 70 FR 61068 (Oct. 20, 2005).

relevant supervisors, before the bank may use the advanced approaches for risk-based capital purposes.

Pillar I of the New Accord requires all banks subject to the New Accord to calculate capital requirements for exposure to both credit risk and operational risk. The New Accord provides a bank three approaches to calculate its credit risk capital requirement and three approaches to calculate its operational risk capital requirement. Outside the United States, countries that are replacing Basel I with the New Accord generally have required all banks to comply with the New Accord, but have provided banks the option of choosing among the New Accord's various approaches for calculating credit risk and operational risk capital requirements.[20] For banks in the United States, the NPR, like the ANPR, takes a different approach. It would not subject all U.S. banks to the New Accord, but instead focuses on only the largest and most internationally active banks. Due to the size and complexity of these banks, the NPR would require core banks to comply with the most advanced approaches for calculating credit and operational risk capital requirements '' that is, the IRB and the AMA. In addition, the NPR would allow other U.S. banks to ''opt in'' to Basel II-based rules, but, as with core banks, the only Basel II-based rules available to U.S. ''opt-in'' banks would be the New Accord's most advanced approaches.

*Question 7: The agencies request comment on whether U.S. banks subject to the advanced approaches in the proposed rule (that is, core banks and opt-in banks) should be permitted to use other credit and operational risk approaches similar to those provided under the New Accord. With respect to the credit risk capital requirement, the agencies request comment on whether banks should be provided the option of using a U.S. version of the so-called ''standardized approach'' of the New Accord and on the appropriate length of time for such an option.*

### A. Core and Opt-In Banks

A DI is a core bank if it meets either of two independent threshold criteria: (i) Consolidated total assets of $250 billion or more, as reported on the most recent year-end regulatory reports; or (ii) consolidated total on-balance sheet foreign exposure of $10 billion or more at the most recent year-end. To determine total on-balance sheet foreign exposure, a bank would sum its adjusted cross-border claims, local country claims, and cross-border revaluation gains (calculated in accordance with the Federal Financial Institutions Examination Council (FFIEC) Country Exposure Report (FFIEC 009)). Adjusted cross-border claims would equal total cross-border claims less claims with the head office/guarantor located in another country, plus redistributed guaranteed amounts to the country of head office/guarantor. A DI also is a core bank if it is a subsidiary of another DI or BHC that uses the advanced approaches.

Under the proposed rule, a U.S.-chartered BHC[21] is a core bank if the BHC has: (i) Consolidated total assets (excluding assets held by an insurance underwriting subsidiary) of $250 billion or more, as reported on the most recent year-end regulatory reports; (ii) consolidated total on-balance sheet foreign exposure of $10 billion or more at the most recent year-end; or (iii) a subsidiary DI that is a core bank or opt-in bank. Currently 11 top-tier banking organizations meet these criteria. The agencies note that, using this approach to define whether a BHC is a core bank, it is possible that no single DI under a BHC would meet the threshold criteria, but that all of the BHC's subsidiary DIs would be core banks.

The proposed BHC consolidated asset threshold is different from the threshold in the ANPR, which applied to the total consolidated DI assets of a BHC. The proposed shift to total consolidated assets (excluding assets held by an insurance underwriting subsidiary) recognizes that BHCs can hold similar assets within and outside of DIs and reduces potential incentives to structure BHC assets and activities to arbitrage capital regulations. The proposed rule excludes assets held in an insurance underwriting subsidiary of a BHC because the New Accord was not designed to address insurance company exposures. *Question 8A: The Board seeks comment on the proposed BHC consolidated non-insurance assets threshold relative to the consolidated DI assets threshold in the ANPR.*

A bank that is subject to the proposed rule either as a core bank or as an opt-in bank would be required to apply the rule unless its primary Federal supervisor determines in writing that application of the rule is not appropriate in light of the bank's asset size, level of complexity, risk profile, or scope of operations. *Question 8B: The agencies seek comment on the proposed scope of application. In particular, the agencies seek comment on the regulatory burden of a framework that requires the advanced approaches to be implemented by each subsidiary DI of a BHC or bank that uses the advanced approaches.*

### B. U.S. DI Subsidiaries of Foreign Banks

Any U.S.-chartered DI that is a subsidiary of a foreign banking organization is subject to the U.S. regulatory capital requirements applied to domestically-owned U.S. DIs. Thus, if the U.S. DI subsidiary of a foreign banking organization meets any of the threshold criteria, it would be a core bank and would be subject to the advanced approaches. If it does not meet any of the criteria, the U.S. DI may remain a general bank or may opt-in to the advanced approaches, subject to the same qualification process and requirements as a domestically-owned U.S. DI. A top-tier U.S. BHC, and its subsidiary DIs, that is owned by a foreign banking organization also would be subject to the same threshold levels for core bank determination as would a top-tier BHC that is not owned by a foreign banking organization. A U.S. BHC that meets the conditions in Federal Reserve SR letter 01–01[22] and is a core bank would not be required to meet the minimum capital ratios in the Board's capital adequacy guidelines, although it would be required to adopt the advanced approaches, compute and report its capital ratios in accordance with the advanced approaches, and make the required public and regulatory disclosures.

A DI subsidiary of such a U.S. BHC would be a core bank and would be required to adopt the advanced approaches (unless specifically exempted from the advanced approaches by its primary Federal supervisor) and meet the minimum capital ratio requirements. In addition, the Board retains its supervisory authority to require any BHC, including a U.S. BHC owned or controlled by a foreign banking organization that is or is treated as a financial holding company (FHC), to maintain capital levels above

[20] Despite the options provided in national legislation and rules, most non-U.S. banks comparable in size and complexity to U.S. core banks are adopting some form of the advanced approaches. For example, based on currently available information, the vast majority of large, internationally-active banks based outside of the United States plan to employ an internal ratings-based approach in the calculation of credit risk capital requirements.

[21] OTS does not currently impose any explicit capital requirements on savings and loan holding companies and does not propose to apply the Basel II proposal to these holding companies.

[22] SR 01–01, ''Application of the Board's Capital Adequacy Guidelines to Bank Holding Companies Owned by Foreign Banking Organizations,'' January 5, 2001.

the regulatory minimums. *Question 9: The agencies seek comment on the application of the proposed rule to DI subsidiaries of a U.S. BHC that meets the conditions in Federal Reserve SR letter 01–01 and on the principle of national treatment in this context.*

**C. Reservation of Authority**

The proposed rule would restate the authority of a bank's primary Federal supervisor to require the bank to hold an overall amount of capital greater than would otherwise be required under the rule if the agency determines that the bank's risk-based capital requirements under the rule are not commensurate with the bank's credit, market, operational, or other risks. In addition, the agencies anticipate that there may be instances when the proposed rule generates a risk-weighted asset amount for specific exposures that is not commensurate with the risks posed by such exposures. In these cases, under the proposed rule, the bank's primary Federal supervisor would retain the authority to require the bank to use a different risk-weighted asset amount for the exposures or to use different risk parameters (for wholesale or retail exposures) or model assumptions (for modeled equity or securitization exposures) than those required in the proposed rule when calculating the risk-weighted asset amount for those exposures. Similarly, the proposed rule would provide authority for a bank's primary Federal supervisor to require the bank to assign a different risk-weighted asset amount for operational risk, to change elements of its operational risk analytical framework (including distributional and dependence assumptions), or to make other changes to the bank's operational risk management processes, data and assessment systems, or quantification systems if the supervisor finds that the risk-weighted asset amount for operational risk produced by the bank under the rule is not commensurate with the operational risks of the bank. Any agency that exercises this reservation of authority would notify each of the other agencies of its determination.

**III. Qualification**

*A. The Qualification Process*

1. In General

Supervisory qualification to use the advanced approaches is a continuous and iterative process that begins when a bank's board of directors adopts an implementation plan and continues as the bank operates under the advanced approaches. Before a bank may use the advanced approaches for risk-based capital purposes, it must develop and adopt a written implementation plan, establish and maintain a comprehensive and sound planning and governance process to oversee the implementation efforts described in the plan, demonstrate to its primary Federal supervisor that it meets the qualification requirements in section 22 of the proposed rule, and complete a satisfactory ''parallel run'' (discussed below). A bank's primary Federal supervisor would be responsible, after consultation with other relevant supervisors, for evaluating the bank's initial and ongoing compliance with the qualification requirements for the advanced approaches.

The agencies will jointly issue supervisory guidance describing agency expectations for wholesale, retail, securitization, and equity exposures, as well as for operational risk.[23] The agencies recognize that a consistent and transparent process to oversee implementation of the advanced approaches is crucial, and will consult with each other on significant issues raised during the implementation process.

Under the proposed rule, a bank preparing to implement the advanced approaches must adopt a written implementation plan, approved by its board of directors, describing in detail how the bank complies, or intends to comply, with the qualification requirements. A core bank must adopt a plan no later than six months after it meets a threshold criterion in section 1(b)(1) of the proposed rule. If a bank meets a threshold criterion on the effective date of the final rule, the bank would have to adopt a plan within six months of the effective date. Banks that do not meet a threshold criterion, but are nearing any criterion by direct growth or merger, would be expected to engage in ongoing dialogue with their primary Federal supervisor regarding implementation strategies to ensure their readiness to adopt the advanced approaches when a threshold criterion is reached. An opt-in bank may adopt an implementation plan at any time, but must adopt an implementation plan and notify its primary Federal supervisor in writing at least twelve months before it proposes to begin the first floor period (as discussed later in this section of the preamble).

In developing an implementation plan, a bank must assess its current state of readiness relative to the qualification requirements in this proposed rule and related supervisory guidance. This assessment would include a gap analysis that identifies where additional work is needed and a remediation or action plan that clearly sets forth how the bank intends to fill the gaps it has identified. The implementation plan must comprehensively address the qualification requirements for the bank and each of its consolidated subsidiaries (U.S. and foreign-based) with respect to all portfolios and exposures of the bank and each of its consolidated subsidiaries. The implementation plan must justify and support any proposed temporary or permanent exclusion of a business line, portfolio, or exposure from the advanced approaches. The business lines, portfolios, and exposures that the bank proposes to exclude from the advanced approaches must be, in the aggregate, immaterial to the bank. The implementation plan must include objective, measurable milestones (including delivery dates and a date when the bank's implementation of the advanced approaches will be fully operational). For core banks, the implementation plan must include an explicit first floor period start date that is no later than 36 months after the later of the effective date of the rule or the date the bank meets at least one of the threshold criteria.[24] Further, the implementation plan must describe the resources that the bank has budgeted and are available to implement the plan.

During implementation of the advanced approaches, a bank would work closely with its primary Federal supervisor to ensure that its risk measurement and management systems are fully functional and reliable and are able to generate risk parameter estimates that can be used to calculate the risk-based capital ratios correctly under the advanced approaches. The implementation plan, including the gap analysis and action plan, will provide a basis for ongoing supervisory dialogue and review during this period. The primary Federal supervisor will assess a bank's progress relative to its implementation plan. To the extent that adjustments to target dates are needed, these adjustments would be made subject to the ongoing supervisory discussion between the bank and its primary Federal supervisor.

2. Parallel Run and Transitional Floor Periods

Once a bank has adopted its implementation plan, it must complete

[23] The agencies have issued for public comment draft supervisory guidance on corporate and retail exposures and operational risk. *See* 68 FR 45949 (Aug. 4, 2003); 69 FR 62748 (Oct. 27, 2004).

[24] The bank's primary Federal supervisor may extend the bank's first floor period start date.

a satisfactory parallel run before it may use the advanced approaches to calculate its risk-based capital requirements. A satisfactory parallel run is a period of at least four consecutive calendar quarters during which the bank complies with all of the qualification requirements to the satisfaction of its primary Federal supervisor. During this period, the bank would continue to be subject to the general risk-based capital rules but would simultaneously calculate its risk-based capital ratios under the advanced approaches. During the parallel run period, a bank would report its risk-based capital ratios under both the general risk-based capital rules and the advanced approaches to its primary Federal supervisor through the supervisory process on a quarterly basis. The agencies will share this information with each other for calibration and other analytical purposes.

A bank's primary Federal supervisor would notify the bank of the date when it may begin to use the advanced approaches for risk-based capital purposes. A bank would not be permitted to begin using the advanced approaches for risk-based capital purposes until its primary Federal supervisor is satisfied that the bank fully complies with the qualification requirements, the bank has satisfactorily completed a parallel run, and the bank has an adequate process to ensure ongoing compliance with the qualification requirements.

To provide for a smooth transition to the advanced approaches, the proposed rule would impose temporary limits on the amount by which a bank's risk-based capital requirements could decline over a period of at least three years (that is, at least four consecutive calendar quarters in each of the three transitional floor periods). Based on its assessment of the bank's ongoing compliance with the qualification requirements, a bank's primary Federal supervisor would determine when the bank is ready to move from one transitional floor period to the next period and, after the full transition has been completed, to move to stand-alone use of the advanced approaches. Table B sets forth the proposed transitional floor periods for banks moving to the advanced approaches:

TABLE B.—TRANSITIONAL FLOORS

| Transitional floor period | Transitional floor percentage |
|---|---|
| First floor period | 95 |
| Second floor period | 90 |
| Third floor period | 85 |

During the transitional floor periods, a bank would calculate its risk-weighted assets under the general risk-based capital rules. Next, the bank would multiply this risk-weighted assets amount by the appropriate floor percentage in the table above. This product would be the bank's ''floor-adjusted'' risk-weighted assets. Third, the bank would calculate its tier 1 and total risk-based capital ratios using the definitions of tier 1 and tier 2 capital (and associated deductions and adjustments) in the general risk-based capital rules for the numerator values and floor-adjusted risk-weighted assets for the denominator values. These ratios would be referred to as the ''floor-adjusted risk-based capital ratios.''

The bank also would calculate its tier 1 and total risk-based capital ratios using the definitions and rules in this proposed rule. These ratios would be referred to as the ''advanced approaches risk-based capital ratios.'' In addition, the bank would calculate a tier 1 leverage ratio using tier 1 capital as defined in this proposed rule for the numerator of the ratio.

During a bank's transitional floor periods, the bank would report all five regulatory capital ratios described above—two floor-adjusted risk-based capital ratios, two advanced approaches risk-based capital ratios, and one leverage ratio. To determine its applicable capital category for PCA purposes and for all other regulatory and supervisory purposes, a bank's risk-based capital ratios during the transitional floor periods would be set equal to the lower of the respective floor-adjusted risk-based capital ratio and the advanced approaches risk-based capital ratio. During the transitional floor periods, a bank's tier 1 capital and tier 2 capital for all non-risk-based-capital supervisory and regulatory purposes (for example, lending limits and Regulation W quantitative limits) would be the bank's tier 1 capital and tier 2 capital as calculated under the advanced approaches.

Thus, for example, in order to be well capitalized under PCA, a bank would have to have a floor-adjusted tier 1 risk-based capital ratio and an advanced approaches tier 1 risk-based capital ratio of 6 percent or greater, a floor-adjusted total risk-based capital ratio and an advanced approaches total risk-based capital ratio of 10 percent or greater, and a tier 1 leverage ratio of 5 percent or greater (with tier 1 capital calculated under the advanced approaches). Although the PCA rules do not apply to BHCs, a BHC would be required to report all five of these regulatory capital ratios and would have to meet applicable supervisory and regulatory requirements using the lower of the respective floor-adjusted risk-based capital ratio and the advanced approaches risk-based capital ratio.

After a bank completes its transitional floor periods and its primary Federal supervisor determines the bank may begin using the advanced approaches with no further transitional floor, the bank would use its tier 1 and total risk-based capital ratios as calculated under the advanced approaches and its tier 1 leverage ratio calculated using the advanced approaches definition of tier 1 capital for PCA and all other supervisory and regulatory purposes.

The transitional floor calculations described above are linked to the general risk-based capital rules. As noted above, the agencies issued the Basel IA ANPR outlining possible modifications to those rules and are developing an NPR in this regard. The agencies are still considering the extent and nature of these modifications to the general risk-based capital rules and the scope of application of these modifications, including for banks that transition to the advanced approaches. The agencies expect banks that meet the threshold criteria in section 1(b)(1) of the proposed rule (that is, core banks) as of the effective date of the rule, and banks that opt-in pursuant to section 1(b)(2) at the earliest possible date, will use the general risk-based capital rules in place immediately before the rule becomes effective both during the parallel run and as a basis for the transitional floor calculations. Other changes to the general risk-based capital rules (outside the scope of the changes outlined in the Basel IA ANPR) may be considered by the agencies, as appropriate. *Question 10: The agencies seek comment on this approach, including the transitional floor thresholds and transition period, and on how and to what extent future modifications to the general risk-based capital rules should be incorporated into the transitional floor calculations for advanced approaches banks.*

Banks' computation of risk-based capital requirements under both the general risk-based capital rules and the advanced approaches will help the agencies assess the impact of the advanced approaches on overall capital requirements, including whether the change in capital requirements relative to the general risk-based capital rules is consistent with the agencies' overall capital objectives. *Question 11: The agencies seek comment on what other information should be considered in deciding whether those overall capital goals have been achieved.*

The agencies are proposing to make 2008 the first possible year for a bank to conduct its parallel run and 2009–2011 the first possible years for the three transitional floor periods. *Question 12: The agencies seek comment on this proposed timetable for implementing the advanced approaches in the United States.*

*B. Qualification Requirements*

Because the Basel II framework uses banks' estimates of certain key risk parameters to determine risk-based capital requirements, the advanced approaches would introduce greater complexity to the regulatory capital framework and would require banks using the advanced approaches to possess a high level of sophistication in risk measurement and risk management systems. As a result, the agencies propose to require each core or opt-in bank to meet the qualification requirements described in section 22 of the proposed rule to the satisfaction of its primary Federal supervisor for a period of at least four consecutive calendar quarters before using the advanced approaches to calculate its minimum risk-based capital requirements (subject to the transitional floors for at least an additional three years). The qualification requirements are written broadly to accommodate the many ways a bank may design and implement a robust internal credit and operational risk measurement and management system and to permit industry practice to evolve.

Many of the qualification requirements relate to a bank's advanced IRB systems. A bank's advanced IRB systems must incorporate five interdependent components in a framework for evaluating credit risk and measuring regulatory capital:

(i) A risk rating and segmentation system that assigns ratings to individual wholesale obligors and exposures and assigns individual retail exposures to segments;

(ii) A quantification process that translates the risk characteristics of wholesale obligors and exposures and segments of retail exposures into numerical risk parameters that are used as inputs to the IRB risk-based capital formulas;

(iii) An ongoing process that validates the accuracy of the rating assignments, segmentations, and risk parameters;

(iv) A data management and maintenance system that supports the advanced IRB systems; and

(v) Oversight and control mechanisms that ensure the advanced IRB systems are functioning effectively and producing accurate results.

1. Process and Systems Requirements

One of the objectives of the proposed framework is to provide appropriate incentives for banks to develop and use better techniques for measuring and managing their risks. The proposed rule specifically requires a bank to have a rigorous process for assessing its overall capital adequacy in relation to its total risk profile and a comprehensive strategy for maintaining appropriate capital levels. Consistent with Pillar 2 of the New Accord, a bank's primary Federal supervisor will evaluate how well the bank is assessing its capital needs relative to its risks and, if deficiencies are identified, will take any necessary action to ensure that appropriate and prudent levels of capital are maintained.

A bank should address all of its material risks in its overall capital assessment process. Although not every risk can be measured precisely, the following risks, at a minimum, should be factored into a bank's capital assessment process: credit risk, market risk, operational risk, interest rate risk in the banking book, liquidity risk, concentration risk, reputational risk, and strategic risk. With regard to interest rate risk in the banking book, the agencies note that for some assets—for example, a long-term mortgage loan—interest rate risk may be as great as, or greater than, the credit risk of the asset. The agencies will continue to focus attention on exposures where interest rate risk may be significant and will foster sound interest rate risk measurement and management practices across banks. Additionally, because credit risk concentrations can pose substantial risk to a bank that might be managing individual credits in a satisfactory manner, a bank also should give proper attention to such concentrations.

Banks already are required to hold capital sufficient to meet their risk profiles, and existing rules allow Federal supervisors to require a bank to increase its capital if its current capital levels are deficient or some element of its business practices suggests the need for more capital. Existing supervisory guidance directs banks to meaningfully tie the identification, monitoring, and evaluation of risk to the determination of the bank's capital needs. Banks are expected to implement and continually update the fundamental elements of a sound internal capital adequacy analysis—identifying and measuring all material risks, setting capital adequacy goals that relate to risk, and assessing conformity to the bank's stated objectives. The agencies expect that all banks operating under the advanced approaches would address specific assumptions embedded in the advanced approaches (such as diversification in credit portfolios), and would evaluate these banks, in part, on their ability to account for deviations from the underlying assumptions in their own portfolios.

As noted, each core or opt-in bank would apply the advanced approaches for risk-based capital purposes at the consolidated top-tier legal entity level (that is, either the top-tier BHC or top-tier DI that is a core or opt-in bank) and at the level of each DI that is a subsidiary of such a top-tier legal entity. Thus, each bank that applies the advanced approaches must have an appropriate infrastructure with risk measurement and management processes that meet the proposed rule's qualification requirements and that are appropriate given the bank's size and level of complexity. Regardless of whether the systems and models that generate the risk parameters necessary for calculating a bank's risk-based capital requirements are located at any affiliate of the bank, each legal entity that applies the advanced approaches must ensure that the risk parameters (that is, PD, ELGD, LGD, EAD, and M) and reference data used to determine its risk-based capital requirements are representative of its own credit and operational risk exposures.

The proposed rule also requires that the systems and processes that an advanced approaches bank uses for risk-based capital purposes must be sufficiently consistent with the bank's internal risk management processes and management information reporting systems such that data from the latter processes and systems can be used to verify the reasonableness of the inputs the bank uses for risk-based capital purposes.

2. Risk Rating and Segmentation Systems for Wholesale and Retail Exposures

To implement the IRB framework, a bank must have internal risk rating and segmentation systems that accurately and reliably differentiate between degrees of credit risk for wholesale and retail exposures. As described below, wholesale exposures include most credit exposures to companies, sovereigns, and governmental entities, as well as some exposures to individuals. Retail exposures include most credit exposures to individuals and small businesses that are managed as part of a segment of exposures with homogeneous risk characteristics. Together, wholesale and retail

exposures cover most credit exposures of banks.

To differentiate among degrees of credit risk, a bank must be able to make meaningful and consistent distinctions among credit exposures along two dimensions—default risk and loss severity in the event of a default. In addition, a bank must be able to assign wholesale obligors to rating grades that approximately reflect likelihood of default and must be able to assign wholesale exposures to rating grades (or ELGD and LGD estimates) that approximately reflect the loss severity expected in the event of default. As discussed below, the proposed rule requires banks to treat wholesale exposures differently from retail exposures when differentiating among degrees of credit risk.

*Wholesale exposures.* For wholesale exposures, a bank must have an internal risk rating system that indicates the likelihood of default of each individual obligor and may use an internal risk rating system that indicates the economic loss rate upon default of each individual exposure.[25] A bank would assign an internal risk rating to each wholesale obligor, which should reflect the obligor's PD—that is, its long-run average one-year default rate over a reasonable mix of economic conditions. PD is defined in more detail below.

In determining an obligor rating, a bank should consider key obligor attributes, including both quantitative and qualitative factors that could affect the obligor's default risk. From a quantitative perspective, this could include an assessment of the obligor's historic and projected financial performance, trends in key financial performance ratios, financial contingencies, industry risk, and the obligor's position in the industry. On the qualitative side, this could include an assessment of the quality of the obligor's financial reporting, non-financial contingencies (for example, labor problems and environmental issues), and the quality of the obligor's management based on an evaluation of management's ability to make realistic projections, management's track record in meeting projections, and management's ability to effectively deal with changes in the economy and the competitive environment.

A bank must assign each legal entity wholesale obligor to a single rating grade. Accordingly, if a single wholesale exposure of the bank to an obligor triggers the proposed rule's definition of default, all of the bank's wholesale exposures to that obligor are in default for risk-based capital purposes. In addition, a bank may not consider the value of collateral pledged to support a particular wholesale exposure (or any other exposure-specific characteristics) when assigning a rating to the obligor of the exposure, even in the context of nonrecourse loans and other loans underwritten primarily based on the operating income or cash flows from real estate collateral. A bank may, of course, consider all available financial information about the obligor—including, where applicable, the total operating income or cash flows from all of the obligor's projects or businesses—when assigning an obligor rating.

*Question 13: The agencies seek comment on this aspect of the proposed rule and on any circumstances under which it would be appropriate to assign different obligor ratings to different exposures to the same obligor (for example, income-producing property lending or exposures involving transfer risk).*

A bank's rating system must have at least seven discrete (non-overlapping) obligor grades for non-defaulted obligors and at least one obligor grade for defaulted obligors. The agencies believe that because the risk-based capital requirement of a wholesale exposure is directly linked to its obligor rating grade, a bank must have at least seven non-overlapping obligor grades to sufficiently differentiate the creditworthiness of non-defaulted wholesale obligors.

A bank would capture the estimated loss severity upon default for a wholesale exposure either by directly assigning an ELGD and LGD estimate to the exposure or by grouping the exposure with other wholesale exposures into loss severity rating grades (reflecting the bank's estimate of the ELGD or LGD of the exposure). The LGD of an exposure is an estimate of the economic loss rate on the exposure, taking into account related material costs and recoveries, in the event of the obligor's default during a period of economic downturn conditions. LGD is described in more detail below. Whether a bank chooses to assign ELGD and LGD values directly or, alternatively, to assign exposures to rating grades and then quantify the ELGD or LGD, as appropriate, for the rating grades, the key requirement is that the bank must identify exposure characteristics that influence ELGD and LGD. Each of the loss severity rating grades would be associated with an empirically supported ELGD or LGD estimate. Banks employing loss severity grades must have a sufficiently granular loss severity grading system to avoid grouping together exposures with widely ranging ELGDs or LGDs.

*Retail exposures.* To implement the advanced approach for retail exposures, a bank must have an internal system that segments its retail exposures to differentiate accurately and reliably among degrees of credit risk. The most significant difference between the proposed rule's treatment of wholesale and retail exposures is that the risk parameters for retail exposures are not assigned at the individual exposure level. Banks typically manage retail exposures on a segment basis, where each segment contains exposures with similar risk characteristics. Therefore, a key characteristic of the proposed rule's retail framework is that the risk parameters for retail exposures would be assigned to segments of exposures rather than to individual exposures. Under the retail framework, a bank would group its retail exposures into segments with homogeneous risk characteristics and then estimate PD, ELGD, and LGD for each segment.

A bank must first group its retail exposures into three separate subcategories: (i) Residential mortgage exposures; (ii) QREs; and (iii) other retail exposures. The bank would then classify the retail exposures in each subcategory into segments to produce a meaningful differentiation of risk. The proposed rule requires banks to segment separately (i) defaulted retail exposures from non-defaulted retail exposures and (ii) retail eligible margin loans for which the bank adjusts EAD rather than ELGD and LGD to reflect the risk mitigating effects of financial collateral from other retail eligible margin loans. Otherwise, the agencies are not proposing to require that banks consider any particular risk drivers or employ any minimum number of segments in any of the three retail subcategories.

In determining how to segment retail exposures within each subcategory for the purpose of assigning risk parameters, a bank should use a segmentation approach that is consistent with its approach for internal risk assessment purposes and that classifies exposures according to predominant risk characteristics or drivers. Examples of risk drivers could include loan-to-value (LTV) ratios, credit scores, loan terms and structure (for example, interest only or payment option adjustable rate mortgages), origination channel, geographical location of the borrower, and collateral type. A bank must be able to demonstrate to its primary Federal

[25] As explained below, a bank that chooses not to use an internal risk rating system for ELGD and LGD for a wholesale exposure must directly assign an ELGD and LGD estimate to the wholesale exposure.

supervisor that its system assigns accurate and reliable PD, ELGD, and LGD estimates for each retail segment on a consistent basis.

*Definition of default.* In the ANPR, the agencies proposed to define default for a wholesale exposure as either or both of the following events: (i) The bank determines that the borrower is unlikely to pay its obligations to the bank in full, without recourse to actions by the bank such as the realization of collateral; or (ii) the borrower is more than 90 days past due on principal or interest on any material obligation to the bank.

A number of commenters encouraged the agencies to use a definition of default that conforms more closely to that used by bank risk managers. Many of these commenters recommended that the agencies define default as the entry into non-accrual status for wholesale exposures and the number of days past due for retail exposures, or as the entry into charge-off status for wholesale and retail exposures. The agencies have amended the ANPR definitions of default to respond to these concerns and recognize that the definition of default in this proposed rule is different from the definitions that are being implemented in other jurisdictions.

Under the proposed rule's definition of default, a bank's wholesale obligor would be in default if, for any credit exposure of the bank to the obligor, the bank has (i) placed the exposure on non-accrual status consistent with the Call Report Instructions or the Thrift Financial Report and the Thrift Financial Report Instruction Manual; (ii) taken a full or partial charge-off or write-down on the exposure due to the distressed financial condition of the obligor; or (iii) incurred a credit-related loss of 5 percent or more of the exposure's initial carrying value in connection with the sale of the exposure or the transfer of the exposure to the held-for-sale, available-for-sale, trading account, or other reporting category. Under the proposed definition, a wholesale exposure to an obligor remains in default until the bank has reasonable assurance of repayment and performance for all contractual principal and interest payments on all exposures of the bank to the obligor (other than exposures that have been fully written-down or charged-off). The agencies would expect a bank to employ standards for determining whether it has a reasonable assurance of repayment and performance that are similar to those for determining whether to restore a loan from non-accrual to accrual status.

When a bank sells a set of wholesale exposures, the bank must examine the sale prices of the individual exposures contained in the set and evaluate whether a credit loss of 5 percent or more of the exposure's initial carrying value has occurred on any given exposure. Write-downs of securities that are not credit-related (for example, a write-down that is due to a change in market interest rates) would not be a default event.

*Question 14: The agencies seek comment on this proposed definition of default and on how well it captures substantially all of the circumstances under which a bank could experience a material credit-related economic loss on a wholesale exposure. In particular, the agencies seek comment on the appropriateness of the 5 percent credit loss threshold for exposures sold or transferred between reporting categories. The agencies also seek commenters' views on specific issues raised by applying different definitions of default in multiple national jurisdictions and on ways to minimize potential regulatory burden, including use of the definition of default in the New Accord, keeping in mind that national bank supervisory authorities must adopt default definitions that are appropriate in light of national banking practices and conditions.*

In response to comments on the ANPR, the agencies propose to define default for retail exposures according to the timeframes for loss classification that banks generally use for internal purposes and that are embodied in the FFIEC's Uniform Retail Credit Classification and Account Management Policy.[26] Specifically, revolving retail exposures and residential mortgages would be in default at 180 days past due; other retail exposures would be in default at 120 days past due. In addition, a retail exposure would be in default if the bank has taken a full or partial charge-off or write-down of principal on the exposure for credit-related reasons. Such an exposure would remain in default until the bank has reasonable assurance of repayment and performance for all contractual principal and interest payments on the exposure.

The proposed definition of default for retail exposures differs from the proposed definition for the wholesale portfolio in several important respects. First, the proposed retail default definition applies on an exposure-by-exposure basis (rather than, as is the case for wholesale exposures, on an obligor-by-obligor basis). In other words, default on one retail exposure would not require a bank to treat all other obligations of the same obligor to the bank as defaulted. This difference reflects the fact that banks generally manage retail credit risk based on segments of similar exposures rather than through the assignment of ratings to particular obligors. In addition, it is quite common for retail borrowers that default on some of their obligations to continue payment on others.

Second, the retail definition of default, unlike the wholesale definition of default, does not include exposures placed on non-accrual status. The agencies recognize that retail non-accrual practices vary considerably among banks. Accordingly, the agencies have determined that removing non-accrual from the retail definition of default would promote greater consistency among banks in the treatment of retail exposures.

In addition, the retail definition of default, unlike the wholesale definition of default, does not explicitly state that an exposure is in default if a bank incurs credit-related losses of 5 percent or more in connection with the sale of the exposure. Because of the large number of diverse retail exposures that banks usually sell in a single transaction, banks typically do not allocate the sales price of a pool of retail exposures in such a way as to enable the bank to calculate the premium or discount on individual retail exposures. Although the proposed rule's definition of retail default does not explicitly include credit-related losses in connection with loan sales, the agencies would expect banks to assess carefully the impact of retail exposure sales in quantifying the risk parameters calculated by the bank for its retained retail exposures.

*Rating philosophy.* A bank must explain to its primary Federal supervisor its rating philosophy—that is, how the bank's wholesale obligor rating assignments are affected by the bank's choice of the range of economic, business, and industry conditions that are considered in the obligor rating process. The philosophical basis of a bank's ratings system is important because, when combined with the credit quality of individual obligors, it will determine the frequency of obligor rating changes in a changing economic environment. Rating systems that rate obligors based on their ability to perform over a wide range of economic, business, and industry conditions, sometimes described as ''through-the-cycle'' systems, would tend to have ratings that migrate more slowly as conditions change. Banks that rate

[26] FFIEC, ''Uniform Retail Credit Classification and Account Management Policy,'' 65 FR 36903 (June 12, 2000).

obligors based on a more narrow range of likely expected conditions (primarily on recent conditions), sometimes called ''point-in-time'' systems, would tend to have ratings that migrate more frequently. Many banks will rate obligors using an approach that considers a combination of the current conditions and a wider range of other likely conditions. In any case, the bank would need to specify the rating philosophy used and establish a policy for the migration of obligors from one rating grade to another in response to economic cycles. A bank should understand the effects of ratings migration on its risk-based capital requirements and ensure that sufficient capital is maintained during all phases of the economic cycle.

*Rating and segmentation reviews and updates.* A bank must have a policy that ensures that each wholesale obligor rating and (if applicable) wholesale exposure loss severity rating reflects current information. A bank's internal risk rating system for wholesale exposures must provide for the review and update (as appropriate) of each obligor rating and (if applicable) loss severity rating whenever the bank receives new material information, but no less frequently than annually. A bank's retail exposure segmentation system must provide for the review and update (as appropriate) of assignments of retail exposures to segments whenever the bank receives new material information, but no less frequently than quarterly.

3. Quantification of Risk Parameters for Wholesale and Retail Exposures

A bank must have a comprehensive risk parameter quantification process that produces accurate, timely, and reliable estimates of the risk parameters—PD, ELGD, LGD, EAD, and (for wholesale exposures) M—for its wholesale obligors and exposures and retail exposures. Statistical methods and models used to develop risk parameter estimates, as well as any adjustments to the estimates or empirical default data, should be transparent, well supported, and documented. The following sections of the preamble discuss the proposed rule's definitions of the risk parameters for wholesale and retail exposures.

*Probability of default (PD).* As noted above, under the proposed rule, a bank must assign each of its wholesale obligors to an internal rating grade and then must associate a PD with each rating grade. PD for a wholesale exposure to a non-defaulted obligor would be the bank's empirically based best estimate of the long-run average of one-year default rates for the rating grade assigned by the bank to the obligor, capturing the average default experience for obligors in the rating grade over a mix of economic conditions (including economic downturn conditions) sufficient to provide a reasonable estimate of the average one-year default rate over the economic cycle for the rating grade. This estimate of the long-run average PD is converted into an estimate of PD under economic downturn conditions as part of the IRB risk-based capital formulas.

In addition, under the proposed rule, a bank must assign a PD to each segment of retail exposures. The proposed rule provides two different definitions of the PD of a segment of non-defaulted retail exposures based on the materiality of seasoning effects for the segment or for the segment's retail exposure subcategory. Some types of retail exposures display a distinct seasoning pattern—that is, the exposures have relatively low default rates in their first year, rising default rates in the next few years, and declining default rates for the remainder of their terms. A bank must use a separate definition of PD that addresses seasoning effects for a segment of non-defaulted retail exposures unless the bank has determined that seasoning effects are not material for the segment or for the segment's entire retail exposure subcategory.

The proposed rule provides a definition of PD for segments of non-defaulted retail exposures where seasoning is not a material consideration that tracks closely the wholesale PD definition. Specifically, PD for a segment of non-defaulted retail exposures for which seasoning effects are not material, or for a segment of non-defaulted retail exposures in a retail exposure subcategory for which seasoning effects are not material, would be the bank's empirically based best estimate of the long-run average of one-year default rates for the exposures in the segment, capturing the average default experience for exposures in the segment over a mix of economic conditions (including economic downturn conditions) sufficient to provide a reasonable estimate of the average one-year default rate over the economic cycle for the segment. Banks that use this PD formulation for a segment of retail exposures should be able to demonstrate to their primary Federal supervisor, using empirical data, why seasoning effects are not material for the segment or the retail exposure subcategory in which the segment resides.

Because of the one-year IRB horizon, the agencies are proposing a different PD definition for retail segments with material seasoning effects. Under the proposed rule, PD for a segment of non-defaulted retail exposures for which seasoning effects are material would be the bank's empirically based best estimate of the annualized cumulative default rate over the expected remaining life of exposures in the segment, capturing the average default experience for exposures in the segment over a mix of economic conditions (including economic downturn conditions) to provide a reasonable estimate of the average performance over the economic cycle for the segment. A bank's PD estimates for these retail segments with material seasoning effects also should reflect potential changes in the expected remaining life of exposures in the segment over the economic cycle.

For wholesale exposures to defaulted obligors and for segments of defaulted retail exposures, PD would be 100 percent.

*Loss given default (LGD) and expected loss given default (ELGD).* Under the proposed rule, a bank must directly estimate an ELGD and LGD risk parameter for each wholesale exposure or must assign each wholesale exposure to an expected loss severity grade and a downturn loss severity grade, estimate an ELGD risk parameter for each expected loss severity grade, and estimate an LGD risk parameter for each loss severity grade. In addition, a bank must estimate an ELGD and LGD risk parameter for each segment of retail exposures. The same ELGD and LGD may be appropriate for more than one retail segment.

LGD is an estimate of the economic loss that would be incurred on an exposure, relative to the exposure's EAD, if the exposure were to default within a one-year horizon during economic downturn conditions. The economic loss amount must capture all material credit-related losses on the exposure (including accrued but unpaid interest or fees, losses on the sale of repossessed collateral, direct workout costs, and an appropriate allocation of indirect workout costs). Where positive or negative cash flows on a wholesale exposure to a defaulted obligor or on a defaulted retail exposure (including proceeds from the sale of collateral, workout costs, and draw-downs of unused credit lines) occur after the date of default, the economic loss amount must reflect the net present value of cash flows as of the default date using a discount rate appropriate to the risk of the exposure.

The LGD of some exposures may be substantially higher during economic downturn conditions than during other periods, while for other types of exposures it may not. Accordingly, the proposed rule requires banks to use an LGD estimate that reflects economic downturn conditions for purposes of calculating the risk-based capital requirements for wholesale exposures and retail segments; however, the LGD of an exposure may never be less than the exposure's ELGD. More specifically, banks must produce for each wholesale exposure (or downturn loss severity rating grade) and retail segment an estimate of the economic loss per dollar of EAD that the bank would expect to incur if default were to occur within a one-year horizon during economic downturn conditions. The estimate of LGD can be thought of as the ELGD plus an increase if appropriate to reflect the impact of economic downturn conditions.

For the purpose of defining economic downturn conditions, the proposed rule identifies two wholesale exposure subcategories—high-volatility commercial real estate (HVCRE) wholesale exposures and non-HVCRE wholesale exposures (that is, all wholesale exposures that are not HVCRE exposures)—and three retail exposure subcategories—residential mortgage exposures, QREs, and other retail exposures. The proposed rule defines economic downturn conditions with respect to an exposure as those conditions in which the aggregate default rates for the exposure's entire wholesale or retail subcategory held by the bank (or subdivision of such subcategory selected by the bank) in the exposure's national jurisdiction (or subdivision of such jurisdiction selected by the bank) are significantly higher than average.

Under this approach, a bank with a geographical or industry sector concentration in a subcategory of exposures may find that information relating to a downturn in that geographical region or industry sector may be more relevant for the bank than a general downturn affecting many regions or industries. At this time, however, the proposed rule does not require a bank with a geographical, industry sector, or other concentration to subdivide exposure subcategories or national jurisdictions to reflect such concentrations; rather, the proposed rule allows banks to subdivide exposure subcategories or national jurisdictions as they deem appropriate given the exposures held by the bank. The agencies understand that downturns in particular geographical subdivisions of national jurisdictions or in particular industrial sectors may result in significantly increased loss rates in material subdivisions of a bank's exposures in an exposure subcategory. *Question 15: In light of the possibility of significantly increased loss rates at the subdivision level due to downturn conditions in the subdivision, the agencies seek comment on whether to require banks to determine economic downturn conditions at a more granular level than an entire wholesale or retail exposure subcategory in a national jurisdiction.*

The proposed rule provides banks two methods of generating LGD estimates for wholesale and retail exposures. First, a bank may use its own estimates of LGD for a subcategory of exposures if the bank has prior written approval from its primary Federal supervisor to use internal estimates for that subcategory of exposures. In approving a bank's use of internal estimates of LGD, a bank's primary Federal supervisor will consider whether the bank's internal estimates of LGD are reliable and sufficiently reflective of economic downturn conditions. The supervisor will also consider whether the bank has rigorous and well-documented policies and procedures for identifying economic downturn conditions for the exposure subcategory, identifying material adverse correlations between the relevant drivers of default rates and loss rates given default, and incorporating identified correlations into internal LGD estimates. If a bank has supervisory approval to use its own estimates of LGD for an exposure subcategory, it must use its own estimates of LGD for all exposures within that subcategory.

As noted above, the LGD of an exposure or segment may never be less than the ELGD of that exposure or segment. The proposed rule defines the ELGD of a wholesale exposure as the bank's empirically-based best estimate of the default-weighted average economic loss per dollar of EAD the bank expects to incur in the event that the obligor of the exposure (or a typical obligor in the loss severity grade assigned by the bank to the exposure) defaults within a one-year horizon.[27] For a segment of retail exposures, ELGD is the bank's empirically-based best estimate of the default-weighted average economic loss per dollar of EAD the bank expects to incur on exposures in the segment that default within a one-year horizon. ELGD estimates must incorporate a mix of economic conditions (including economic downturn conditions). For example, given appropriate data, the ELGD could be estimated by calculating the default-weighted average economic loss per dollar of EAD given default for exposures in a particular loss severity grade or segment observed over a complete credit cycle.

As an alternative to internal estimates of LGD, the proposed rule provides a supervisory mapping function for converting ELGD into LGD for risk-based capital purposes. Although the agencies encourage banks to develop internal LGD estimates, the agencies are aware that it may be difficult at this time and in the near future for banks to produce internal estimates of LGD that are sufficient for risk-based capital purposes because LGD data for important portfolios may be sparse, and there is very limited industry experience with incorporating downturn conditions into LGD estimates. Accordingly, under the proposed rule, a bank that does not qualify for use of its own estimates of LGD for a subcategory of exposures must instead compute LGD by applying a supervisory mapping function to its internal estimates of ELGD for such exposures. The bank would adjust its ELGDs upward to LGDs using the linear supervisory mapping function: LGD = 0.08 + 0.92 x ELGD. Under this mapping function, for example, an ELGD of 0 percent is converted to an LGD of 8 percent, an ELGD of 20 percent is converted to an LGD of 26.4 percent, and an ELGD of 50 percent is converted to an LGD of 54 percent. A bank would not have to apply the supervisory mapping function to repo-style transactions, eligible margin loans, and OTC derivative contracts (defined below in section V.C. of the preamble). For these exposures, the agencies believe that the difference between a bank's estimate of LGD and its estimate of ELGD is likely to be small. Instead a bank would set LGD equal to ELGD for these exposures.

As noted, the proposed rule would permit a bank to use the supervisory mapping function to translate ELGDs to LGDs and would only permit a bank to use its own estimates of LGD for an exposure subcategory if the bank has received prior written approval from its primary Federal supervisor. The agencies also are considering whether to require every bank, as a condition to qualifying for use of the advanced approaches, to be able to produce credible and reliable internal estimates of LGD for all its wholesale and retail exposures. Under this stricter approach, a bank that is unable to demonstrate to

[27] Under the proposal, ELGD is not the statistical expected value of LGD.

its primary Federal supervisor that it could produce credible and reliable internal estimates of LGD would not be permitted to use the advanced approaches.

*Question 16: The agencies seek comment on and supporting empirical analysis of (i) the proposed rule's definitions of LGD and ELGD; (ii) the proposed rule's overall approach to LGD estimation; (iii) the appropriateness of requiring a bank to produce credible and reliable internal estimates of LGD for all its wholesale and retail exposures as a precondition for using the advanced approaches; (iv) the appropriateness of requiring all banks to use a supervisory mapping function, rather than internal estimates, for estimating LGDs, due to limited data availability and lack of industry experience with incorporating economic downturn conditions in LGD estimates; (v) the appropriateness of the proposed supervisory mapping function for translating ELGD into LGD for all portfolios of exposures and possible alternative supervisory mapping functions; (vi) exposures for which no mapping function would be appropriate; and (vii) exposures for which a more lenient (that is, producing a lower LGD for a given ELGD) or more strict (that is, producing a higher LGD for a given ELGD) mapping function may be appropriate (for example, residential mortgage exposures and HVCRE exposures).*

The agencies are concerned that some approaches to ELGD or LGD quantification could produce estimates that are pro-cyclical, particularly if these estimates are based on economic indicators, such as frequently updated loan-to-value (LTV) ratios, that are highly sensitive to current economic conditions. *Question 17: The agencies seek comment on the extent to which ELGD or LGD estimates under the proposed rule would be pro-cyclical, particularly for longer-term secured exposures. The agencies also seek comment on alternative approaches to measuring ELGDs or LGDs that would address concerns regarding potential pro-cyclicality without imposing undue burden on banks.*

This proposed rule incorporates comments on the ANPR suggesting a need to better accommodate certain credit products, most prominently asset-based lending programs, whose structures typically result in a bank recovering substantial amounts of the exposure prior to the default date—for example, through paydowns of outstanding principal. The agencies believe that actions taken prior to default to mitigate losses are an important component of a bank's overall credit risk management, and that such actions should be reflected in ELGD and LGD when banks can quantify their effectiveness in a reliable manner. In the proposed rule, this is achieved by measuring ELGD and LGD relative to the exposure's EAD (defined in the next section) as opposed to the amount actually owed at default.[28]

In practice, the agencies would expect methods for estimating ELGD and LGD, and the way those methods reflect changes in exposure during the period prior to default, to be consistent with other aspects of the proposed rule. For example, a default horizon that is longer than one year could result in lower estimates of economic loss due to greater contractual amortization prior to default, or a greater likelihood that covenants would enable a bank to accelerate paydowns of principal as the condition of an obligor deteriorates, but such long horizons could be inconsistent with the one-year default horizon incorporated in other aspects of this proposed rule, such as the quantification of PD.

The agencies intend to limit recognition of the impact on ELGD and LGD of pre-default paydowns to certain types of exposures where the pattern is common, measurable, and especially significant, as with various types of asset-based lending. In addition, not all paydowns during the period prior to default warrant recognition as part of the recovery process. For example, a pre-default reduction in the outstanding amount on one exposure may simply reflect a refinancing by the obligor with the bank, with no reduction in the bank's total exposure to the obligor. *Question 18: The agencies seek comment on the feasibility of recognizing such pre-default changes in exposure in a way that is consistent with the safety and soundness objectives of this proposed rule. The agencies also seek comment on appropriate restrictions to place on any such recognition to ensure that the results are not counter to the objectives of this proposal to ensure adequate capital within a more risk-sensitive capital framework. In addition, the agencies seek comment on whether, for wholesale exposures, allowing ELGD and LGD to reflect anticipated future contractual paydowns prior to default may be inconsistent with the proposed rule's imposition of a one-year floor on M (for certain types of exposures) or may lead to some double-counting of the risk-mitigating benefits of shorter maturities for exposures not subject to this floor.*

*Exposure at default (EAD).* Except as noted below, EAD for the on-balance-sheet component of a wholesale or retail exposure means (i) the bank's carrying value for the exposure (including net accrued but unpaid interest and fees)[29] less any allocated transfer risk reserve for the exposure, if the exposure is held-to-maturity or for trading; or (ii) the bank's carrying value for the exposure (including net accrued but unpaid interest and fees) less any allocated transfer risk reserve for the exposure and any unrealized gains on the exposure, plus any unrealized losses on the exposure, if the exposure is available for sale. For the off-balance-sheet component of a wholesale or retail exposure (other than an OTC derivative contract, repo-style transaction, or eligible margin loan) in the form of a loan commitment or line of credit, EAD means the bank's best estimate of net additions to the outstanding amount owed the bank, including estimated future additional draws of principal and accrued but unpaid interest and fees, that are likely to occur over the remaining life of the exposure assuming the exposure were to go into default. This estimate of net additions must reflect what would be expected during a period of economic downturn conditions. For the off-balance-sheet component of a wholesale or retail exposure other than an OTC derivative contract, repo-style transaction, eligible margin loan, loan commitment, or line of credit issued by a bank, EAD means the notional amount of the exposure.

For a segment of retail exposures, EAD is the sum of the EADs for each individual exposure in the segment. For wholesale or retail exposures in which only the drawn balance has been securitized, the bank must reflect its share of the exposures' undrawn balances in EAD. The undrawn balances of exposures for which the drawn balances have been securitized must be allocated between the seller's and investors' interests on a pro rata basis, based on the proportions of the seller's and investors' shares of the securitized drawn balances. For example, if the

[28] To illustrate, suppose that for a particular asset-based lending exposure, the EAD equaled $100 and that for every $1 owed by the obligor at the time of default, the bank's recovery would be $0.40. Furthermore, suppose that in the event of default, within a one-year horizon, pre-default paydowns of $20 would reduce the exposure amount to $80 at the time of default. In this case, the bank's economic loss rate measured relative to the amount owed at default (60%) would exceed the economic loss rate measured relative to EAD (48% = 60% × ($100 − $20)/$100), because the former does not reflect fully the impact of the pre-default paydowns.

[29] "Net accrued but unpaid interest and fees" are accrued but unpaid interest and fees net of any amount expensed by the bank as uncollectable.

EAD of a group of securitized exposures' undrawn balances is $100, and the bank's share (seller's interest) in the securitized exposures is 25 percent, the bank must reflect $25 in EAD for the undrawn balances.

The proposed rule contains a special treatment of EAD for OTC derivative contracts, repo-style transactions, and eligible margin loans, which is in section 32 of the proposed rule and discussed in more detail in section V.C. of the preamble.

*General quantification principles.* The proposed rule requires data used by a bank to estimate risk parameters to be relevant to the bank's actual wholesale and retail exposures and of sufficient quality to support the determination of risk-based capital requirements for the exposures. For wholesale exposures, estimation of the risk parameters must be based on a minimum of 5 years of default data to estimate PD, 7 years of loss severity data to estimate ELGD and LGD, and 7 years of exposure amount data to estimate EAD. For segments of retail exposures, estimation of risk parameters must be based on a minimum of 5 years of default data to estimate PD, 5 years of loss severity data to estimate ELGD and LGD, and 5 years of exposure amount data to estimate EAD. Default, loss severity, and exposure amount data must include periods of economic downturn conditions or the bank must adjust its estimates of risk parameters to compensate for the lack of data from such periods. Banks must base their estimates of PD, ELGD, LGD, and EAD on the proposed rule's definition of default, and must review at least annually and update (as appropriate) their risk parameters and risk parameter quantification process.

In all cases, banks would be expected to use the best available data for quantifying the risk parameters. A bank could meet the minimum data requirement by using internal data, external data, or pooled data combining internal data with external data. Internal data refers to any data on exposures held in a bank's existing or historical portfolios, including data elements or information provided by third parties. External data refers to information on exposures held outside of the bank's portfolio or aggregate information across an industry.

For example, for new lines of business where a bank lacks sufficient internal data, it must use external data to supplement its internal data. The agencies recognize that the minimum sample period for reference data provided in the proposed rule may not provide the best available results. A longer sample period usually captures varying economic conditions better than a shorter sample period; in addition, a longer sample period will include more default observations for ELGD, LGD, and EAD estimation. Banks should consider using a longer-than-minimum sample period when possible. However, the potential increase in precision afforded by a larger sample should be weighed against the potential for diminished comparability of older data to the existing portfolio; striking the correct balance is an important aspect of quantitative modeling.

Both internal and external reference data should not differ systematically from a bank's existing portfolio in ways that seem likely to be related to default risk, loss severity, or exposure at default. Otherwise, the derived PD, ELGD, LGD, or EAD estimates may not be applicable to the bank's existing portfolio. Accordingly, the bank must conduct a comprehensive review and analysis of reference data at least annually to determine the relevance of reference data to the bank's exposures, the quality of reference data to support PD, ELGD, LGD, and EAD estimates, and the consistency of reference data to the definition of default contained in the proposed rule. Furthermore, a bank must have adequate data to estimate risk parameters for all its wholesale and retail exposures as if they were held to maturity, even if some loans are likely to be sold or securitized before their long-term credit performance can be observed.

As noted above, periods of economic downturn conditions must be included in the data sample (or adjustments to risk parameters must be made). If the reference data include data from beyond the minimum number of years (to capture a period of economic downturn conditions or for other valid reasons), the reference data need not cover all of the intervening years. However, a bank should justify the exclusion of available data and, in particular, any temporal discontinuities in data used. Including periods of economic downturn conditions increases the size and potentially the breadth of the reference data set. According to some empirical studies, the average loss rate is higher during periods of economic downturn conditions, such that exclusion of such periods would bias ELGD, LGD, or EAD estimates downward and unjustifiably lower risk-based capital requirements.

Risk parameter estimates should take into account the robustness of the quantification process. The assumptions and adjustments embedded in the quantification process should reflect the degree of uncertainty or potential error inherent in the process. In practice, a reasonable estimation approach likely would result in a range of defensible risk parameter estimates. The choices of the particular assumptions and adjustments that determine the final estimate, within the defensible range, should reflect the uncertainty in the quantification process. That is, more uncertainty in the process should be reflected in the assignment of final risk parameter estimates that result in higher risk-based capital requirements relative to a quantification process with less uncertainty. The degree of conservatism applied to adjust for uncertainty should be related to factors such as the relevance of the reference data to a bank's existing exposures, the robustness of the models, the precision of the statistical estimates, and the amount of judgment used throughout the process. Margins of conservatism need not be added at each step; indeed, that could produce an excessively conservative result. Instead, the overall margin of conservatism should adequately account for all uncertainties and weaknesses in the quantification process. Improvements in the quantification process (including use of more complete data and better estimation techniques) may reduce the appropriate degree of conservatism over time.

Judgment will inevitably play a role in the quantification process and may materially affect the estimates of risk parameters. Judgmental adjustments to estimates are often necessary because of some limitations on available reference data or because of inherent differences between the reference data and the bank's existing exposures. The bank must ensure that adjustments are not biased toward optimistically low risk parameter estimates. This standard does not prohibit individual adjustments that result in lower estimates of risk parameters, as both upward and downward adjustments are expected. Individual adjustments are less important than broad patterns; consistent signs of judgmental decisions that lower risk parameter estimates materially may be evidence of systematic bias, which would not be permitted.

In estimating relevant risk parameters, banks should not rely on the possibility of U.S. government financial assistance, except for the financial assistance that the government has legally committed to provide.

4. Optional Approaches That Require Prior Supervisory Approval

A bank that intends to apply the internal models methodology to

counterparty credit risk, the double default treatment for credit risk mitigation, the internal assessment approach (IAA) for securitization exposures to ABCP programs, or the internal models approach (IMA) to equity exposures must receive prior written approval from its primary Federal supervisor. The criteria on which approval would be based are described in the respective sections below.

5. Operational Risk

A bank must have operational risk management processes, data and assessment systems, and quantification systems that meet the qualification requirements in section 22(h) of the proposed rule. A bank must have an operational risk management function independent from business line management. The operational risk management function is responsible for the design, implementation, and oversight of the bank's operational risk data and assessment systems, operational risk quantification systems, and related processes. The roles and responsibilities of the operational risk management function may vary between banks, but must be clearly documented. The operational risk management function should have organizational stature commensurate with the bank's operational risk profile. At a minimum, the bank's operational risk management function should ensure the development of policies and procedures for the explicit management of operational risk as a distinct risk to the bank's safety and soundness.

A bank also must establish and document a process to identify, measure, monitor, and control operational risk in bank products, activities, processes, and systems. This process should provide for the consistent and comprehensive collection of the data needed to estimate the bank's exposure to operational risk. The process must also ensure reporting of operational risk exposures, operational loss events, and other relevant operational risk information to business unit management, senior management, and to the board of directors (or a designated committee of the board). The proposed rule defines operational loss events as events that result in loss and are associated with internal fraud; external fraud; employment practices and workplace safety; clients, products, and business practices; damage to physical assets; business disruption and system failures; or execution, delivery, and process management. A bank's operational risk management processes should reflect the scope and complexity of its business lines, as well as its corporate organizational structure. Each bank's operational risk profile is unique and requires a tailored risk management approach appropriate for the scale and materiality of the operational risks present in the bank.

*Operational risk data and assessment system.* A bank must have an operational risk data and assessment system that incorporates on an ongoing basis the following four elements: internal operational loss event data, external operational loss event data, results of scenario analysis, and assessments of the bank's business environment and internal controls. These four operational risk elements should aid the bank in identifying the level and trend of operational risk, determining the effectiveness of operational risk management and control efforts, highlighting opportunities to better mitigate operational risk, and assessing operational risk on a forward-looking basis. A bank's operational risk data and assessment system must be structured in a manner consistent with the bank's current business activities, risk profile, technological processes, and risk management processes.

The proposed rule defines operational loss as a loss (excluding insurance or tax effects) resulting from an operational loss event. Operational losses include all expenses associated with an operational loss event except for opportunity costs, forgone revenue, and costs related to risk management and control enhancements implemented to prevent future operational losses. The definition of operational loss is an important issue, as it is a critical building block in a bank's calculation of its operational risk capital requirement under the AMA. More specifically, under the proposed rule, the bank's estimate of operational risk exposure—the basis for determining a bank's risk-weighted asset amount for operational risk—is an estimate of aggregate operational losses generated by the bank's AMA process.

The agencies are considering whether to define operational loss based solely on the effect of an operational loss event on a bank's regulatory capital or to use a definition of operational loss that incorporates, to a greater extent, economic capital concepts. In either case, operational losses would continue to be determined exclusive of insurance and tax effects.

With respect to most operational loss events, the agencies believe that the operational loss amount incorporated into a bank's AMA process would be substantially the same whether viewed from the perspective of its effect on the bank's regulatory capital or an alternative approach that more directly incorporates economic capital concepts. In the case of operational loss events associated with premises and other fixed assets, however, potential loss amounts used in a bank's estimate of its operational risk exposure could be considerably different under the two approaches. The agencies recognize that, for purposes of economic capital analysis, banks often use replacement cost or market value, and not carrying value, to determine the amount of an operational loss with respect to fixed assets. The use of carrying value would be consistent with a definition of operational loss that covers a loss event's effect on a bank's regulatory capital, but may not reflect the full economic impact of a loss event in the case of assets that have a carrying value that is different from their market value.

Further, the agencies recognize that there is a potential to double-count all or a portion of the risk-based capital requirement associated with fixed assets. Under section 31(e)(3) of the proposed rule, which addresses calculation of risk-weighted asset amounts for assets that are not included in an exposure category, the risk-weighted asset amount for a bank's premises will equal the carrying value of the premises on the financial statements of the bank, determined in accordance with generally accepted accounting principles (GAAP). A bank's operational risk exposure estimate addressing bank premises generally will be different than the risk-based capital requirement generated under section 31(e)(3) of the proposed rule and, at least in part, will address the same risk exposure.

*Question 19: The agencies solicit comment on all aspects of the proposed treatment of operational loss and, in particular, on (i) the appropriateness of the proposed definition of operational loss; (ii) whether the agencies should define operational loss in terms of the effect an operational loss event has on the bank's regulatory capital or should consider a broader definition based on economic capital concepts; and (iii) how the agencies should address the potential double-counting issue for premises and other fixed assets.*

A bank must have a systematic process for capturing and using internal operational loss event data in its operational risk data and assessment systems. Consistent with the ANPR, the proposed rule defines internal operational loss event data for a bank as gross operational loss amounts, dates,

recoveries, and relevant causal information for operational loss events occurring at the bank. A bank's operational risk data and assessment system must include a minimum historical observation period of five years of internal operational losses. With approval of its primary Federal supervisor, however, a bank may use a shorter historical observation period to address transitional situations such as integrating a new business line. A bank may refrain from collecting internal operational loss event data for individual operational losses below established dollar threshold amounts if the bank can demonstrate to the satisfaction of its primary Federal supervisor that the thresholds are reasonable, do not exclude important internal operational loss event data, and permit the bank to capture substantially all the dollar value of the bank's operational losses.

A bank also must establish a systematic process for determining its methodologies for incorporating external operational loss event data into its operational risk data and assessment systems. The proposed rule defines external operational loss event data for a bank as gross operational loss amounts, dates, recoveries, and relevant causal information for operational loss events occurring at organizations other than the bank. External operational loss event data may serve a number of different purposes in a bank's operational risk data and assessment systems. For example, external operational loss event data may be a particularly useful input in determining a bank's level of exposure to operational risk when internal operational loss event data are limited. In addition, external operational loss event data provide a means for the bank to understand industry experience and, in turn, provide a means for the bank to assess the adequacy of its internal operational loss event data.

While internal and external operational loss event data provide a historical perspective on operational risk, it is also important that a bank incorporate forward-looking elements in its operational risk data and assessment systems. Accordingly, a bank must incorporate a business environment and internal control factor analysis in its operational risk data and assessment systems to fully assess its exposure to operational risk. In principle, a bank with strong internal controls in a stable business environment would have less exposure to operational risk than a bank with internal control weaknesses that is growing rapidly or introducing new products. In this regard, a bank should identify and assess the level and trends in operational risk and related control structures at the bank. These assessments should be current, should be comprehensive across the bank, and should identify the operational risks facing the bank. The framework established by a bank to maintain these risk assessments should be sufficiently flexible to accommodate increasing complexity, new activities, changes in internal control systems, and an increasing volume of information. A bank must also periodically compare the results of its prior business environment and internal control factor assessments against the bank's actual operational losses incurred in the intervening period.

Similar to business environment and internal control factor assessments, the results of scenario analysis provide a means for a bank to incorporate a forward-looking element in its operational risk data and assessment systems. Under the proposed rule, scenario analysis is a systematic process of obtaining expert opinions from business managers and risk management experts to derive reasoned assessments of the likelihood and loss impact of plausible high-severity operational losses that may occur at a bank. A bank must establish a systematic process for determining its methodologies for incorporating scenario analysis into its operational risk data and assessment systems. As an input to a bank's operational risk data and assessment systems, scenario analysis is especially relevant for business lines or loss event types where internal data, external data, and assessments of the business environment and internal control factors do not provide a sufficiently robust estimate of the bank's exposure to operational risk.

A bank's operational risk data and assessment systems must include credible, transparent, systematic, and verifiable processes that incorporate all four operational risk elements. The bank should have clear standards for the collection and modification of all elements. The bank should combine these four elements in a manner that most effectively enables it to quantify its exposure to operational risk.

*Operational risk quantification system.* A bank must have an operational risk quantification system that measures its operational risk exposure using its operational risk data and assessment systems. The proposed rule defines operational risk exposure as the 99.9th percentile of the distribution of potential aggregate operational losses, as generated by the bank's operational risk quantification system over a one-year horizon (and not incorporating eligible operational risk offsets or qualifying operational risk mitigants). The mean of such a total loss distribution is the bank's EOL. The proposed rule defines EOL as the expected value of the distribution of potential aggregate operational losses, as generated by the bank's operational risk quantification system using a one-year horizon. The bank's UOL is the difference between the bank's operational risk exposure and the bank's EOL.

As part of its estimation of its operational risk exposure, a bank must demonstrate that its unit of measure is appropriate for the bank's range of business activities and the variety of operational loss events to which it is exposed. The proposed rule defines a unit of measure as the level (for example, organizational unit or operational loss event type) at which the bank's operational risk quantification system generates a separate distribution of potential operational losses. A bank must also demonstrate that it has not combined business activities or operational loss events with different risk profiles within the same loss distribution.

The agencies recognize that operational losses across operational loss event types and business lines may be related. A bank may use its internal estimates of dependence among operational losses within and across business lines and operational loss event types if the bank can demonstrate to the satisfaction of its primary Federal supervisor that its process for estimating dependence is sound, robust to a variety of scenarios, and implemented with integrity, and allows for the uncertainty surrounding the estimates. The agencies expect that a bank's assumptions regarding dependence will be conservative given the uncertainties surrounding dependence modeling for operational risk. If a bank does not satisfy the requirements surrounding dependence described above, the bank must sum operational risk exposure estimates across units of measure to calculate its operational risk exposure.

A bank's chosen unit of measure affects how it should account for dependence. Explicit assumptions regarding dependence across units of measure are always necessary to estimate operational risk exposure at the bank level. However, explicit assumptions regarding dependence within units of measure are not necessary, and under many circumstances models assume statistical independence within each unit of measure. The use of only a few units of

measure heightens the need to ensure that dependence within units of measure is suitably reflected in the operational risk exposure estimate.

In addition, the bank's process for estimating dependence should provide for ongoing monitoring, recognizing that dependence estimates can change. The agencies expect that a bank's approach for developing explicit and objective dependence determinations will improve over time. As such, the bank should develop a process for assessing incremental improvements to the approach (for example, through out-of-sample testing).

A bank must review and update (as appropriate) its operational risk quantification system whenever the bank becomes aware of information that may have a material effect on the bank's estimate of operational risk exposure, but no less frequently than annually.

As described above, the agencies expect a bank using the AMA to demonstrate that its systems for managing and measuring operational risk meet established standards, including producing an estimate of operational risk exposure at the 99.9 percent confidence level. However, the agencies recognize that, in limited circumstances, there may not be sufficient data available for a bank to generate a credible estimate of its own operational risk exposure at the 99.9 percent confidence level. In these limited circumstances, a bank may propose use of an alternative operational risk quantification system to that specified in section 22(h)(3)(i) of the proposed rule, subject to approval by the bank's primary Federal supervisor. The alternative approach is not available at the BHC level.

The agencies are not prescribing specific estimation methodologies under this approach and expect use of an alternative approach to occur on a very limited basis. A bank proposing to use an alternative operational risk quantification system must submit a proposal to its primary Federal supervisor. In evaluating a bank's proposal, the bank's primary Federal supervisor will review the bank's justification for requesting use of an alternative approach in light of the bank's size, complexity, and risk profile. The bank's primary Federal supervisor will also consider whether the proposed approach results in capital levels that are commensurate with the bank's operational risk profile, is sensitive to changes in the bank's risk profile, can be supported empirically, and allows the bank's board of directors to fulfill its fiduciary responsibilities to ensure that the bank is adequately capitalized. Furthermore, the agencies expect a bank using an alternative operational risk quantification system to adhere to the qualification requirements outlined in the proposed rule, including establishment and use of operational risk management processes and data and assessment systems.

A bank proposing an alternative approach to operational risk based on an allocation methodology should be aware of certain limitations associated with use of such an approach. Specifically, the agencies will not accept an allocation of operational risk capital requirements that includes non-DI entities or the benefits of diversification across entities. The exclusion of allocations that include non-DIs is in recognition that, unlike the cross-guarantee provision of the Federal Deposit Insurance Act, which provides that a DI is liable for any losses incurred by the FDIC in connection with the failure of a commonly controlled DI, there are no statutory provisions requiring cross-guarantees between a DI and its non-DI affiliates.[30] Furthermore, depositors and creditors of a DI generally have no legal recourse to capital funds that are not held by the DI or its affiliate DIs.

6. Data Management and Maintenance

A bank must have data management and maintenance systems that adequately support all aspects of the bank's advanced IRB systems, operational risk management processes, operational risk data and assessment systems, operational risk quantification systems, and, to the extent the bank uses the following systems, the internal models methodology to counterparty credit risk, double default excessive correlation detection process, IMA to equity exposures, and IAA to securitization exposures to ABCP programs (collectively, advanced systems). The bank's data management and maintenance systems must ensure the timely and accurate reporting of risk-based capital requirements. Specifically, a bank must retain sufficient data elements to permit monitoring, validation, and refinement of the bank's advanced systems. A bank's data management and maintenance systems should generally support the proposed rule's qualification requirements relating to quantification, validation, and control and oversight mechanisms, as well as the bank's broader risk management and reporting needs. The precise data elements to be collected would be dictated by the features and methodologies of the risk measurement and management systems employed by the bank. To meet the significant data management challenges presented by the quantification, validation, and control and oversight requirements of the advanced approaches, a bank must store its data in an electronic format that allows timely retrieval for analysis, reporting, and disclosure purposes.

7. Control and Oversight Mechanisms

The consequences of an inaccurate or unreliable advanced system can be significant, particularly on the calculation of risk-based capital requirements. Accordingly, bank senior management would be responsible for ensuring that all advanced system components function effectively and are in compliance with the qualification requirements of the advanced approaches. Moreover, the bank's board of directors (or a designated committee of the board) must evaluate at least annually the effectiveness of, and approve, the bank's advanced systems.

To support senior management's and the board of directors' oversight responsibilities, a bank must have an effective system of controls and oversight that ensures ongoing compliance with the qualification requirements and maintains the integrity, reliability, and accuracy of the bank's advanced systems. Banks would have flexibility in how they achieve integrity in their risk management systems. They would, however, be expected to follow standard control principles in their systems such as checks and balances, separation of duties, appropriateness of incentives, and data integrity assurance, including that of information purchased from third parties. Moreover, the oversight process should be sufficiently independent of the advanced systems' development, implementation, and operation to ensure the integrity of the component systems. The objective of risk management system oversight is to ensure that the various systems used in determining risk-based capital requirements are operating as intended. The oversight process should draw conclusions on the soundness of the components of the risk management system, identify errors and flaws, and recommend corrective action as appropriate.

*Validation.* A bank must validate its advanced systems on an ongoing basis. Validation is the set of activities designed to give the greatest possible assurances of accuracy of the advanced systems. Validation includes three broad components: (i) Evaluation of the conceptual soundness of the advanced

[30] 12 U.S.C. 1815(e).

systems, taking into account industry developments; (ii) ongoing monitoring that includes process verification and comparison of the bank's internal estimates with relevant internal and external data sources or results using other estimation techniques (benchmarking); and (iii) outcomes analysis that includes comparisons of actual outcomes to the bank's internal estimates by backtesting and other methods.

Each of these three components of validation must be applied to the bank's risk rating and segmentation systems, risk parameter quantification processes, and internal models that are part of the bank's advanced systems. A sound validation process should take business cycles into account, and any adjustments for stages of the economic cycle should be clearly specified in advance and fully documented as part of the validation policy. Senior management of the bank should be notified of the validation results and should take corrective action, where appropriate.

A bank's validation process must be independent of the advanced systems' development, implementation, and operation, or be subject to independent assessment of its adequacy and effectiveness. A bank should ensure that individuals who perform the review are independent—that is, are not biased in their assessment due to their involvement in the development, implementation, or operation of the processes or products. For example, reviews of the internal risk rating and segmentation systems should be performed by individuals who were not part of the development, implementation, or maintenance of those systems. In addition, individuals performing the reviews should possess the requisite technical skills and expertise to fulfill their mandate.

The first component of validation is evaluating conceptual soundness, which involves assessing the quality of the design and construction of a risk measurement or management system. This evaluation of conceptual soundness should include documentation and empirical evidence supporting the methods used and the variables selected in the design and quantification of the bank's advanced systems. The documentation should also include evidence of an understanding of the limitations of the systems. The development of internal risk rating and segmentation systems and their quantification processes requires banks to adopt methods, choose characteristics, and make adjustments; each of these actions requires judgment. Validation should ensure that these judgments are well informed and considered, and generally include a body of expert opinion. A bank should review developmental evidence whenever the bank makes material changes in its advanced systems.

The second component of the validation process for a bank's advanced systems is ongoing monitoring to confirm that the systems were implemented appropriately and continue to perform as intended. Such monitoring involves process verification and benchmarking. Process verification includes verifying that internal and external data are accurate and complete and ensuring that internal risk rating and segmentation systems are being used, monitored, and updated as designed and that ratings are assigned to wholesale obligors and exposures as intended, and that appropriate remediation is undertaken if deficiencies exist.

Benchmarking is the set of activities that uses alternative data sources or risk assessment approaches to draw inferences about the correctness of internal risk ratings, segmentations, risk parameter estimates, or model outputs before outcomes are actually known. For credit risk ratings, examples of alternative data sources include independent internal raters (such as loan review), external rating agencies, wholesale and retail credit risk models developed independently, or retail credit bureau models. Because it will take considerable time before outcomes will be available and backtesting is possible, benchmarking will be a very important validation device. Benchmarking would be applied to all quantification processes and internal risk rating and segmentation activities.

Benchmarking allows a bank to compare its estimates with those of other estimation techniques and data sources. Results of benchmarking exercises can be a valuable diagnostic tool in identifying potential weaknesses in a bank's risk quantification system. While benchmarking activities allow for inferences about the appropriateness of the quantification processes and internal risk rating and segmentation systems, they are not the same as backtesting. When differences are observed between the bank's risk estimates and the benchmark, this should not necessarily indicate that the internal risk ratings, segmentation decisions, or risk parameter estimates are in error. The benchmark itself is an alternative prediction, and the difference may be due to different data or methods. As part of the benchmarking exercise, the bank should investigate the source of the differences and whether the extent of the differences is appropriate.

The third component of the validation process is outcomes analysis, which is the comparison of the bank's forecasts of risk parameters and other model outputs with actual outcomes. A bank's outcomes analysis must include backtesting, which is the comparison of the bank's forecasts generated by its internal models with actual outcomes during a sample period not used in model development. In this context, backtesting is one form of out-of-sample testing. The agencies note that in other contexts backtesting may refer to in-sample fit, but in-sample fit analysis is not what the proposed rule requires a bank to do as part of the advanced approaches validation process.

Actual outcomes would be compared with expected ranges around the estimated values of the risk parameters and model results. Random chance and many other factors will make discrepancies between realized outcomes and the estimated risk parameters inevitable. Therefore the expected ranges should take into account relevant elements of a bank's internal risk rating or segmentation processes. For example, depending on the bank's rating philosophy, year-by-year realized default rates may be expected to differ significantly from the long-run one-year average. Also, changes in economic conditions between the historical data and current period can lead to differences between realizations and estimates.

*Internal audit.* A bank must have an internal audit function independent of business-line management that assesses at least annually the effectiveness of the controls supporting the bank's advanced systems. At least annually, internal audit should review the validation process, including validation procedures, responsibilities, results, timeliness, and responsiveness to findings. Further, internal audit should evaluate the depth, scope, and quality of the risk management system review process and conduct appropriate testing to ensure that the conclusions of these reviews are well founded. Internal audit must report its findings at least annually to the bank's board of directors (or a committee thereof).

*Stress testing.* A bank must periodically stress test its advanced systems. Stress testing analysis is a means of understanding how economic cycles, especially downturns as described by stress scenarios, affect risk-based capital requirements, including migration across rating grades or segments and the credit risk mitigation

benefits of double default treatment. Under the proposed rule, changes in borrower credit quality will lead to changes in risk-based capital requirements. Because credit quality changes typically reflect changing economic conditions, risk-based capital requirements may also vary with the economic cycle. During an economic downturn, risk-based capital requirements would increase if wholesale obligors or retail exposures migrate toward lower credit quality ratings or segments.

Supervisors expect that banks will manage their regulatory capital position so that they remain at least adequately capitalized during all phases of the economic cycle. A bank that is able to credibly estimate regulatory capital levels during a downturn can be more confident of appropriately managing regulatory capital. Stress testing analysis consists of identifying a stress scenario and then translating the scenario into its effect on the levels of key performance measures, including regulatory capital ratios.

Banks should use a range of plausible but severe scenarios and methods when stress testing to manage regulatory capital. Scenarios could be historical, hypothetical, or model-based. Key variables specified in a scenario could include, for example, interest rates, transition matrices (ratings and score-band segments), asset values, credit spreads, market liquidity, economic growth rates, inflation rates, exchange rates, or unemployment rates. A bank may choose to have scenarios apply to an entire portfolio, or it may identify scenarios specific to various sub-portfolios. The severity of the stress scenarios should be consistent with the periodic economic downturns experienced in the bank's market areas. Such scenarios may be less severe than those used for other purposes, such as testing a bank's solvency.

The scope of stress testing analysis should be broad and include all material portfolios. The time horizon of the analysis should be consistent with the specifics of the scenario and should be long enough to measure the material effects of the scenario on key performance measures. For example, if a scenario such as a historical recession has material income and segment or ratings migration effects over two years, the appropriate time horizon is at least two years.

8. Documentation

A bank must document adequately all material aspects of its advanced systems, including but not limited to the internal risk rating and segmentation systems, risk parameter quantification processes, model design, assumptions, and validation results. The guiding principle governing documentation is that it should support the requirements for the quantification, validation, and control and oversight mechanisms as well as the bank's broader risk management and reporting needs. Documentation is also critical to the supervisory oversight process.

The bank should document the rationale for all material assumptions underpinning its chosen analytical frameworks, including the choice of inputs, distributional assumptions, and weighting of quantitative and qualitative elements. The bank also should document and justify any subsequent changes to these assumptions.

*C. Ongoing Qualification*

An advanced approaches bank must meet the qualification requirements on an ongoing basis. Banks are expected to improve their advanced systems as they improve data gathering capabilities and as industry practice evolves. To facilitate the supervisory oversight of such systems changes, a bank must notify its primary Federal supervisor when it makes a change to its advanced systems that results in a material change in the bank's risk-weighted asset amount for an exposure type, or when the bank makes any significant change to its modeling assumptions.

Due to the advanced approaches' rigorous systems requirements, a core or opt-in bank that merges with or acquires another company that does not calculate risk-based capital requirements using the advanced approaches might not be able to use the advanced approaches immediately for the merged or acquired company's exposures. Therefore, the proposed rule would permit a core or opt-in bank to use the general risk-based capital rules to compute the risk-weighted assets and associated capital for the merged or acquired company's exposures for up to 24 months following the calendar quarter during which the merger or acquisition consummates.

Any ALLL associated with the acquired company's exposures may be included in the acquiring bank's tier 2 capital up to 1.25 percent of the acquired company's risk-weighted assets. Such ALLL would be excluded from the acquiring bank's eligible credit reserves. The risk-weighted assets of the acquired company would not be included in the acquiring bank's credit-risk-weighted assets but would be included in the acquiring bank's total risk-weighted assets. Any amount of the acquired company's ALLL that was eliminated in accounting for the acquisition would not be included in the acquiring bank's regulatory capital. An acquiring bank using the general risk-based capital rules for acquired exposures would be required to disclose publicly the amounts of risk-weighted assets and qualifying capital calculated under the general risk-based capital rules with respect to the acquired company and under the proposed rule for the acquiring bank.

Similarly, due to the substantial infrastructure requirements of the proposed rule, a core or opt-in bank that merges with or acquires another core or opt-in bank might not be able to apply its own version of the advanced approaches immediately to the acquired bank's exposures. Accordingly, the proposed rule permits a core or opt-in bank that merges with or acquires another core or opt-in bank to use the acquired bank's advanced approaches to determine the risk-weighted asset amounts for, and deductions from capital associated with, the acquired bank's exposures for up to 24 months following the calendar quarter during which the merger or acquisition consummates.

In all mergers and acquisitions involving a core or opt-in bank, the acquiring bank must submit an implementation plan for using advanced approaches for the merged or acquired company to its primary Federal supervisor within 30 days of consummating the merger or acquisition. A bank's primary Federal supervisor may extend the transition period for mergers or acquisitions for up to an additional 12 months. The primary Federal supervisor of the bank will monitor the merger or acquisition to determine whether the application of the general risk-based capital rules by the acquired company produces appropriate risk weights for the assets of the acquired company in light of the overall risk profile of the combined bank.

*Question 20: The agencies seek comment on the appropriateness of the 24-month and 30-day time frames for addressing the merger and acquisition transition situations advanced approaches banks may face.*

If a bank that uses the advanced approaches to calculate its risk-based capital requirements falls out of compliance with the qualification requirements, the bank must establish a plan satisfactory to its primary Federal supervisor to return to compliance with the qualification requirements. Such a bank also must disclose to the public its failure to comply with the qualification requirements promptly after receiving notice of non-compliance from its

primary Federal supervisor. If the bank's primary Federal supervisor determines that the bank's risk-based capital requirements are not commensurate with the bank's credit, market, operational, or other risks, it may require the bank to calculate its risk-based capital requirements using the general risk-based capital rules or a modified form of the advanced approaches (for example, with fixed supervisory risk parameters).

## IV. Calculation of Tier 1 Capital and Total Qualifying Capital

The proposed rule maintains the minimum risk-based capital ratio requirements of 4.0 percent tier 1 capital to total risk-weighted assets and 8.0 percent total qualifying capital to total risk-weighted assets. Under the proposed rule, a bank's total qualifying capital is the sum of its tier 1 (core) capital elements and tier 2 (supplemental) capital elements, subject to various limits and restrictions, minus certain deductions (adjustments). The agencies are not restating the elements of tier 1 and tier 2 capital in this proposed rule. Those capital elements generally remain as they are currently in the general risk-based capital rules.[31] The agencies have provided proposed regulatory text for, and the following discussion of, proposed adjustments to the capital elements for purposes of the advanced approaches.

The agencies are considering restating the elements of tier 1 and tier 2 capital, with any necessary conforming and technical amendments, in any final rules that are issued regarding this proposed framework so that a bank using the advanced approaches would have a single, comprehensive regulatory text that describes both the numerator and denominator of the bank's minimum risk-based capital ratios. The agencies decided not to set forth the capital elements in this proposed rule so that commenters would be able to focus attention on the parts of the risk-based capital framework that the agencies propose to amend. *Question 21: Commenters are encouraged to provide views on the proposed adjustments to the components of the risk-based capital numerator as described below. Commenters also may provide views on numerator-related issues that they believe would be useful to the agencies' consideration of the proposed rule.*

After identifying the elements of tier 1 and tier 2 capital, a bank would make certain adjustments to determine its tier 1 capital and total qualifying capital (that is, the numerator of the total risk-based capital ratio). Some of these adjustments would be made only to the tier 1 portion of the capital base. Other adjustments would be made 50 percent from tier 1 capital and 50 percent from tier 2 capital.[32] Under the proposed rule, a bank must still have at least 50 percent of its total qualifying capital in the form of tier 1 capital.

The bank would continue to deduct from tier 1 capital goodwill, other intangible assets, and deferred tax assets to the same extent that those assets are currently required to be deducted from tier 1 capital under the general risk-based capital rules. Thus, all goodwill would be deducted from tier 1 capital. Qualifying intangible assets—including mortgage servicing assets, non-mortgage servicing assets, and purchased credit card relationships—that meet the conditions and limits in the general risk-based capital rules would not have to be deducted from tier 1 capital. Likewise, deferred tax assets that are dependent upon future taxable income and that meet the valuation requirements and limits in the general risk-based capital rules would not have to be deducted from tier 1 capital.[33]

Under the general risk-based capital rules, a bank also must deduct from its tier 1 capital certain percentages of the adjusted carrying value of its nonfinancial equity investments. An advanced approaches bank would no longer be required to make this deduction. Instead, the bank's equity exposures would be subject to the equity treatment in part VI of the proposed rule and described in section V.F. of this preamble.[34]

Under the general risk-based capital rules, a bank is allowed to include in tier 2 capital its ALLL up to 1.25 percent of risk-weighted assets (net of certain deductions). Amounts of ALLL in excess of this limit, as well as allocated transfer risk reserves, may be deducted from the gross amount of risk-weighted assets.

Under the proposed framework, as noted above, the ALLL is treated differently. The proposed rule includes a methodology for adjusting risk-based capital requirements based on a comparison of the bank's eligible credit reserves to its ECL. The proposed rule defines eligible credit reserves as all general allowances, including the ALLL, that have been established through a charge against earnings to absorb credit losses associated with on- or off-balance sheet wholesale and retail exposures. Eligible credit reserves would not include allocated transfer risk reserves established pursuant to 12 U.S.C. 3904[35] and other specific reserves created against recognized losses.

The proposed rule defines a bank's total ECL as the sum of ECL for all wholesale and retail exposures other than exposures to which the bank has applied the double default treatment (described below). The bank's ECL for a wholesale exposure to a non-defaulted obligor or a non-defaulted retail segment is the product of PD, ELGD, and EAD for the exposure or segment. The bank's ECL for a wholesale exposure to a defaulted obligor or a defaulted retail segment is equal to the bank's impairment estimate for ALLL purposes for the exposure or segment.

The proposed method of measuring ECL for non-defaulted exposures is different than the proposed method of measuring ECL for defaulted exposures. For non-defaulted exposures, ECL depends directly on ELGD and hence would reflect economic losses, including the cost of carry and direct and indirect workout expenses. In contrast, for defaulted exposures, ECL is based on accounting measures of credit

[31] *See* 12 CFR part 3, Appendix A, § 2 (national banks); 12 CFR part 208, Appendix A, § II (state member banks); 12 CFR part 225, Appendix A, § II (bank holding companies); 12 CFR part 325, Appendix A (state nonmember banks); and 12 CFR 567.5 (savings associations).

[32] If the amount deductible from tier 2 capital exceeds the bank's actual tier 2 capital, however, the bank must deduct the shortfall amount from tier 1 capital.

[33] *See* 12 CFR part 3, § 2 (national banks); 12 CFR part 208, Appendix A, § 2L3II (state member banks); 12 CFR part 225, Appendix A, § II (bank holding companies); 12 CFR part 325, Appendix A, § II (state nonmember banks). OTS existing rules are formulated differently, but include similar deductions. Under OTS rules, for example, goodwill is included within the definition of ''intangible assets'' and is deducted from tier 1 (core) capital along with other intangible assets. *See* 12 CFR 567.1 and 567.5(a)(2)(i). Similarly, purchased credit card relationships and mortgage and non-mortgage servicing assets are included in capital to the same extent as the other agencies' rules. *See* 12 CFR 567.5(a)(2)(ii) and 567.12. The deduction of deferred tax assets is discussed in Thrift Bulletin 56.

[34] By contrast, OTS rules require the deduction of equity investments from total capital. 12 CFR 567.5(c)(2)(ii). ''Equity investments'' are defined to include (i) investments in equity securities (other than investments in subsidiaries, equity investments that are permissible for national banks, indirect ownership interests in certain pools of assets (for example, mutual funds), Federal Home Loan Bank stock and Federal Reserve Bank stock); and (ii) investments in certain real property. 12 CFR 567.1. Savings associations applying the proposed rule would not be required to deduct investments in equity securities. Instead, such investments would be subject to the equity treatment in part VI of the proposed rule. Equity investments in real estate would continue to be deducted to the same extent as under the current rules.

[35] 12 U.S.C. 3904 does not apply to savings associations regulated by the OTS. As a result, the OTS rule will not refer to allocated transfer risk reserves.

loss incorporated into a bank's charge-off and reserving practices.

The agencies believe that, for defaulted exposures, any difference between a bank's best estimate of economic losses and its impairment estimate for ALLL purposes is likely to be small. As a result, the agencies are proposing to use a bank's ALLL impairment estimate in the determination of ECL for defaulted exposures to reduce implementation burden for banks. The agencies recognize that this proposed treatment would require a bank to specify how much of its ALLL is attributable to defaulted exposures, and that a bank still would need to capture all material economic losses on defaulted exposures when building its databases for estimating ELGDs and LGDs for non-defaulted exposures. *Question 22: The agencies seek comment on the proposed ECL approach for defaulted exposures as well as on an alternative treatment, under which ECL for a defaulted exposure would be calculated as the bank's current carrying value of the exposure multiplied by the bank's best estimate of the expected economic loss rate associated with the exposure (measured relative to the current carrying value), that would be more consistent with the proposed treatment of ECL for non-defaulted exposures. The agencies also seek comment on whether these two approaches would likely produce materially different ECL estimates for defaulted exposures. In addition, the agencies seek comment on the appropriate measure of ECL for assets held at fair value with gains and losses flowing through earnings.*

A bank must compare the total dollar amount of its ECL to its eligible credit reserves. If there is a shortfall of eligible credit reserves compared to total ECL, the bank would deduct 50 percent of the shortfall from tier 1 capital and 50 percent from tier 2 capital. If eligible credit reserves exceed total ECL, the excess portion of eligible credit reserves may be included in tier 2 capital up to 0.6 percent of credit-risk-weighted assets. The proposed rule defines credit-risk-weighted assets as 1.06 multiplied by the sum of total wholesale and retail risk-weighted assets, risk-weighted assets for securitization exposures, and risk-weighted assets for equity exposures.

A bank must deduct from tier 1 capital any increase in the bank's equity capital at the inception of a securitization transaction (gain-on-sale), other than an increase in equity capital that results from the bank's receipt of cash in connection with the securitization. The agencies have designed this deduction to offset accounting treatments that produce an increase in a bank's equity capital and tier 1 capital at the inception of a securitization—for example, a gain attributable to a CEIO that results from Financial Accounting Standard (FAS) 140 accounting treatment for the sale of underlying exposures to a securitization special purpose entity (SPE). Over time, as the bank, from an accounting perspective, realizes the increase in equity capital and tier 1 capital that was booked at the inception of the securitization through actual receipt of cash flows, the amount of the required deduction would shrink accordingly.

Under the general risk-based capital rules,[36] a bank must deduct CEIOs, whether purchased or retained, from tier 1 capital to the extent that the CEIOs exceed 25 percent of the bank's tier 1 capital. Under the proposed rule, a bank must deduct CEIOs from tier 1 capital to the extent they represent gain-on-sale, and must deduct any remaining CEIOs 50 percent from tier 1 capital and 50 percent from tier 2 capital.

Under the proposed rule, certain other securitization exposures also would be deducted from tier 1 and tier 2 capital. These exposures include, for example, securitization exposures that have an applicable external rating (defined below) that is more than one category below investment grade (for example, below BB) and most subordinated unrated securitization exposures. When a bank must deduct a securitization exposure (other than gain-on-sale) from regulatory capital, the bank must take the deduction 50 percent from tier 1 capital and 50 percent from tier 2 capital. Moreover, a bank may calculate any deductions from regulatory capital with respect to a securitization exposure (including after-tax gain-on-sale) net of any deferred tax liabilities associated with the exposure.

The proposed rule also requires a bank to deduct the bank's exposure on certain unsettled and failed capital markets transactions 50 percent from tier 1 capital and 50 percent from tier 2 capital, as discussed in more detail below in section V.D. of the preamble.

The agencies note that investments in unconsolidated banking and finance subsidiaries and reciprocal holdings of bank capital instruments would continue to be deducted from regulatory capital as described in the general risk-based capital rules. Under the agencies' current rules, a national or state bank that controls or holds an interest in a financial subsidiary does not consolidate the assets and liabilities of the financial subsidiary with those of the bank for risk-based capital purposes. In addition, the bank must deduct its equity investment (including retained earnings) in the financial subsidiary from regulatory capital—at least 50 percent from tier 1 capital and up to 50 percent from tier 2 capital.[37] A BHC generally does not deconsolidate the assets and liabilities of the financial subsidiaries of the BHC's subsidiary banks and does not deduct from its regulatory capital the equity investments of its subsidiary banks in financial subsidiaries. Rather, a BHC generally fully consolidates the financial subsidiaries of its subsidiary banks. These treatments would continue under the proposed rule.

For BHCs with consolidated insurance underwriting subsidiaries that are functionally regulated (or subject to comparable supervision and minimum regulatory capital requirements in their home jurisdiction), the following treatment would apply. The assets and liabilities of the subsidiary would be consolidated for purposes of determining the BHC's risk-weighted assets. However, the BHC must deduct from tier 1 capital an amount equal to the insurance underwriting subsidiary's minimum regulatory capital requirement as determined by its functional (or equivalent) regulator. For U.S. regulated insurance subsidiaries, this amount generally would be 200 percent of the subsidiary's Authorized Control Level as established by the appropriate state insurance regulator.

This approach with respect to functionally-regulated consolidated insurance underwriting subsidiaries is different from the New Accord, which broadly endorses a deconsolidation and deduction approach for insurance subsidiaries. The Board believes a full deconsolidation and deduction

[36] *See* 12 CFR part 3, Appendix A, section 2(c)(4) (national banks); 12 CFR part 208, Appendix A, section I.B.1.c. (state member banks); 12 CFR part 225, Appendix A, section I.B.1.c. (bank holding companies); 12 CFR part 325, Appendix A, section I.B.5. (state nonmember banks); 12 CFR 567.5(a)(2)(iii) (savings associations).

[37] *See* 12 CFR 5.39(h)(1) (national banks); 12 CFR 208.73(a) (state member banks); 12 CFR part 325, Appendix A, section I.B.2. (state nonmember banks). Again, OTS rules are formulated differently. For example, OTS rules do not use the terms ''unconsolidated banking and finance subsidiary'' or ''financial subsidiary.'' Rather, as required by section 5(t)(5) of the Home Owners' Loan Act (HOLA), equity and debt investments in non-includable subsidiaries (generally subsidiaries that are engaged in activities that are not permissible for a national bank) are deducted from assets and tier 1 (core) capital. 12 CFR 567.5(a)(2)(iv) and (v). As required by HOLA, OTS will continue to deduct non-includable subsidiaries. Reciprocal holdings of bank capital instruments are deducted from a savings association's total capital under 12 CFR 567.5(c)(2).

approach does not fully capture the risk in insurance underwriting subsidiaries at the consolidated BHC level and, thus, has proposed the consolidation and deduction approach described above. *Question 23: The Board seeks comment on this proposed treatment and in particular on how a minimum insurance regulatory capital proxy for tier 1 deduction purposes should be determined for insurance underwriting subsidiaries that are not subject to U.S. functional regulation.*

A March 10, 2005, final rule issued by the Board defined restricted core capital elements for BHCs and generally limited restricted core capital elements for internationally active banking organizations to 15 percent of the sum of all core capital elements net of goodwill less any associated deferred tax liability.[38] Restricted core capital elements are defined as qualifying cumulative perpetual preferred stock (and related surplus), minority interest related to qualifying cumulative perpetual preferred stock directly issued by a consolidated DI or foreign bank subsidiary, minority interest related to qualifying common or qualifying perpetual preferred stock issued by a consolidated subsidiary that is neither a DI nor a foreign bank, and qualifying trust preferred securities. The final rule defined an internationally active banking organization to be a BHC that (i) as of its most recent year-end FR Y–9C reports total consolidated assets equal to $250 billion or more or (ii) on a consolidated basis, reports total on-balance sheet foreign exposure of $10 billion or more in its filing of the most recent year-end FFIEC 009 Country Exposure Report. The Board intends to change the definition of an internationally active banking organization in the Board's capital adequacy guidelines for BHCs to make it consistent with the definition of a core bank. This change would be less restrictive on BHCs because the BHC threshold in this proposed rule uses total consolidated assets excluding insurance rather than total consolidated assets including insurance.

## V. Calculation of Risk-Weighted Assets

A bank's total risk-weighted assets would be the sum of its credit risk-weighted assets and risk-weighted assets for operational risk, minus the sum of its excess eligible credit reserves (that is, its eligible credit reserves in excess of its total ECL) not included in tier 2 capital and allocated transfer risk reserves.

### *A. Categorization of Exposures*

To calculate credit risk-weighted assets, a bank must group its exposures into four general categories: wholesale, retail, securitization, and equity. It must also identify assets not included in an exposure category and any non-material portfolios of exposures to which the bank elects not to apply the IRB framework. In order to exclude a portfolio from the IRB framework, a bank must demonstrate to the satisfaction of its primary Federal supervisor that the portfolio (when combined with all other portfolios of exposures that the bank seeks to exclude from the IRB framework) is not material to the bank.

#### 1. Wholesale Exposures

The proposed rule defines a wholesale exposure as a credit exposure to a company, individual, sovereign or governmental entity (other than a securitization exposure, retail exposure, or equity exposure).[39] The term ''company'' is broadly defined to mean a corporation, partnership, limited liability company, depository institution, business trust, SPE, association, or similar organization. Examples of a wholesale exposure include: (i) A non-tranched guarantee issued by a bank on behalf of a company;[40] (ii) a repo-style transaction entered into by a bank with a company and any other transaction in which a bank posts collateral to a company and faces counterparty credit risk; (iii) an exposure that the bank treats as a covered position under the MRA for which there is a counterparty credit risk charge in section 32 of the proposed rule; (iv) a sale of corporate loans by a bank to a third party in which the bank retains full recourse; (v) an OTC derivative contract entered into by a bank with a company; (vi) an exposure to an individual that is not managed by the bank as part of a segment of exposures with homogeneous risk characteristics; and (vii) a commercial lease.

The agencies are proposing two subcategories of wholesale exposures—HVCRE exposures and non-HVCRE exposures. Under the proposed rule, HVCRE exposures would be subject to a separate IRB risk-based capital formula that would produce a higher risk-based capital requirement for a given set of risk parameters than the IRB risk-based capital formula for non-HVCRE wholesale exposures. An HVCRE exposure is defined as a credit facility that finances or has financed the acquisition, development, or construction of real property, excluding facilities used to finance (i) one- to four-family residential properties or (ii) commercial real estate projects where: (A) The exposure's LTV ratio is less than or equal to the applicable maximum supervisory LTV ratio in the real estate lending standards of the agencies;[41] (B) the borrower has contributed capital to the project in the form of cash or unencumbered readily marketable assets (or has paid development expenses out-of-pocket) of at least 15 percent of the real estate's appraised ''as completed'' value; and (C) the borrower contributed the amount of capital required before the bank advances funds under the credit facility, and the capital contributed by the borrower or internally generated by the project is contractually required to remain in the project throughout the life of the project.

Once an exposure is determined to be HVCRE, it would remain an HVCRE exposure until paid in full, sold, or converted to permanent financing. After considering comments received on the ANPR, the agencies are proposing to retain a separate IRB risk-based capital formula for HVCRE exposures in recognition of the high levels of systematic risk inherent in some of these exposures. The agencies believe that the revised definition of HVCRE in the proposed rule appropriately identifies exposures that are particularly susceptible to systematic risk. *Question 24: The agencies seek comment on how to strike the appropriate balance between the enhanced risk sensitivity and marginally higher risk-based capital*

[38] 70 FR 11827 (Mar. 10, 2005). The final rule also allowed internationally active banking organizations to include restricted core capital elements in their tier 1 capital up to 25 percent of the sum of all core capital elements net of goodwill less associated deferred tax liability so long as any amounts of restricted core capital elements in excess of the 15 percent limit were in the form of mandatory convertible preferred securities.

[39] The proposed rule excludes from the definition of a wholesale exposure certain pre-sold one-to-four family residential construction loans and certain multifamily residential loans. The treatment of such loans is discussed below in section V.B.5. of the preamble.

[40] As described below, tranched guarantees (like most transactions that involve a tranching of credit risk) generally would be securitization exposures under this proposal. The proposal defines a guarantee broadly to include almost any transaction (other than a credit derivative executed under standard industry credit derivative documentation) that involves the transfer of the credit risk of an exposure from one party to another party. This definition of guarantee generally would include, for example, a credit spread option under which a bank has agreed to make payments to its counterparty in the event of an increase in the credit spread associated with a particular reference obligation issued by a company.

[41] 12 CFR part 34, Subpart D (OCC); 12 CFR part 208, Appendix C (Board); 12 CFR part 365, Subpart D (FDIC); and 12 CFR 560.100–560.101 (OTS).

*requirements obtained by separating HVCRE exposures from other wholesale exposures and the additional complexity the separation entails.*

The New Accord identifies five sub-classes of specialized lending for which the primary source of repayment of the obligation is the income generated by the financed asset(s) rather than the independent capacity of a broader commercial enterprise. The sub-classes are project finance, object finance, commodities finance, income-producing real estate, and HVCRE. The New Accord provides a methodology to accommodate banks that cannot meet the requirements for the estimation of PD for these exposure types. The sophisticated banks that would apply the advanced approaches in the United States should be able to estimate risk parameters for specialized lending exposures, and therefore the agencies are not proposing a separate treatment for specialized lending beyond the separate IRB risk-based capital formula for HVCRE exposures specified in the New Accord.

In contrast to the New Accord, the agencies are not including in this proposed rule an adjustment that would result in a lower risk weight for a loan to a small- and medium-size enterprise (SME) that has the same risk parameter values as a loan to a larger firm. The agencies are not aware of compelling evidence that smaller firms with the same PD and LGD as larger firms are subject to less systematic risk. *Question 25: The agencies request comment and supporting evidence on the consistency of the proposed treatment with the underlying riskiness of SME portfolios. Further, the agencies request comment on any competitive issues that this aspect of the proposed rule may cause for U.S. banks.*

2. Retail Exposures

Under the proposed rule, a retail exposure would generally include exposures (other than securitization exposures or equity exposures) to an individual or small business that are managed as part of a segment of similar exposures, that is, not on an individual-exposure basis. Under the proposed rule, there are three subcategories of retail exposure: (i) Residential mortgage exposures; (ii) QREs; and (iii) other retail exposures. The agencies propose generally to define residential mortgage exposure as an exposure that is primarily secured by a first or subsequent lien on one-to-four-family residential property.[42] This includes both term loans and revolving home equity lines of credit (HELOCs). An exposure primarily secured by a first or subsequent lien on residential property that is not one-to-four family would also be included as a residential mortgage exposure as long as the exposure has both an original and current outstanding amount of no more than $1 million. There would be no upper limit on the size of an exposure that is secured by one-to-four-family residential properties. To be a residential mortgage exposure, the bank must manage the exposure as part of a segment of exposures with homogeneous risk characteristics. Residential mortgage loans that are managed on an individual basis, rather than managed as part of a segment, would be categorized as wholesale exposures.

QREs would be defined as exposures to individuals that are (i) revolving, unsecured, and unconditionally cancelable by the bank to the fullest extent permitted by Federal law; (ii) have a maximum exposure amount (drawn plus undrawn) of up to $100,000; and (iii) are managed as part of a segment with homogeneous risk characteristics. In practice, QREs typically would include exposures where customers' outstanding borrowings are permitted to fluctuate based on their decisions to borrow and repay, up to a limit established by the bank. Most credit card exposures to individuals and overdraft lines on individual checking accounts would be QREs.

The category of other retail exposures would include two types of exposures. First, all exposures to individuals for non-business purposes (other than residential mortgage exposures and QREs) that are managed as part of a segment of similar exposures would be other retail exposures. Such exposures may include personal term loans, margin loans, auto loans and leases, credit card accounts with credit lines above $100,000, and student loans. The agencies are not proposing an upper limit on the size of these types of retail exposures to individuals. Second, exposures to individuals or companies for business purposes (other than residential mortgage exposures and QREs), up to a single-borrower exposure threshold of $1 million, that are managed as part of a segment of similar exposures would be other retail exposures. For the purpose of assessing exposure to a single borrower, the bank would aggregate all business exposures to a particular legal entity and its affiliates that are consolidated under GAAP. If that legal entity is a natural person, any consumer loans (for example, personal credit card loans or mortgage loans) to that borrower would not be part of the aggregate. A bank could distinguish a consumer loan from a business loan by the loan department through which the loan is made. Exposures to a borrower for business purposes primarily secured by residential property would count toward the $1 million single-borrower other retail business exposure threshold.[43]

The residual value portion of a retail lease exposure is excluded from the definition of an other retail exposure. A bank would assign the residual value portion of a retail lease exposure a risk-weighted asset amount equal to its residual value as described in section 31 of the proposed rule.

3. Securitization Exposures

The proposed rule defines a securitization exposure as an on-balance sheet or off-balance sheet credit exposure that arises from a traditional or synthetic securitization. A traditional securitization is a transaction in which (i) all or a portion of the credit risk of one or more underlying exposures is transferred to one or more third parties other than through the use of credit derivatives or guarantees; (ii) the credit risk associated with the underlying exposures has been separated into at least two tranches reflecting different levels of seniority; (iii) performance of the securitization exposures depends on the performance of the underlying exposures; and (iv) all or substantially all of the underlying exposures are financial exposures. Examples of financial exposures are loans, commitments, receivables, asset-backed securities, mortgage-backed securities, corporate bonds, equity securities, or credit derivatives. For purposes of the proposed rule, mortgage-backed pass-through securities guaranteed by Fannie Mae or Freddie Mac (whether or not issued out of a structure that tranches credit risk) also would be securitization exposures.[44]

[42] The proposed rule excludes from the definition of a residential mortgage exposure certain pre-sold one-to-four family residential construction loans and certain multi-family residential loans. The treatment of such loans is discussed below in section V.B.5. of the preamble.

[43] The proposed rule excludes from the definition of an other retail exposure certain pre-sold one-to-four family residential construction loans and certain multi-family residential loans. The treatment of such loans is discussed below in section V.B.5. of the preamble.

[44] In addition, margin loans and other credit exposures to personal investment companies, all or substantially all of whose assets are financial exposures, typically would meet the definition of a securitization exposure.

A synthetic securitization is a transaction in which (i) all or a portion of the credit risk of one or more underlying exposures is transferred to one or more third parties through the use of one or more credit derivatives or guarantees (other than a guarantee that transfers only the credit risk of an individual retail exposure); (ii) the credit risk associated with the underlying exposures has been separated into at least two tranches reflecting different levels of seniority; (iii) performance of the securitization exposures depends on the performance of the underlying exposures; and (iv) all or substantially all of the underlying exposures are financial exposures. Accordingly, the proposed definition of a securitization exposure would include tranched cover or guarantee arrangements—that is, arrangements in which an entity transfers a portion of the credit risk of an underlying exposure to one or more other guarantors or credit derivative providers but also retains a portion of the credit risk, where the risk transferred and the risk retained are of different seniority levels.[45]

Provided that there is a tranching of credit risk, securitization exposures also could include, among other things, asset-backed and mortgage-backed securities; loans, lines of credit, liquidity facilities, and financial standby letters of credit; credit derivatives and guarantees; loan servicing assets; servicer cash advance facilities; reserve accounts; credit-enhancing representations and warranties; and CEIOs. Securitization exposures also could include assets sold with retained tranched recourse. Both the designation of exposures as securitization exposures and the calculation of risk-based capital requirements for securitization exposures will be guided by the economic substance of a transaction rather than its legal form.

As noted above, for a transaction to constitute a securitization transaction under the proposed rule, all or substantially all of the underlying exposures must be financial exposures. The proposed rule includes this requirement because the proposed securitization framework was designed to address the tranching of the credit risk of exposures to which the IRB framework can be applied. Accordingly, a specialized loan to finance the construction or acquisition of large-scale projects (for example, airports and power plants), objects (for example, ships, aircraft, or satellites), or commodities (for example, reserves, inventories, precious metals, oil, or natural gas) generally would not be a securitization exposure because the assets backing the loan typically would be nonfinancial assets (the facility, object, or commodity being financed). In addition, although some structured transactions involving income-producing real estate or HVCRE can resemble securitizations, these transactions generally would not be securitizations because the underlying exposure would be real estate. Consequently, exposures resulting from the tranching of the risks of nonfinancial assets are not subject to the proposed rule's securitization framework, but generally are subject to the proposal's rules for wholesale exposures. *Question 26: The agencies request comment on the appropriate treatment of tranched exposures to a mixed pool of financial and non-financial underlying exposures. The agencies specifically are interested in the views of commenters as to whether the requirement that all or substantially all of the underlying exposures of a securitization be financial exposures should be softened to require only that some lesser portion of the underlying exposures be financial exposures.*

4. Equity Exposures

The proposed rule defines an equity exposure to mean:

(i) A security or instrument whether voting or non-voting that represents a direct or indirect ownership interest in, and a residual claim on, the assets and income of a company, unless: (A) The issuing company is consolidated with the bank under GAAP; (B) the bank is required to deduct the ownership interest from tier 1 or tier 2 capital; (C) the ownership interest is redeemable; (D) the ownership interest incorporates a payment or other similar obligation on the part of the issuing company (such as an obligation to pay periodic interest); or (E) the ownership interest is a securitization exposure.

(ii) A security or instrument that is mandatorily convertible into a security or instrument described in (i).

(iii) An option or warrant that is exercisable for a security or instrument described in (i).

(iv) Any other security or instrument (other than a securitization exposure) to the extent the return on the security or instrument is based on the performance of security or instrument described in (i). For example, a short position in an equity security or a total return equity swap would be characterized as an equity exposure.

Nonconvertible term or perpetual preferred stock generally would be considered wholesale exposures rather than equity exposures. Financial instruments that are convertible into an equity exposure only at the option of the holder or issuer also generally would be considered wholesale exposures rather than equity exposures provided that the conversion terms do not expose the bank to the risk of losses arising from price movements in that equity exposure. Upon conversion, the instrument would be treated as an equity exposure.

The agencies note that, as a general matter, each of a bank's exposures will fit in one and only one exposure category. One principal exception to this rule is that equity derivatives generally will meet the definition of an equity exposure (because of the bank's exposure to the underlying equity security) and the definition of a wholesale exposure (because of the bank's credit risk exposure to the counterparty). In such cases, as discussed in more detail below, the bank's risk-based capital requirement for the derivative generally would be the sum of its risk-based capital requirement for the derivative counterparty credit risk and for the underlying exposure.

5. Boundary Between Operational Risk and Other Risks

With the introduction of an explicit risk-based capital requirement for operational risk, issues arise about the proper treatment of operational losses that could also be attributed to either credit risk or market risk. The agencies recognize that these boundary issues are important and have significant implications for how banks would compile loss data sets and compute risk-based capital requirements under the proposed rule. Consistent with the treatment in the New Accord, the agencies propose treating operational losses that are related to market risk as operational losses for purposes of calculating risk-based capital requirements under this proposed rule. For example, losses incurred from a failure of bank personnel to properly execute a stop loss order, from trading fraud, or from a bank selling a security

[45] If a bank purchases an asset-backed security issued by a securitization SPE and purchases a credit derivative to protect itself from credit losses associated with the asset-backed security, the purchase of the credit derivative by the investing bank does not turn the traditional securitization into a synthetic securitization. Instead, under the proposal, the investing bank would be viewed as having purchased a traditional securitization exposure and would reflect the CRM benefits of the credit derivative through the securitization CRM rules described later in the preamble and in section 46 of the proposed rule.

when a purchase was intended, would be treated as operational losses.

The agencies generally propose to treat losses that are related to both operational risk and credit risk as credit losses for purposes of calculating risk-based capital requirements. For example, where a loan defaults (credit risk) and the bank discovers that the collateral for the loan was not properly secured (operational risk), the bank's resulting loss would be attributed to credit risk (not operational risk). This general separation between credit and operational risk is supported by current U.S. accounting standards for the treatment of credit risk.

The proposed exception to this standard is retail credit card fraud losses. More specifically, retail credit card losses arising from non-contractual, third party-initiated fraud (for example, identity theft) are to be treated as external fraud operational losses under this proposed rule. All other third party-initiated losses are to be treated as credit losses. Based on discussions with the industry, this distinction is consistent with prevailing practice in the credit card industry, with banks commonly considering these losses to be operational losses and treating them as such for risk management purposes.

*Question 27: The agencies seek commenters' perspectives on other loss types for which the boundary between credit and operational risk should be evaluated further (for example, with respect to losses on HELOCs).*

6. Boundary Between the Proposed Rule and the Market Risk Amendment (MRA)

Positions currently subject to the MRA include all positions classified as trading consistent with GAAP. The New Accord sets forth additional criteria for positions to be eligible for application of the MRA. The agencies propose to incorporate these additional criteria into the MRA through a separate notice of proposed rulemaking concurrently published in the **Federal Register**. Advanced approaches banks subject to the MRA would use the MRA as amended for trading exposures eligible for application of the MRA. Advanced approaches banks not subject to the MRA would use this proposed rule for all of their exposures. *Question 28: The agencies generally seek comment on the proposed treatment of the boundaries between credit, operational, and market risk.*

*B. Risk-Weighted Assets for General Credit Risk (Wholesale Exposures, Retail Exposures, On-Balance Sheet Assets That Are Not Defined by Exposure Category, and Immaterial Credit Portfolios)*

Under the proposed rule, the wholesale and retail risk-weighted assets calculation consists of four phases: (1) Categorization of exposures; (2) assignment of wholesale exposures to rating grades and segmentation of retail exposures; (3) assignment of risk parameters to wholesale obligors and exposures and segments of retail exposures; and (4) calculation of risk-weighted asset amounts. Phase 1 involves the categorization of a bank's exposures into four general categories—wholesale exposures, retail exposures, securitization exposures, and equity exposures. Phase 1 also involves the further classification of retail exposures into subcategories and identifying certain wholesale exposures that receive a specific treatment within the wholesale framework. Phase 2 involves the assignment of wholesale obligors and exposures to rating grades and the segmentation of retail exposures. Phase 3 requires the bank to assign a PD, ELGD, LGD, EAD, and M to each wholesale exposure and a PD, ELGD, LGD, and EAD to each segment of retail exposures. In phase 4, the bank calculates the risk-weighted asset amount (i) for each wholesale exposure and segment of retail exposures by inserting the risk parameter estimates into the appropriate IRB risk-based capital formula and multiplying the formula's dollar risk-based capital requirement output by 12.5; and (ii) for on-balance sheet assets that are not included in one of the defined exposure categories and for certain immaterial portfolios of exposures by multiplying the carrying value or notional amount of the exposures by a 100 percent risk weight.

1. Phase 1—Categorization of Exposures

In phase 1, a bank must determine which of its exposures fall into each of the four principal IRB exposure categories—wholesale exposures, retail exposures, securitization exposures, and equity exposures. In addition, a bank must identify within the wholesale exposure category certain exposures that receive a special treatment under the wholesale framework. These exposures include HVCRE exposures, sovereign exposures, eligible purchased wholesale receivables, eligible margin loans, repo-style transactions, OTC derivative contracts, unsettled transactions, and eligible guarantees and eligible credit derivatives that are used as credit risk mitigants.

The treatment of HVCRE exposures and eligible purchased wholesale receivables is discussed below in this section. The treatment of eligible margin loans, repo-style transactions, OTC derivative contracts, and eligible guarantees and eligible credit derivatives that are credit risk mitigants is discussed in section V.C. of the preamble. In addition, sovereign exposures and exposures to or directly and unconditionally guaranteed by the Bank for International Settlements, the International Monetary Fund, the European Commission, the European Central Bank, and multi-lateral development banks [46] are exempt from the 0.03 percent floor on PD discussed in the next section.

In phase 1, a bank also must subcategorize its retail exposures as residential mortgage exposures, QREs, or other retail exposures. In addition, a bank must identify any on-balance sheet asset that does not meet the definition of a wholesale, retail, securitization, or equity exposure, as well as any non-material portfolio of exposures to which it chooses, subject to supervisory review, not to apply the IRB risk-based capital formulas.

2. Phase 2 Assignment of Wholesale Obligors and Exposures to Rating Grades and Retail Exposures to Segments

In phase 2, a bank must assign each wholesale obligor to a single rating grade (for purposes of assigning an estimated PD) and may assign each wholesale exposure to loss severity rating grades (for purposes of assigning an estimated ELGD and LGD). A bank that elects not use a loss severity rating grade system for a wholesale exposure will directly assign ELGD and LGD to the wholesale exposure in phase 3. As a part of the process of assigning wholesale obligors to rating grades, a bank must identify which of its wholesale obligors are in default.

In addition, a bank must divide its retail exposures within each retail subcategory into segments that have homogeneous risk characteristics.[47]

[46] Multi-lateral development bank is defined as any multi-lateral lending institution or regional development bank in which the U.S. government is a shareholder or contributing member. These institutions currently are the International Bank for Reconstruction and Development, the International Finance Corporation, the Inter-American Development Bank, the Asian Development Bank, the African Development Bank, and the European Bank for Reconstruction and Development.

[47] A bank must segment defaulted retail exposures separately from non-defaulted retail

Continued

Segmentation is the grouping of exposures within each subcategory according to the predominant risk characteristics of the borrower (for example, credit score, debt-to-income ratio, and delinquency) and the exposure (for example, product type and LTV ratio). In general, retail segments should not cross national jurisdictions. A bank would have substantial flexibility to use the retail portfolio segmentation it believes is most appropriate for its activities, subject to the following broad principles:

- Differentiation of risk—Segmentation should provide meaningful differentiation of risk. Accordingly, in developing its risk segmentation system, a bank should consider the chosen risk drivers' ability to separate risk consistently over time and the overall robustness of the bank's approach to segmentation.
- Reliable risk characteristics—Segmentation should use borrower-related risk characteristics and exposure-related risk characteristics that reliably and consistently over time differentiate a segment's risk from that of other segments.
- Consistency—Risk drivers for segmentation should be consistent with the predominant risk characteristics used by the bank for internal credit risk measurement and management.
- Accuracy—The segmentation system should generate segments that separate exposures by realized performance and should be designed so that actual long-run outcomes closely approximate the retail risk parameters estimated by the bank.

A bank might choose to segment exposures by common risk drivers that are relevant and material in determining the loss characteristics of a particular retail product. For example, a bank may segment mortgage loans by LTV band, age from origination, geography, origination channel, and credit score. Statistical modeling, expert judgment, or some combination of the two may determine the most relevant risk drivers. Alternatively, a bank might segment by grouping exposures with similar loss characteristics, such as loss rates or default rates, as determined by historical performance of segments with similar risk characteristics.

Banks commonly obtain tranched credit protection, for example first-loss or second-loss guarantees, on certain retail exposures such as residential mortgages. The agencies recognize that the securitization framework, which applies to tranched wholesale exposures, is not appropriate for individual retail exposures. The agencies therefore are proposing to exclude tranched guarantees that apply only to an individual retail exposure from the securitization framework. An important result of this exclusion is that, in contrast to the treatment of wholesale exposures, a bank may recognize recoveries from both an obligor and a guarantor for purposes of estimating the ELGD and LGD for certain retail exposures. *Question 29: The agencies seek comment on this approach to tranched guarantees on retail exposures and on alternative approaches that could more appropriately reflect the risk mitigating effect of such guarantees while addressing the agencies' concerns about counterparty credit risk and correlation between the credit quality of an obligor and a guarantor.*

Banks have expressed concern about the treatment of retail margin loans under the New Accord. Due to the highly collateralized nature and low loss frequency of margin loans, banks typically collect little customer-specific information that they could use to differentiate margin loans into segments. The agencies believe that a bank could appropriately segment its margin loan portfolio using only product-specific risk drivers, such as product type and origination channel. A bank could then use the retail definition of default to associate a PD, ELGD, and LGD with each segment. As described in section 32 of the proposed rule, a bank could adjust the EAD of eligible margin loans to reflect the risk-mitigating effect of financial collateral. For a segment of retail eligible margin loans, a bank would associate an ELGD and LGD with the segment that do not reflect the presence of collateral. If a bank is not able to estimate PD, ELGD, and LGD for a segment of eligible margin loans, the bank may apply a 300 percent risk weight to the EAD of the segment. *Question 30: The agencies seek comment on wholesale and retail exposure types for which banks are not able to calculate PD, ELGD, and LGD and on what an appropriate risk-based capital treatment for such exposures might be.*

In phase 3, each retail segment will typically be associated with a separate PD, ELGD, LGD, and EAD. In some cases, it may be reasonable to use the same PD, ELGD, LGD, or EAD estimate for multiple segments.

A bank must segment defaulted retail exposures separately from non-defaulted retail exposures and should base the segmentation of defaulted retail exposures on characteristics that are most predictive of current loss and recovery rates. This segmentation should provide meaningful differentiation so that individual exposures within each defaulted segment do not have material differences in their expected loss severity.

*Purchased wholesale receivables.* A bank may also elect to use a top-down approach, similar to the treatment of retail exposures, for eligible purchased wholesale receivables. Under this approach, in phase 2, a bank would group its eligible purchased wholesale receivables that, when consolidated by obligor, total less than $1 million into segments that have homogeneous risk characteristics. To be an eligible purchased wholesale receivable, several criteria must be met:

- The purchased wholesale receivable must be purchased from an unaffiliated seller and must not have been directly or indirectly originated by the purchasing bank;
- The purchased wholesale receivable must be generated on an arm's-length basis between the seller and the obligor. Intercompany accounts receivable and receivables subject to contra-accounts between firms that buy and sell to each other are ineligible;
- The purchasing bank must have a claim on all proceeds from the receivable or a pro-rata interest in the proceeds; and
- The purchased wholesale receivable must have an effective remaining maturity of less than one year.

*Wholesale lease residuals.* The agencies are proposing a treatment for wholesale lease residuals that differs from the New Accord. A wholesale lease residual typically exposes a bank to the risk of a decline in value of the leased asset and to the credit risk of the lessee. Although the New Accord provides for a flat 100 percent risk weight for wholesale lease residuals, the agencies believe this is excessively punitive for leases to highly creditworthy lessees. Accordingly, the proposed rule would require a bank to treat its net investment in a wholesale lease as a single exposure to the lessee. There would not be a separate capital calculation for the wholesale lease residual. In contrast, a retail lease residual, consistent with the New Accord, would be assigned a risk-weighted asset amount equal to its residual value (as described in more detail above).

exposures and, if the bank determines the EAD for eligible margin loans using the approach in section 32(a) of the proposed rule, it must segment retail eligible margin loans for which the bank uses this approach separately from other retail exposures.

3. Phase 3—Assignment of Risk Parameters to Wholesale Obligors and Exposures and Retail Segments

In phase 3, a bank would associate a PD with each wholesale obligor rating grade; associate an ELGD or LGD with each wholesale loss severity rating grade or assign an ELGD and LGD to each wholesale exposure; assign an EAD and M to each wholesale exposure; and assign a PD, ELGD, LGD, and EAD to each segment of retail exposures. The quantification phase can generally be divided into four steps—obtaining historical reference data, estimating the risk parameters for the reference data, mapping the historical reference data to the bank's current exposures, and determining the risk parameters for the bank's current exposures.

A bank should base its estimation of the values assigned to PD, ELGD, LGD, and EAD[48] on historical reference data that are a reasonable proxy for the bank's current exposures and that provide meaningful predictions of the performance of such exposures. A ''reference data set'' consists of a set of exposures to defaulted wholesale obligors and defaulted retail exposures (in the case of ELGD, LGD, and EAD estimation) or to both defaulted and non-defaulted wholesale obligors and retail exposures (in the case of PD estimation).

The reference data set should be described using a set of observed characteristics. Relevant characteristics might include debt ratings, financial measures, geographic regions, the economic environment and industry/sector trends during the time period of the reference data, borrower and loan characteristics related to the risk parameters (such as loan terms, LTV ratio, credit score, income, debt-to-income ratio, or performance history), or other factors that are related in some way to the risk parameters. Banks may use more than one reference data set to improve the robustness or accuracy of the parameter estimates.

A bank should then apply statistical techniques to the reference data to determine a relationship between risk characteristics and the estimated risk parameter. The result of this step is a model that ties descriptive characteristics to the risk parameter estimates. In this context, the term 'model' is used in the most general sense; a model may be simple, such as the calculation of averages, or more complicated, such as an approach based on advanced regression techniques. This step may include adjustments for differences between this proposed rule's definition of default and the default definition in the reference data set, or adjustments for data limitations. This step should also include adjustments for seasoning effects related to retail exposures.

A bank may use more than one estimation technique to generate estimates of the risk parameters, especially if there are multiple sets of reference data or multiple sample periods. If multiple estimates are generated, the bank must have a clear and consistent policy on reconciling and combining the different estimates.

Once a bank estimates PD, ELGD, LGD, and EAD for its reference data sets, it would create a link between its portfolio data and the reference data based on corresponding characteristics. Variables or characteristics that are available for the existing portfolio would be mapped or linked to the variables used in the default, loss-severity, or exposure amount model. In order to effectively map the data, reference data characteristics would need to allow for the construction of rating and segmentation criteria that are consistent with those used on the bank's portfolio. An important element of mapping is making adjustments for differences between reference data sets and the bank's exposures.

Finally, a bank would apply the risk parameters estimated for the reference data to the bank's actual portfolio data. The bank would attribute a PD to each wholesale obligor and each segment of retail exposures, and an ELGD, LGD, and EAD to each wholesale exposure and to each segment of retail exposures. If multiple data sets or estimation methods are used, the bank must adopt a means of combining the various estimates at this stage.

The proposed rule, as noted above, permits a bank to elect to segment its eligible purchased wholesale receivables like retail exposures. A bank that chooses to apply this treatment must directly assign a PD, ELGD, LGD, EAD, and M to each such segment. If a bank can estimate ECL (but not PD or LGD) for a segment of eligible purchased wholesale receivables, the bank must assume that the ELGD and LGD of the segment equal 100 percent and that the PD of the segment equals ECL divided by EAD. The bank must estimate ECL for the receivables without regard to any assumption of recourse or guarantees from the seller or other parties. The bank would then use the wholesale exposure formula in section 31(e) of the proposed rule to determine the risk-based capital requirement for each segment of eligible purchased wholesale receivables.

A bank may recognize the credit risk mitigation benefits of collateral that secures a wholesale exposure by adjusting its estimate of the ELGD and LGD of the exposure and may recognize the credit risk mitigation benefits of collateral that secures retail exposures by adjusting its estimate of the PD, ELGD, and LGD of the segment of retail exposures. In certain cases, however, a bank may take financial collateral into account in estimating the EAD of repo-style transactions, eligible margin loans, and OTC derivative contracts (as provided in section 32 of the proposed rule).

The proposed rule also provides that a bank may use an EAD of zero for (i) derivative contracts that are traded on an exchange that requires the daily receipt and payment of cash-variation margin; (ii) derivative contracts and repo-style transactions that are outstanding with a qualifying central counterparty, but not for those transactions that the qualifying central counterparty has rejected; and (iii) credit risk exposures to a qualifying central counterparty that arise from derivative contracts and repo-style transactions in the form of clearing deposits and posted collateral. The proposed rule defines a qualifying central counterparty as a counterparty (for example, a clearing house) that: (i) Facilitates trades between counterparties in one or more financial markets by either guaranteeing trades or novating contracts; (ii) requires all participants in its arrangements to be fully collateralized on a daily basis; and (iii) the bank demonstrates to the satisfaction of its primary Federal supervisor is in sound financial condition and is subject to effective oversight by a national supervisory authority.

Some repo-style transactions and OTC derivative contracts giving rise to counterparty credit risk may give rise, from an accounting point of view, to both on- and off-balance sheet exposures. Where a bank is using an EAD approach to measure the amount of risk exposure for such transactions, factoring in collateral effects where applicable, it would not also separately apply a risk-based capital requirement to an on-balance sheet receivable from the counterparty recorded in connection with that transaction. Because any exposure arising from the on-balance sheet receivable is captured in the capital requirement determined under the EAD approach, a separate capital requirement would double count the

[48] EAD for repo-style transactions, eligible margin loans, and OTC derivatives is calculated as described in section 32 of the proposed rule.

exposure for regulatory capital purposes.

A bank may take into account the risk reducing effects of eligible guarantees and eligible credit derivatives in support of a wholesale exposure by applying the PD substitution approach or the LGD adjustment approach to the exposure as provided in section 33 of the proposed rule or, if applicable, applying double default treatment to the exposure as provided in section 34 of the proposed rule. A bank may decide separately for each wholesale exposure that qualifies for the double default treatment whether to apply the PD substitution approach, the LGD adjustment approach, or the double default treatment. A bank may take into account the risk reducing effects of guarantees and credit derivatives in support of retail exposures in a segment when quantifying the PD, ELGD, and LGD of the segment.

There are several supervisory limitations imposed on risk parameters assigned to wholesale obligors and exposures and segments of retail exposures. First, the PD for each wholesale obligor or segment of retail exposures may not be less than 0.03 percent, except for exposures to or directly and unconditionally guaranteed by a sovereign entity, the Bank for International Settlements, the International Monetary Fund, the European Commission, the European Central Bank, or a multi-lateral development bank, to which the bank assigns a rating grade associated with a PD of less than 0.03 percent. Second, the LGD of a segment of residential mortgage exposures (other than segments of residential mortgage exposures for which all or substantially all of the principal of the exposures is directly and unconditionally guaranteed by the full faith and credit of a sovereign entity) may not be less than 10 percent. These supervisory floors on PD and LGD apply regardless of whether the bank recognizes an eligible guarantee or eligible credit derivative as provided in sections 33 and 34 of the proposed rule.

The agencies would not allow a bank to artificially group exposures into segments specifically to avoid the LGD floor for mortgage products. A bank should use consistent risk drivers to determine its retail exposure segmentations and not artificially segment low LGD loans with higher LGD loans to avoid the floor.

A bank also must calculate the effective remaining maturity (M) for each wholesale exposure. For wholesale exposures other than repo-style transactions, eligible margin loans, and OTC derivative contracts subject to a qualifying master netting agreement, M would be the weighted-average remaining maturity (measured in whole or fractional years) of the expected contractual cash flows from the exposure, using the undiscounted amounts of the cash flows as weights. A bank may use its best estimate of future interest rates to compute expected contractual interest payments on a floating-rate exposure, but it may not consider expected but noncontractually required returns of principal, when estimating M. A bank could, at its option, use the nominal remaining maturity (measured in whole or fractional years) of the exposure. The M for repo-style transactions, eligible margin loans, and OTC derivative contracts subject to a qualifying master netting agreement would be the weighted-average remaining maturity (measured in whole or fractional years) of the individual transactions subject to the qualifying master netting agreement, with the weight of each individual transaction set equal to the notional amount of the transaction. *Question 31: The agencies seek comment on the appropriateness of permitting a bank to consider prepayments when estimating M and on the feasibility and advisability of using discounted (rather than undiscounted) cash flows as the basis for estimating M.*

Under the proposed rule, a qualifying master netting agreement is defined to mean any written, legally enforceable bilateral agreement, provided that:

(i) The agreement creates a single legal obligation for all individual transactions covered by the agreement upon an event of default, including bankruptcy, insolvency, or similar proceeding, of the counterparty;

(ii) The agreement provides the bank the right to accelerate, terminate, and close-out on a net basis all transactions under the agreement and to liquidate or set off collateral promptly upon an event of default, including upon an event of bankruptcy, insolvency, or similar proceeding, of the counterparty, provided that, in any such case, any exercise of rights under the agreement will not be stayed or avoided under applicable law in the relevant jurisdictions;

(iii) The bank has conducted and documented sufficient legal review to conclude with a well-founded basis that the agreement meets the requirements of paragraph (ii) of this definition and that in the event of a legal challenge (including one resulting from default or from bankruptcy, insolvency, or similar proceeding) the relevant court and administrative authorities would find the agreement to be legal, valid, binding, and enforceable under the law of the relevant jurisdictions;

(iv) The bank establishes and maintains procedures to monitor possible changes in relevant law and to ensure that the agreement continues to satisfy the requirements of this definition; and

(v) The agreement does not contain a walkaway clause (that is, a provision that permits a non-defaulting counterparty to make lower payments than it would make otherwise under the agreement, or no payment at all, to a defaulter or the estate of a defaulter, even if the defaulter or the estate of the defaulter is a net creditor under the agreement).

The agencies would consider the following jurisdictions to be relevant for a qualifying master netting agreement: The jurisdiction in which each counterparty is chartered or the equivalent location in the case of non-corporate entities, and if a branch of a counterparty is involved, then also the jurisdiction in which the branch is located; the jurisdiction that governs the individual transactions covered by the agreement; and the jurisdiction that governs the agreement.

For most exposures, M may be no greater than five years and no less than one year. For exposures that have an original maturity of less than one year and are not part of a bank's ongoing financing of the obligor, however, a bank may set M equal to the greater of one day and M. An exposure is not part of a bank's ongoing financing of the obligor if the bank (i) has a legal and practical ability not to renew or roll over the exposure in the event of credit deterioration of the obligor; (ii) makes an independent credit decision at the inception of the exposure and at every renewal or rollover; and (iii) has no substantial commercial incentive to continue its credit relationship with the obligor in the event of credit deterioration of the obligor. Examples of transactions that may qualify for the exemption from the one-year maturity floor include due from other banks, including deposits in other banks; bankers' acceptances; sovereign exposures; short-term self-liquidating trade finance exposures; repo-style transactions; eligible margin loans; unsettled trades and other exposures resulting from payment and settlement processes; and collateralized OTC derivative contracts subject to daily remargining.

4. Phase 4—Calculation of Risk-Weighted Assets

After a bank assigns risk parameters to each of its wholesale obligors and

exposures and retail segments, the bank would calculate the dollar risk-based capital requirement for each wholesale exposure to a non-defaulted obligor or segment of non-defaulted retail exposures (except eligible guarantees and eligible credit derivatives that hedge another wholesale exposure and exposures to which the bank is applying the double default treatment in section 34 of the proposed rule) by inserting the risk parameters for the wholesale obligor and exposure or retail segment into the appropriate IRB risk-based capital formula specified in Table C and multiplying the output of the formula (K) by the EAD of the exposure or segment. Eligible guarantees and eligible credit derivatives that are hedges of a wholesale exposure would be reflected in the risk-weighted assets amount of the hedged exposure (i) through adjustments made to the risk parameters of the hedged exposure under the PD substitution or LGD adjustment approach in section 33 of the proposed rule or (ii) through a separate double default risk-based capital requirement formula in section 34 of the proposed rule.

Table C – IRB risk-based capital formulas for wholesale exposures to non-defaulted obligors and segments of non-defaulted retail exposures*

| | | |
|---|---|---|
| Retail | **Capital Requirement (K) Non-Defaulted Exposures** | $K = \left[ LGD \times N\left( \frac{N^{-1}(PD) + \sqrt{R} \times N^{-1}(0.999)}{\sqrt{1-R}} \right) - (ELGD \times PD) \right]$ |
| | **Correlation Factor (R)** | For residential mortgage exposures: $R = 0.15$ |
| | | For qualifying revolving exposures: $R = 0.04$ |
| | | For other retail exposures: $R = 0.03 + 0.13 \times e^{-35 \times PD}$ |
| Wholesale | **Capital Requirement (K) Non-Defaulted Exposures** | $K = \left[ LGD \times N\left( \frac{N^{-1}(PD) + \sqrt{R} \times N^{-1}(0.999)}{\sqrt{1-R}} \right) - (ELGD \times PD) \right] \times \left( \frac{1 + (M - 2.5) \times b}{1 - 1.5 \times b} \right)$ |
| | **Correlation Factor (R)** | For HVCRE exposures: $R = 0.12 + 0.18 \times e^{-50 \times PD}$ |
| | | For wholesale exposures other than HVCRE exposures: $R = 0.12 + 0.12 \times e^{-50 \times PD}$ |
| | **Maturity Adjustment (b)** | $b = (0.11852 - 0.05478 \times \ln(PD))^2$ |

*N(.) means the cumulative distribution function for a standard normal random variable. $N^{-1}$(.) means the inverse cumulative distribution function for a standard normal random variable. The symbol e refers to the base of the natural logarithms, and the function ln(.) refers to the natural logarithm of the expression within parentheses. The formulas apply when PD is greater than zero. If the PD equals zero, the capital requirement K is equal to zero.

The sum of the dollar risk-based capital requirements for wholesale exposures to a non-defaulted obligor and segments of non-defaulted retail exposures (including exposures subject to the double default treatment described below) would equal the total dollar risk-based capital requirement for those exposures and segments. The total dollar risk-based capital requirement would be converted into a risk-weighted asset amount by multiplying it by 12.5.

To compute the risk-weighted asset amount for a wholesale exposure to a defaulted obligor, a bank would first have to compare two amounts: (i) The sum of 0.08 multiplied by the EAD of the wholesale exposure plus the amount of any charge-offs or write-downs on the exposure; and (ii) K for the wholesale exposure (as determined in Table C immediately before the obligor became defaulted), multiplied by the EAD of the exposure immediately before the exposure became defaulted. If the amount calculated in (i) is equal to or greater than the amount calculated in (ii), the dollar risk-based capital requirement for the exposure is 0.08 multiplied by the EAD of the exposure. If the amount calculated in (i) is less than the amount calculated in (ii), the

dollar risk-based capital requirement for the exposure is K for the exposure (as determined in Table C immediately before the obligor became defaulted), multiplied by the EAD of the exposure. The reason for this comparison is to ensure that a bank does not receive a regulatory capital benefit as a result of the exposure moving from non-defaulted to defaulted status.

The proposed rule provides a simpler approach for segments of defaulted retail exposures. The dollar risk-based capital requirement for a segment of defaulted retail exposures equals 0.08 multiplied by the EAD of the segment. The agencies are proposing this uniform 8 percent risk-based capital requirement for defaulted retail exposures to ease implementation burden on banks and in light of accounting and other supervisory policies in the retail context that would help prevent the sum of a bank's ECL and risk-based capital requirement for a retail exposure from declining at the time of default.

To convert the dollar risk-based capital requirements to a risk-weighted asset amount, the bank would sum the dollar risk-based capital requirements for all wholesale exposures to defaulted obligors and segments of defaulted retail exposures and multiply the sum by 12.5.

A bank could assign a risk-weighted asset amount of zero to cash owned and held in all offices of the bank or in transit, and for gold bullion held in the bank's own vaults or held in another bank's vaults on an allocated basis, to the extent it is offset by gold bullion liabilities. On-balance-sheet assets that do not meet the definition of a wholesale, retail, securitization, or equity exposure—for example, property, plant, and equipment and mortgage servicing rights—and portfolios of exposures that the bank has demonstrated to its primary Federal supervisor's satisfaction are, when combined with all other portfolios of exposures that the bank seeks to treat as immaterial for risk-based capital purposes, not material to the bank generally would be assigned risk-weighted asset amounts equal to their carrying value (for on-balance-sheet exposures) or notional amount (for off-balance-sheet exposures). For this purpose, the notional amount of an OTC derivative contract that is not a credit derivative is the EAD of the derivative as calculated in section 32 of the proposed rule.

Total wholesale and retail risk-weighted assets would be the sum of risk-weighted assets for wholesale exposures to non-defaulted obligors and segments of non-defaulted retail exposures, wholesale exposures to defaulted obligors and segments of defaulted retail exposures, assets not included in an exposure category, non-material portfolios of exposures, and unsettled transactions minus the amounts deducted from capital pursuant to the general risk-based capital rules (excluding those deductions reversed in section 12 of the proposed rule).

5. Statutory Provisions on the Regulatory Capital Treatment of Certain Mortgage Loans

The general risk-based capital rules assign 50 and 100 percent risk weights to certain one- to four-family residential pre-sold construction loans and multifamily residential loans.[49] The agencies adopted these provisions as a result of the Resolution Trust Corporation Refinancing, Restructuring, and Improvement Act of 1991 (RTCRRI Act).[50] The RTCRRI Act mandates that each agency provide in its capital regulations (i) a 50 percent risk weight for certain one- to four-family residential pre-sold construction loans and multifamily residential loans that meet specific statutory criteria set forth in the Act and any other underwriting criteria imposed by the agencies; and (ii) a 100 percent risk weight for one- to four-family residential pre-sold construction loans for residences for which the purchase contract is cancelled.[51]

When Congress enacted the RTCRRI Act in 1991, the agencies' risk-based capital rules reflected the Basel I framework. Consequently, the risk weight treatment for certain categories of mortgage loans in the RTCRRI Act assumes a risk weight bucketing approach, instead of the more risk-sensitive IRB approach in the Basel II framework.

For purposes of this proposed rule implementing the Basel II IRB approach, the agencies are proposing that the three types of residential mortgage loans addressed by the RTCRRI Act should continue to receive the risk weights provided in the Act. Specifically, consistent with the general risk-based capital rules, the proposed rule requires a bank to use the following risk weights (instead of the risk weights that would otherwise be produced under the IRB risk-based capital formulas): (i) A 50 percent risk weight for one- to four-family residential construction loans if the residences have been pre-sold under firm contracts to purchasers who have obtained firm commitments for permanent qualifying mortgages and have made substantial earnest money deposits, and the loans meet the other underwriting characteristics established by the agencies in the general risk-based capital rules;[52] (ii) a 50 percent risk weight for multifamily residential loans that meet certain statutory loan-to-value, debt-to-income, amortization, and performance requirements, and meet the other underwriting characteristics established by the agencies in the general risk-based capital rules;[53] and (iii) a 100 percent risk weight for one- to four-family residential pre-sold construction loans for a residence for which the purchase contract is canceled.[54] Mortgage loans that do not meet the relevant criteria do not qualify for the statutory risk weights and will be risk-weighted according to the IRB risk-based capital formulas.

The agencies understand that there is a tension between the statutory risk weights provided by the RTCRRI Act and the more risk-sensitive IRB approaches to risk-based capital that are contained in this proposed rule. *Question 32: The agencies seek comment on whether the agencies should impose the following underwriting criteria as additional requirements for a Basel II bank to qualify for the statutory 50 percent risk weight for a particular mortgage loan: (i) That the bank has an IRB risk measurement and management system in place that assesses the PD and LGD of prospective residential mortgage exposures; and (ii) that the bank's IRB system generates a 50 percent risk weight for the loan under the IRB risk-based capital formulas.* The agencies note that a capital-related provision of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), enacted by Congress just four days after its adoption of the RTCRRI Act, directs each agency to revise its risk-based capital standards for DIs to ensure that those standards ''reflect the

[49] *See* 12 CFR part 3, Appendix A, section 3(a)(3)(iii) (national banks); 12 CFR part 208, Appendix A, section III.C.3. (state member banks); 12 CFR part 225, Appendix A, section III.C.3. (bank holding companies); 12 CFR part 325, Appendix A, section II.C.a. (state nonmember banks); 12 CFR 567.6(a)(1)(iii) and (iv) (savings associations).

[50] *See* sections 618(a) and (b) of the RTCRRI Act. The first class includes loans for the construction of a residence consisting of 1- to 4-family dwelling units that have been pre-sold under firm contracts to purchasers who have obtained firm commitments for permanent qualifying mortgages and have made substantial earnest money deposits. The second class includes loans that are secured by a first lien on a residence consisting of more than 4 dwelling units if the loan meets certain criteria outlined in the RTCRRI Act.

[51] *See* sections 618(a) and (b) of the RTCRRI Act.

[52] *See* section 618(a)(1)((B) of the RTCRRI Act.

[53] *See* section 618(b)(1)(B) of the RTCRRI Act.

[54] *See* section 618(a)(2) of the RTCRRI Act.

actual performance and expected risk of loss of multifamily mortgages.'' [55]

*Question 33: The agencies seek comment on all aspects of the proposed treatment of one- to four-family residential pre-sold construction loans and multifamily residential loans.*

*C. Credit Risk Mitigation (CRM) Techniques*

Banks use a number of techniques to mitigate credit risk. This section of the preamble describes how the proposed rule recognizes the risk-mitigating effects of both financial collateral (defined below) and nonfinancial collateral, as well as guarantees and credit derivatives, for risk-based capital purposes. To recognize credit risk mitigants for risk-based capital purposes, a bank should have in place operational procedures and risk management processes that ensure that all documentation used in collateralizing or guaranteeing a transaction is legal, valid, binding, and enforceable under applicable law in the relevant jurisdictions. The bank should have conducted sufficient legal review to reach a well-founded conclusion that the documentation meets this standard and should reconduct such a review as necessary to ensure continuing enforceability.

Although the use of CRM techniques may reduce or transfer credit risk, it simultaneously may increase other risks, including operational, liquidity, and market risks. Accordingly, it is imperative that banks employ robust procedures and processes to control risks, including roll-off risk and concentration risk, arising from the bank's use of CRM techniques and to monitor the implications of using CRM techniques for the bank's overall credit risk profile.

1. Collateral

Under the proposed rule, a bank generally recognizes collateral that secures a wholesale exposure as part of the ELGD and LGD estimation process and generally recognizes collateral that secures a retail exposure as part of the PD, ELGD, and LGD estimation process, as described above in section V.B.3. of the preamble. However, in certain limited circumstances described in the next section, a bank may adjust EAD to reflect the risk mitigating effect of financial collateral.

When reflecting the credit risk mitigation benefits of collateral in its estimation of the risk parameters of a wholesale or retail exposure, a bank should:

(i) Conduct sufficient legal review to ensure, at inception and on an ongoing basis, that all documentation used in the collateralized transaction is binding on all parties and legally enforceable in all relevant jurisdictions;

(ii) Consider the relation (that is, correlation) between obligor risk and collateral risk in the transaction;

(iii) Consider any currency and/or maturity mismatch between the hedged exposure and the collateral;

(iv) Ground its risk parameter estimates for the transaction in historical data, using historical recovery rates where available; and

(v) Fully take into account the time and cost needed to realize the liquidation proceeds and the potential for a decline in collateral value over this time period.

The bank also should ensure that:

(i) The legal mechanism under which the collateral is pledged or transferred ensures that the bank has the right to liquidate or take legal possession of the collateral in a timely manner in the event of the default, insolvency, or bankruptcy (or other defined credit event) of the obligor and, where applicable, the custodian holding the collateral;

(ii) The bank has taken all steps necessary to fulfill legal requirements to secure its interest in the collateral so that it has and maintains an enforceable security interest;

(iii) The bank has clear and robust procedures for the timely liquidation of collateral to ensure observation of any legal conditions required for declaring the default of the borrower and prompt liquidation of the collateral in the event of default;

(iv) The bank has established procedures and practices for (A) conservatively estimating, on a regular ongoing basis, the market value of the collateral, taking into account factors that could affect that value (for example, the liquidity of the market for the collateral and obsolescence or deterioration of the collateral), and (B) where applicable, periodically verifying the collateral (for example, through physical inspection of collateral such as inventory and equipment); and

(v) The bank has in place systems for promptly requesting and receiving additional collateral for transactions whose terms require maintenance of collateral values at specified thresholds.

2. EAD for Counterparty Credit Risk

This section describes two EAD-based methodologies—a collateral haircut approach and an internal models methodology—that a bank may use instead of an ELGD/LGD estimation methodology to recognize the benefits of financial collateral in mitigating the counterparty credit risk associated with repo-style transactions, eligible margin loans, collateralized OTC derivative contracts, and single product groups of such transactions with a single counterparty subject to a qualifying master netting agreement. A third methodology, the simple VaR methodology, is also available to recognize financial collateral mitigating the counterparty credit risk of single product netting sets of repo-style transactions and eligible margin loans.

A bank may use any combination of the three methodologies for collateral recognition; however, it must use the same methodology for similar exposures. A bank may choose to use one methodology for agency securities lending transactions—that is, repo-style transactions in which the bank, acting as agent for a customer, lends the customer's securities and indemnifies the customer against loss—and another methodology for all other repo-style transactions. This section also describes the methodology for calculating EAD for an OTC derivative contract or set of OTC derivative contracts subject to a qualifying master netting agreement. Table D illustrates which EAD estimation methodologies may be applied to particular types of exposure.

[55] Section 305(b)(1)(B) of FDICIA (12 U.S.C. 1828 notes).

TABLE D

| | Current exposure methodology | Collateral haircut approach | Models approach | |
|---|---|---|---|---|
| | | | Simple VaR[56] methodology | Internal models methodology |
| OTC derivative | X | | | X |
| Recognition of collateral for OTC derivatives | | X[57] | | X |
| Repo-style transaction | | X | X | X |
| Eligible margin loan | | X | X | X |
| Cross-product netting set | | | | X |

*Question 34: For purposes of determining EAD for counterparty credit risk and recognizing collateral mitigating that risk, the proposed rule allows banks to take into account only financial collateral, which, by definition, does not include debt securities that have an external rating lower than one rating category below investment grade. The agencies invite comment on the extent to which lower-rated debt securities or other securities that do not meet the definition of financial collateral are used in these transactions and on the CRM value of such securities.*

*EAD for repo-style transactions and eligible margin loans.* Under the proposal, a bank could recognize the risk mitigating effect of financial collateral that secures a repo-style transaction, eligible margin loan, or single-product group of such transactions with a single counterparty subject to a qualifying master netting agreement (netting set) through an adjustment to EAD rather than ELGD and LGD. The bank may use a collateral haircut approach or one of two models approaches: a simple VaR methodology (for single-product netting sets of repo-style transactions or eligible margin loans) or an internal models methodology. Figure 2 illustrates the methodologies available for calculating EAD and LGD for eligible margin loans and repo-style transactions.

The proposed rule defines repo-style transaction as a repurchase or reverse repurchase transaction, or a securities borrowing or securities lending transaction (including a transaction in which the bank acts as agent for a customer and indemnifies the customer against loss), provided that:

(i) The transaction is based solely on liquid and readily marketable securities or cash;

(ii) The transaction is marked to market daily and subject to daily margin maintenance requirements;

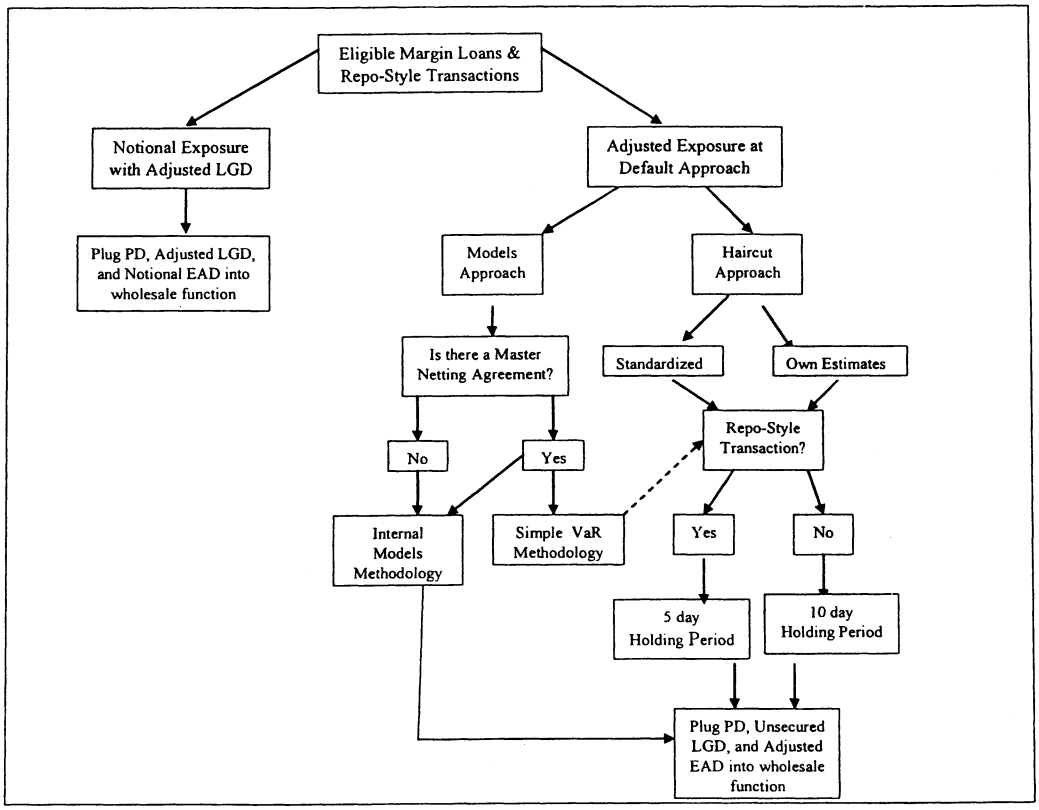
(iii) The transaction is executed under an agreement that provides the bank the right to accelerate, terminate, and close-out the transaction on a net basis and to liquidate or set off collateral promptly upon an event of default (including upon an event of bankruptcy, insolvency, or similar proceeding) of the counterparty, provided that, in any such case, any exercise of rights under the agreement will not be stayed or avoided under applicable law in the relevant jurisdictions;[58] and

[56] Only repo-style transactions and eligible margin loans subject to a single-product qualifying master netting agreement are eligible for the simple VaR methodology.

[57] In conjunction with the current exposure methodology.

[58] This requirement is met where all transactions under the agreement are (i) executed under U.S. law and (ii) constitute ''securities contracts'' or ''repurchase agreements'' under section 555 or 559, respectively, of the Bankruptcy Code (11 U.S.C. 555 or 559), qualified financial contracts under section 11(e)(8) of the Federal Deposit Insurance Act (12 U.S.C. 1821(e)(8)), or netting contracts between or among financial institutions under sections 401–407 of the Federal Deposit Insurance Corporation Improvement Act of 1991 (12 U.S.C. 4401–4407) or the Federal Reserve Board's Regulation EE (12 CFR part 231).

Figure 2 – EAD and LGD for Eligible Margin Loans and Repo-Style Transactions




(iv) The bank has conducted and documented sufficient legal review to conclude with a well-founded basis that the agreement meets the requirements of paragraph (iii) of this definition and is legal, valid, binding, and enforceable under applicable law in the relevant jurisdictions.

*Question 35: The agencies recognize that criterion (iii) above may pose challenges for certain transactions that would not be eligible for certain exemptions from bankruptcy or receivership laws because the counterparty—for example, a sovereign entity or a pension fund—is not subject to such laws. The agencies seek comment on ways this criterion could be crafted to accommodate such transactions when justified on prudential grounds, while ensuring that the requirements in criterion (iii) are met for transactions that are eligible for those exemptions.*

The proposed rule defines an eligible margin loan as an extension of credit where:

(i) The credit extension is collateralized exclusively by debt or equity securities that are liquid and readily marketable;

(ii) The collateral is marked to market daily and the transaction is subject to daily margin maintenance requirements;

(iii) The extension of credit is conducted under an agreement that provides the bank the right to accelerate and terminate the extension of credit and to liquidate or set off collateral promptly upon an event of default (including upon an event of bankruptcy, insolvency, or similar proceeding) of the counterparty, provided that, in any such case, any exercise of rights under the agreement will not be stayed or avoided under applicable law in the relevant jurisdictions;[59] and

(iv) The bank has conducted and documented sufficient legal review to conclude with a well-founded basis that the agreement meets the requirements of paragraph (iii) of this definition and is legal, valid, binding, and enforceable under applicable law in the relevant jurisdictions.

The proposed rule describes various ways that a bank may recognize the risk mitigating impact of financial collateral. The proposed rule defines financial collateral as collateral in the form of any of the following instruments in which the bank has a perfected, first priority security interest or the legal equivalent thereof: (i) Cash on deposit with the bank (including cash held for the bank by a third-party custodian or trustee); (ii) gold bullion; (iii) long-term debt securities that have an applicable external rating of one category below investment grade or higher (for example, at least BB–); (iv) short-term debt instruments that have an applicable external rating of at least investment grade (for example, at least A–3); (v) equity securities that are publicly traded; (vi) convertible bonds that are publicly traded; and (vii) mutual fund shares for which a share price is publicly quoted daily and money market mutual fund shares. *Question 36: The agencies seek comment on the appropriateness of requiring that a bank have a perfected, first priority security interest, or the legal equivalent thereof, in the definition of financial collateral.*

The proposed rule defines an external rating as a credit rating assigned by a nationally recognized statistical rating organization (NRSRO) to an exposure that fully reflects the entire amount of credit risk the holder of the exposure has with regard to all payments owed to it under the exposure. For example, if a holder is owed principal and interest on an exposure, the external rating must

[59] This requirement is met under the circumstances described in the previous footnote.

fully reflect the credit risk associated with timely repayment of principal and interest. Moreover, the external rating must be published in an accessible form and must be included in the transition matrices made publicly available by the NRSRO that summarize the historical performance of positions it has rated.[60] Under the proposed rule, an exposure's applicable external rating is the lowest external rating assigned to the exposure by any NRSRO.

*Collateral haircut approach.* Under the collateral haircut approach, a bank would set EAD equal to the sum of three quantities: (i) The value of the exposure less the value of the collateral; (ii) the absolute value of the net position in a given security (where the net position in a given security equals the sum of the current market values of the particular security the bank has lent, sold subject to repurchase, or posted as collateral to the counterparty minus the sum of the current market values of that same security the bank has borrowed, purchased subject to resale, or taken as collateral from the counterparty) multiplied by the market price volatility haircut appropriate to that security; and (iii) the sum of the absolute values of the net position of both cash and securities in each currency that is different from the settlement currency multiplied by the haircut appropriate to each currency mismatch. To determine the appropriate haircuts, a bank could choose to use standard supervisory haircuts or its own estimates of haircuts. For purposes of the collateral haircut approach, a given security would include, for example, all securities with a single Committee on Uniform Securities Identification Procedures (CUSIP) number and would not include securities with different CUSIP numbers, even if issued by the same issuer with the same maturity date. *Question 37: The agencies recognize that this is a conservative approach and seek comment on other approaches to consider in determining a given security for purposes of the collateral haircut approach.*

**Standard Supervisory Haircuts**

If a bank chooses to use standard supervisory haircuts, it would use an 8 percent haircut for each currency mismatch and the haircut appropriate to each security in table E below. These haircuts are based on the 10-business-day holding period for eligible margin loans and may be multiplied by the square root of ½ to convert the standard supervisory haircuts to the 5-business-day minimum holding period for repo-style transactions. A bank must adjust the standard supervisory haircuts upward on the basis of a holding period longer than 10 business days for eligible margin loans or 5 business days for repo-style transactions where and as appropriate to take into account the illiquidity of an instrument.

TABLE E.—STANDARD SUPERVISORY MARKET PRICE VOLATILITY HAIRCUTS

| Applicable external rating grade category for debt securities | Residual maturity for debt securities | Issuers exempt from the 3 b.p. floor | Other issuers |
|---|---|---|---|
| Two highest investment grade rating categories for long-term ratings/highest investment grade rating category for short-term ratings. | ≤1 year | .005 | .01 |
| | >1 year, ≤5 years | .02 | .04 |
| | >5 years | .04 | .08 |
| Two lowest investment grade rating categories for both short- and long-term ratings. | ≤1 year | .01 | .02 |
| | >1 year, ≤5 years | .03 | .06 |
| | >5 years | .06 | .12 |
| One rating category below investment grade | All | .15 | .25 |
| Main index equities[61] (including convertible bonds) and gold | .15 | | |
| Other publicly traded equities (including convertible bonds) | | .25 | |
| Mutual funds | | Highest haircut applicable to any security in which the fund can invest. | |
| Cash on deposit with the bank (including a certificate of deposit issued by the bank) | | 0 | |

As an example, assume a bank that uses standard supervisory haircuts has extended an eligible margin loan of $100 that is collateralized by 5-year U.S. Treasury notes with a market value of $100. The value of the exposure less the value of the collateral would be zero, and the net position in the security ($100) times the supervisory haircut (.02) would be $2. There is no currency mismatch. Therefore, the EAD of the exposure would be $0 + $2 = $2.

*Own estimates of haircuts.* With the prior written approval of the bank's primary Federal supervisor, a bank may calculate security type and currency mismatch haircuts using its own internal estimates of market price volatility and foreign exchange volatility. The bank's primary Federal supervisor would base approval to use internally estimated haircuts on the satisfaction of certain minimum qualitative and quantitative standards. These standards include: (i) The bank must use a 99th percentile one-tailed confidence interval and a minimum 5-business-day holding period for repo-style transactions and a minimum 10-business-day holding period for all other transactions; (ii) the bank must adjust holding periods upward where and as appropriate to take into account the illiquidity of an instrument; (iii) the bank must select a historical observation period for calculating haircuts of at least one year; and (iv) the bank must update its data sets and recompute haircuts no less frequently than quarterly and must update its data sets and recompute haircuts whenever market prices change materially. A bank must estimate

[60] Banks should take particular care with these requirements where the financial collateral is in the form of a securitization exposure.

[61] The proposed rule defines a ''main index'' as the S&P 500 Index, the FTSE All-World Index, and any other index for which the bank demonstrates to the satisfaction of its primary Federal supervisor that the equities represented in the index have comparable liquidity, depth of market, and size of bid-ask spreads as equities in the S&P 500 Index and the FTSE All-World Index.

individually the volatilities of the exposure, the collateral, and foreign exchange rates, and may not take into account the correlations between them.

A bank that uses internally estimated haircuts would have to adhere to the following rules. The bank may calculate internally estimated haircuts for categories of debt securities that have an applicable external rating of at least investment grade. The haircut for a category of securities would have to be representative of the internal volatility estimates for securities in that category that the bank has actually lent, sold subject to repurchase, posted as collateral, borrowed, purchased subject to resale, or taken as collateral. In determining relevant categories, the bank would have to take into account (i) the type of issuer of the security; (ii) the applicable external rating of the security; (iii) the maturity of the security; and (iv) the interest rate sensitivity of the security. A bank would calculate a separate internally estimated haircut for each individual debt security that has an applicable external rating below investment grade and for each individual equity security. In addition, a bank would internally estimate a separate currency mismatch haircut for each individual mismatch between each net position in a currency that is different from the settlement currency.

When a bank calculates an internally estimated haircut on a $T_N$-day holding period, which is different from the minimum holding period for the transaction type, the applicable haircut ($H_M$) must be calculated using the following square root of time formula:

$$H_M = H_N \sqrt{\frac{T_M}{T_N}},$$

Where:

(i) $T_M$ = 5 for repo-style transactions and 10 for eligible margin loans;

(ii) $T_N$ = holding period used by the bank to derive $H_N$; and

(iii) $H_N$ = haircut based on the holding period $T_N$.

*Simple VaR methodology.* As noted above, a bank may use one of two internal models approaches to recognize the risk mitigating effects of financial collateral that secures a repo-style transaction or eligible margin loan. This section of the preamble describes the simple VaR methodology; a later section of the preamble describes the internal models methodology (which also may be used to determine the EAD for OTC derivative contracts).

With the prior written approval of its primary Federal supervisor, a bank may estimate EAD for repo-style transactions and eligible margin loans subject to a single product qualifying master netting agreement using a VaR model. Under the simple VaR methodology, a bank's EAD for the transactions subject to such a netting agreement would be equal to the value of the exposures minus the value of the collateral plus a VaR-based estimate of the potential future exposure (PFE), that is, the maximum exposure expected to occur on a future date with a high level of confidence. The value of the exposures is the sum of the current market values of all securities and cash the bank has lent, sold subject to repurchase, or posted as collateral to a counterparty under the netting set. The value of the collateral is the sum of the current market values of all securities and cash the bank has borrowed, purchased subject to resale, or taken as collateral from a counterparty under the netting set.

The VaR model must estimate the bank's 99th percentile, one-tailed confidence interval for an increase in the value of the exposures minus the value of the collateral ($\Sigma E - \Sigma C$) over a 5-business-day holding period for repo-style transactions or over a 10-business-day holding period for eligible margin loans using a minimum one-year historical observation period of price data representing the instruments that the bank has lent, sold subject to repurchase, posted as collateral, borrowed, purchased subject to resale, or taken as collateral.

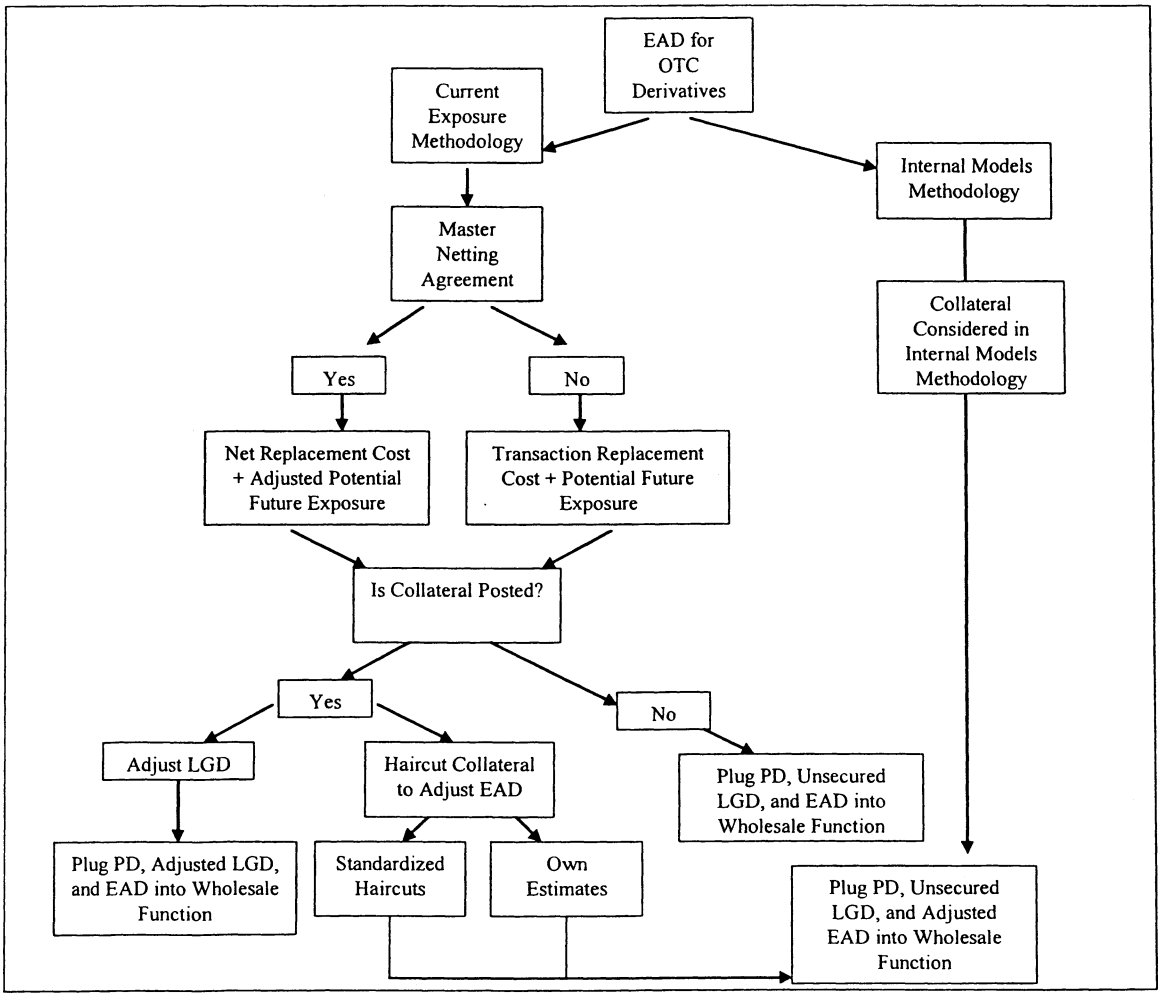
The qualifying requirements for the use of a VaR model are less stringent than the qualification requirements for the internal models methodology described below. The main ongoing qualification requirement for using a VaR model is that the bank must validate its VaR model by establishing and maintaining a rigorous and regular backtesting regime.

3. EAD for OTC Derivative Contracts

A bank may use either the current exposure methodology or the internal models methodology to determine the EAD for OTC derivative contracts. An OTC derivative contract is defined as a derivative contract that is not traded on an exchange that requires the daily receipt and payment of cash-variation margin. A derivative contract is defined to include interest rate derivative contracts, exchange rate derivative contracts, equity derivative contracts, commodity derivative contracts, credit derivatives, and any other instrument that poses similar counterparty credit risks. The proposed rule also would define derivative contracts to include unsettled securities, commodities, and foreign exchange trades with a contractual settlement or delivery lag that is longer than the normal settlement period (which the proposed rule defines as the lesser of the market standard for the particular instrument or 5 business days). This would include, for example, agency mortgage-backed securities transactions conducted in the To-Be-Announced market.

Figure 3 illustrates the treatment of OTC derivative contracts.

Figure 3—EAD and LGD for OTC Derivative Contracts




*Current exposure methodology.* The proposed current exposure methodology for determining EAD for single OTC derivative contracts is similar to the methodology in the general risk-based capital rules, in that the EAD for an OTC derivative contract would be equal to the sum of the bank's current credit exposure and PFE on the derivative contract. The current credit exposure for a single OTC derivative contract is the greater of the mark-to-market value of the derivative contract or zero.

The proposed current exposure methodology for OTC derivative contracts subject to qualifying master netting agreements is also similar to the treatment set forth in the agencies' general risk-based capital rules. Banks would need to calculate net current exposure and adjust the gross PFE using a formula that includes the net to gross current exposure ratio. Moreover, under the agencies' general risk-based capital rules, a bank may not recognize netting agreements for OTC derivative contracts for capital purposes unless it obtains a written and reasoned legal opinion representing that, in the event of a legal challenge, the bank's exposure would be found to be the net amount in the relevant jurisdictions. The agencies are proposing to retain this standard for netting agreements covering OTC derivative contracts. While the legal enforceability of contracts is necessary for a bank to recognize netting effects in the capital calculation, there may be ways other than obtaining an explicit written opinion to ensure the enforceability of a contract. For example, the use of industry developed standardized contracts for certain OTC products and reliance on commissioned legal opinions as to the enforceability of these contracts in many jurisdictions may be sufficient. *Question 38: The agencies seek comment on methods banks would use to ensure enforceability of single product OTC derivative netting agreements in the absence of an explicit written legal opinion requirement.*

The proposed rule's conversion factor (CF) matrix used to compute PFE is based on the matrices in the general risk-based capital rules, with two exceptions. First, under the proposed rule the CF for credit derivatives that are not used to hedge the credit risk of exposures subject to an IRB credit risk capital requirement is specified to be 5.0 percent for contracts with investment grade reference obligors and 10.0 percent for contracts with non-investment grade obligors.[62] The CF for a credit derivative contract does not depend on the remaining maturity of the contract. The second change is that floating/floating basis swaps would no longer be exempted from the CF for interest rate derivative contracts. The exemption was put into place when such swaps were very simple, and the

[62] The counterparty credit risk of a credit derivative that is used to hedge the credit risk of an exposure subject to an IRB credit risk capital requirement is captured in the IRB treatment of the hedged exposure, as detailed in sections 33 and 34 of the proposed rule.

agencies believe it is no longer appropriate given the evolution of the product. The computation of the PFE of multiple OTC derivative contracts subject to a qualifying master netting agreement would not change from the general risk-based capital rules.

If an OTC derivative contract is collateralized by financial collateral, a bank would first determine an unsecured EAD as described above and in section 32(b) of the proposed rule. To take into account the risk-reducing effects of the financial collateral, the bank may either adjust the ELGD and LGD of the contract or, if the transaction is subject to daily marking-to-market and remargining, adjust the EAD of the contract using the collateral haircut approach for repo-style transactions and eligible margin loans described above and in section 32(a) of the proposed rule.

Under part VI of the proposed rule, a bank must treat an equity derivative contract as an equity exposure and compute a risk-weighted asset amount for that exposure. If the bank is using the internal models approach for its equity exposures, it also must compute a risk-weighted asset amount for its counterparty credit risk exposure on the equity derivative contract. However, if the bank is using the simple risk weight approach for its equity exposures, it may choose not to hold risk-based capital against the counterparty credit risk of the equity derivative contract. Likewise, a bank that purchases a credit derivative that is recognized under section 33 or 34 of the proposed rule as a credit risk mitigant for an exposure that is not a covered position under the MRA does not have to compute a separate counterparty credit risk capital requirement for the credit derivative. If a bank chooses not to hold risk-based capital against the counterparty credit risk of such equity or credit derivative contracts, it must do so consistently for all such equity derivative contracts or for all such credit derivative contracts. Further, where the contracts are subject to a qualifying master netting agreement, the bank must either include them all or exclude them all from any measure used to determine counterparty credit risk exposure to all relevant counterparties for risk-based capital purposes.

Where a bank provides protection through a credit derivative that is not treated as a covered position under the MRA, it must treat the credit derivative as a wholesale exposure to the reference obligor and compute a risk-weighted asset amount for the credit derivative under section 31 of the proposed rule. The bank need not compute a counterparty credit risk capital requirement for the credit derivative, so long as it does so consistently for all such credit derivatives and either includes all or excludes all such credit derivatives that are subject to a master netting contract from any measure used to determine counterparty credit risk exposure to all relevant counterparties for risk-based capital purposes. Where the bank provides protection through a credit derivative treated as a covered position under the MRA, it must compute a counterparty credit risk capital requirement under section 32 of the proposed rule.

4. Internal Models Methodology

This proposed rule includes an internal models methodology for the calculation of EAD for transactions with counterparty credit exposure, namely, OTC derivatives, eligible margin loans, and repo-style transactions. The internal models methodology requires a risk model that captures counterparty credit risk and estimates EAD at the level of a ''netting set.'' A netting set is a group of transactions with a single counterparty that are subject to a qualifying master netting agreement. A transaction not subject to a qualifying master netting agreement is considered to be its own netting set and EAD must be calculated for each such transaction individually. A bank may use the internal models methodology for OTC derivatives (collateralized or uncollateralized) and single-product netting sets thereof, for eligible margin loans and single-product netting sets thereof, or for repo-style transactions and single-product netting sets thereof. A bank that uses the internal models methodology for a particular transaction type (that is, OTC derivative contracts, eligible margin loans, or repo-style transactions) must use the internal models methodology for all transactions in that transaction type. However, a bank may choose whether or not to use the internal models methodology for each transaction type.

A bank also may use the internal models methodology for OTC derivatives, eligible margin loans, and repo-style transactions subject to a qualifying cross-product master netting agreement if (i) the bank effectively integrates the risk mitigating effects of cross-product netting into its risk management and other information technology systems; and (ii) the bank obtains the prior written approval of its primary Federal supervisor.

A qualifying cross-product master netting agreement is defined as a qualifying master netting agreement that provides for termination and close-out netting across multiple types of financial transactions or qualifying master netting agreements in the event of a counterparty's default, provided that:

(i) The underlying financial transactions are OTC derivative contracts, eligible margin loans, or repo-style transactions; and

(ii) The bank obtains a written legal opinion verifying the validity and enforceability of the netting agreement under applicable law of the relevant jurisdictions if the counterparty fails to perform upon an event of default, including upon an event of bankruptcy, insolvency, or similar proceeding.

Banks use several measures to manage their exposure to counterparty credit risk including PFE, expected exposure (EE), and expected positive exposure (EPE). PFE is the maximum exposure estimated to occur on a future date at a high level of statistical confidence. Banks often use PFE when measuring counterparty credit risk exposure against counterparty credit limits. EE is the probability-weighted average exposure to a counterparty estimated to exist at any specified future date, whereas EPE is the time-weighted average of individual expected exposures estimated for a given forecasting horizon (one year in the proposed rule). Banks typically compute EPE, EE, and PFE using a common stochastic model.

A paper published by the BCBS in July 2005 titled ''The Application of Basel II to Trading Activities and the Treatment of Double Default Effects'' notes that EPE is an appropriate EAD measure for determining risk-based capital requirements for counterparty credit risk because transactions with counterparty credit risk ''are given the same standing as loans with the goal of reducing the capital treatment's influence on a firm's decision to extend an on-balance sheet loan rather than engage in an economically equivalent transaction that involves exposure to counterparty credit risk.''[63] An adjustment to EPE, called effective EPE and described below, is used in the calculation of EAD under the internal models methodology. EAD is calculated as a multiple of effective EPE.

To address the concern that EE and EPE may not capture risk arising from the replacement of existing short-term positions over the one year horizon used for capital requirements (that is, rollover risk) or may underestimate the exposures of eligible margin loans, repo-style transactions, and OTC derivatives

[63] BCBS, ''The Application of Basel II to Trading Activities and the Treatment of Double Default Effects,'' July 2005, ¶ 15.

with short maturities, the proposed rule uses a netting set's ''effective EPE'' as the basis for calculating EAD for counterparty credit risk. Consistent with the use of a one-year PD horizon, effective EPE is the time-weighted average of effective EE over one year where the weights are the proportion that an individual effective EE represents in a one-year time interval. If all contracts in a netting set mature before one year, effective EPE is the average of effective EE until all contracts in the netting set mature. For example, if the longest maturity contract in the netting set matures in six months, effective EPE would be the average of effective EE over six months.

Effective EE is defined as:

Effective $EE_{tk}$ = max(Effective $EE_{tk-1}$, $EE_{tk}$) where exposure is measured at future dates *t1, t2, t3,* * * * and effective $EE_{t0}$ equals current exposure. Alternatively, a bank may use a measure that is more conservative than effective EPE for every counterparty (that is, a measure based on peak exposure) with prior approval of the primary Federal supervisor.

The EAD for instruments with counterparty credit risk must be determined assuming economic downturn conditions. To accomplish this determination in a prudent manner, the internal models methodology sets EAD equal to EPE multiplied by a scaling factor termed ''alpha.'' Alpha is set at 1.4; a bank's primary Federal supervisor would have the flexibility to raise this value based on the bank's specific characteristics of counterparty credit risk. With supervisory approval, a bank may use its own estimate of alpha as described below, subject to a floor of 1.2. *Question 39: The agencies request comment on all aspect of the effective EPE approach to counterparty credit risk, and in particular on the appropriateness of the monotonically increasing effective EE function, the alpha constant of 1.4, and the floor on internal estimates of alpha of 1.2.*

A bank's primary Federal supervisor must determine that the bank meets certain qualifying criteria before the bank may use the internal models methodology. These criteria consist of operational requirements, modeling standards, and model validation requirements.

First, the bank must have the systems capability to estimate EE on a daily basis. While this requirement does not require the bank to report EE daily, or even estimate EE daily, the bank must demonstrate that it is capable of performing the estimation daily.

Second, the bank must estimate EE at enough future time points to accurately reflect all future cash flows of contracts in the netting set. To accurately reflect the exposure arising from a transaction, the model should incorporate those contractual provisions, such as reset dates, that can materially affect the timing, probability, or amount of any payment. The requirement reflects the need for an accurate estimate of EPE. However, in order to balance the ability to calculate exposures with the need for information on timely basis, the number of time points is not specified.

Third, the bank must have been using an internal model that broadly meets the minimum standards to calculate the distributions of exposures upon which the EAD calculation is based for a period of at least one year prior to approval. This requirement is to insure that the bank has integrated the modeling into its counterparty credit risk management process.

Fourth, the bank's model must account for the non-normality of exposure distribution where appropriate. Non-normality of exposures means high loss events occur more frequently than would be expected on the basis of a normal distribution, the statistical term for which is leptokurtosis. In many instances, there may not be a need to account for this. Expected exposures are much less likely to be affected by leptokurtosis than peak exposures or high percentile losses. However, the bank must demonstrate that its EAD measure is not affected by leptokurtosis or must account for it within the model.

Fifth, the bank must measure, monitor, and control the exposure to a counterparty over the whole life of all contracts in the netting set, in addition to accurately measuring and actively monitoring the current exposure to counterparties. The bank should exercise active management of both existing exposure and exposure that could change in the future due to market moves.

Sixth, the bank must measure and manage current exposures gross and net of collateral held, where appropriate. The bank must estimate expected exposures for OTC derivative contracts both with and without the effect of collateral agreements.

Seventh, the bank must have procedures to identify, monitor, and control specific wrong-way risk throughout the life of an exposure. In this context, wrong-way risk is the risk that future exposure to a counterparty will be high when the counterparty's probability of default is also high. Wrong-way risk generally arises from events specific to the counterparty, rather than broad market downturns.

Eighth, the data used by the bank should be adequate for the measurement and modeling of the exposures. In particular, current exposures must be calculated on the basis of current market data. When historical data are used to estimate model parameters, at least three years of data that cover a wide range of economic conditions must be used. This requirement reflects the longer horizon for counterparty credit risk exposures compared to market risk exposures. The data must be updated at least quarterly. Banks are encouraged also to incorporate model parameters based on forward looking measures '' for example, using implied volatilities in situations where historic volatilities may not capture changes in the risk drivers anticipated by the market—where appropriate.

Ninth, the bank must subject its models used in the calculation of EAD to an initial validation and annual model review process. The model review should consider whether the inputs and risk factors, as well as the model outputs, are appropriate. The review of outputs should include a rigorous program of backtesting model outputs against realized exposures.

*Maturity under the internal models methodology.* Like corporate loan exposures, counterparty exposure on netting sets is susceptible to changes in economic value that stem from deterioration in the counterparty's creditworthiness short of default. The effective maturity parameter (M) reflects the impact of these changes on capital. The formula used to compute M for netting sets with maturities greater than one year must be different than that generally applied to wholesale exposures in order to reflect how counterparty credit exposures change over time. The proposed approach is based on a weighted average of expected exposures over the life of the transactions relative to their one year exposures.

If the remaining maturity of the exposure or the longest-dated contract contained in a netting set is greater than one year, the bank must set M for the exposure or netting set equal to the lower of 5 years or M(EPE), where:

$$\text{(i) } M\,(EPE) = 1 + \frac{\sum_{t_k > 1\text{ year}}^{\text{maturity}} EE_k \times \Delta t_k \times df_k}{\sum_{k=1}^{t_k \le 1\text{ year}} \text{effective}EE_k \times \Delta t_k \times df_k};$$

and (ii) $df_k$ is the risk-free discount factor for future time period $t_k$. The cap of five years on M is consistent with the treatment of wholesale exposures under section 31 o the proposed rule.

If the remaining maturity of the exposure or the longest-dated contract in the netting set is one year or less, the bank must set M for the exposure or netting set equal to 1 year except as provided in section 31(d)(7) of the proposed rule. In this case, repo-style transactions, eligible margin loans, and collateralized OTC derivative transactions subject to daily remargining agreements may use the effective maturity of the longest maturity transaction in the netting set as M.

*Collateral agreements under the internal models methodology.* If the bank has prior written approval from its primary Federal supervisor, it may capture the effect on EAD of a collateral agreement that requires receipt of collateral when exposure to the counterparty increases within its internal model. In no circumstances may the bank take into account in EAD collateral agreements triggered by deterioration of counterparty credit quality. For this purpose, a collateral agreement means a legal contract that: (i) Specifies the time when, and circumstances under which, the counterparty is required to exchange collateral with the bank for a single financial contract or for all financial contracts covered under a qualifying master netting agreement; and (ii) confers upon the bank a perfected, first priority security interest, or the legal equivalent thereof, in the collateral posted by the counterparty under the agreement. This security interest must provide the bank with a right to close out the financial positions and the collateral upon an event of default of or failure to perform by the counterparty under the collateral agreement. A contract would not satisfy this requirement if the bank's exercise of rights under the agreement may be stayed or avoided under applicable law in the relevant jurisdictions.

If the internal model does not capture the effects of collateral agreements, the following ''shortcut'' method is proposed that will provide some benefit, in the form of a smaller EAD, for collateralized counterparties. Although this ''shortcut'' method will be permitted, the agencies expect banks that make extensive use of collateral agreements to develop the modeling capacity to measure the impact of such agreements on EAD.

The ''shortcut'' method sets effective EPE for a counterparty subject to a collateral agreement equal to the lesser of:

(i) The threshold, defined as the exposure amount at which the counterparty is required to post collateral under the collateral agreement, if the threshold is positive, plus an add-on that reflects the potential increase in exposure over the margin period of risk. The add-on is computed as the expected increase in the netting set's exposure beginning from current exposure of zero over the margin period of risk; and

(ii) Effective EPE without a collateral agreement.

The margin period of risk means, with respect to a netting set subject to a collateral agreement, the time period from the most recent exchange of collateral with a counterparty until the next required exchange of collateral plus the period of time required to sell and realize the proceeds of the least liquid collateral that can be delivered under the terms of the collateral agreement, and, where applicable, the period of time required to re-hedge the resulting market risk, upon the default of the counterparty. The minimum margin period of risk is 5 business days for repo-style transactions and 10 days for other transactions when liquid financial collateral is posted under a daily margin maintenance requirement. This period should be extended to cover any additional time between margin calls; any potential closeout difficulties; any delays in selling collateral, particularly if the collateral is illiquid; and any impediments to prompt re-hedging of any market risk.

*Own estimate of alpha.* This proposed rule would allow a bank to estimate a bank-wide alpha, subject to prior written approval from its primary Federal supervisor. The internal estimate of alpha would be the ratio of economic capital from a full simulation of counterparty credit risk exposure that incorporates a joint simulation of market and credit risk factors (numerator) to economic capital based on EPE (denominator). For purposes of this calculation, economic capital is the unexpected losses for all counterparty credit risks measured at the 99.9 percent confidence level over a one-year horizon. Internal estimates of alpha are subject to a floor of 1.2. To obtain supervisory approval to use an internal estimate of alpha in the calculation of EAD, a bank must meet the following minimum standards to the satisfaction of its primary Federal supervisor:

(i) The bank's own estimate of alpha must capture the effects in the numerator of:

(A) The material sources of stochastic dependency of distributions of market values of transactions or portfolios of transactions across counterparties;

(B) Volatilities and correlations of market risk factors used in the joint simulation, which must be related to the credit risk factor used in the simulation to reflect potential increases in volatility or correlation in an economic downturn, where appropriate; and

(C) The granularity of exposures, that is, the effect of a concentration in the proportion of each counterparty's exposure that is driven by a particular risk factor;

(ii) The bank must assess the potential model risk in its estimates of alpha;

(iii) The bank must calculate the numerator and denominator of alpha in a consistent fashion with respect to modeling methodology, parameter specifications, and portfolio composition; and

(iv) The bank must review and adjust as appropriate its estimates of the numerator and denominator on at least a quarterly basis and more frequently as appropriate when the composition of the portfolio varies over time.

*Alternative models.* The proposed rule allows a bank to use an alternative model to determine EAD, provided that the bank can demonstrate to its primary Federal supervisor that the model output is more conservative than an alpha of 1.4 (or higher) times effective EPE. This may be appropriate where a new product or business line is being developed, where a recent acquisition has occurred, or where the bank believes that other more conservative methods to measure counterparty credit risk for a category of transactions are prudent. The alternative method should be applied to all similar transactions. When an alternative model is used, the

bank should either treat the particular transactions concerned as a separate netting set with the counterparty or apply the alternative model to the entire original netting set.

5. Guarantees and Credit Derivatives That Cover Wholesale Exposures

The New Accord specifies that a bank may adjust either the PD or the LGD of a wholesale exposure to reflect the risk mitigating effects of a guarantee or credit derivative. Under the proposed rule, a bank may choose either a PD substitution or an LGD adjustment approach to recognize the risk mitigating effects of an eligible guarantee or eligible credit derivative on a wholesale exposure (or in certain circumstances may choose to use a double default treatment, as discussed below). In all cases a bank must use the same risk parameters for calculating ECL for a wholesale exposure as it uses for calculating the risk-based capital requirement for the exposure. Moreover, in all cases, a bank's ultimate PD and LGD for the hedged wholesale exposure may not be lower than the PD and LGD floors discussed above and described in section 31(d) of the proposed rule.

*Eligible guarantees and eligible credit derivatives.* To be recognized as CRM for a wholesale exposure under the proposed rule, guarantees and credit derivatives must meet specific eligibility requirements. The proposed rule defines an eligible guarantee as a guarantee that:

(i) Is written and unconditional;

(ii) Covers all or a pro rata portion of all contractual payments of the obligor on the reference exposure;

(iii) Gives the beneficiary a direct claim against the protection provider;

(iv) Is non-cancelable by the protection provider for reasons other than the breach of the contract by the beneficiary;

(v) Is legally enforceable against the protection provider in a jurisdiction where the protection provider has sufficient assets against which a judgment may be attached and enforced; and

(vi) Requires the protection provider to make payment to the beneficiary on the occurrence of a default (as defined in the guarantee) of the obligor on the reference exposure without first requiring the beneficiary to demand payment from the obligor. Clearly, a bank could not provide an eligible guarantee on its own exposures.

The proposed rule defines an eligible credit derivative as a credit derivative in the form of a credit default swap, nth-to-default swap, or total return swap provided that:

(i) The contract meets the requirements of an eligible guarantee and has been confirmed by the protection purchaser and the protection provider;

(ii) Any assignment of the contract has been confirmed by all relevant parties;

(iii) If the credit derivative is a credit default swap or nth-to-default swap, the contract includes the following credit events:

(A) Failure to pay any amount due under the terms of the reference exposure (with a grace period that is closely in line with the grace period of the reference exposure); and

(B) Bankruptcy, insolvency, or inability of the obligor on the reference exposure to pay its debts, or its failure or admission in writing of its inability generally to pay its debts as they become due, and similar events;

(iv) The terms and conditions dictating the manner in which the contract is to be settled are incorporated into the contract;

(v) If the contract allows for cash settlement, the contract incorporates a robust valuation process to estimate loss reliably and specifies a reasonable period for obtaining post-credit event valuations of the reference exposure;

(vi) If the contract requires the protection purchaser to transfer an exposure to the protection provider at settlement, the terms of the exposure provide that any required consent to transfer may not be unreasonably withheld;

(vii) If the credit derivative is a credit default swap or nth-to-default swap, the contract clearly identifies the parties responsible for determining whether a credit event has occurred, specifies that this determination is not the sole responsibility of the protection provider, and gives the protection purchaser the right to notify the protection provider of the occurrence of a credit event; and

(viii) If the credit derivative is a total return swap and the bank records net payments received on the swap as net income, the bank records offsetting deterioration in the value of the hedged exposure (either through reductions in fair value or by an addition to reserves).

*Question 40: The agencies request comment on the appropriateness of these criteria in determining whether the risk mitigation effects of a credit derivative should be recognized for risk-based capital purposes.*

Under the proposed rule, a bank may recognize an eligible credit derivative that hedges an exposure that is different from the credit derivative's reference exposure used for determining the derivative's cash settlement value, deliverable obligation, or occurrence of a credit event only if:

(i) The reference exposure ranks pari passu (that is, equal) or junior to the hedged exposure; and

(ii) The reference exposure and the hedged exposure share the same obligor (that is, the same legal entity) and legally enforceable cross-default or cross-acceleration clauses are in place.

*PD substitution approach.* Under the PD substitution approach, if the protection amount (as defined below) of the eligible guarantee or eligible credit derivative is greater than or equal to the EAD of the hedged exposure, a bank would substitute for the PD of the hedged exposure the PD associated with the rating grade of the protection provider. If the bank determines that full substitution leads to an inappropriate degree of risk mitigation, the bank may substitute a higher PD for that of the protection provider.

If the guarantee or credit derivative provides the bank with the option to receive immediate payout on triggering the protection, then the bank would use the lower of the LGD of the hedged exposure (not adjusted to reflect the guarantee or credit derivative) and the LGD of the guarantee or credit derivative. The bank also would use the ELGD associated with the required LGD. If the guarantee or credit derivative does not provide the bank with the option to receive immediate payout on triggering the protection (and instead provides for the guarantor to assume the payment obligations of the obligor over the remaining life of the hedged exposure), the bank would use the LGD and ELGD of the guarantee or credit derivative.

If the protection amount of the eligible guarantee or eligible credit derivative is less than the EAD of the hedged exposure, however, the bank must treat the hedged exposure as two separate exposures (protected and unprotected) in order to recognize the credit risk mitigation benefit of the guarantee or credit derivative. The bank must calculate its risk-based capital requirement for the protected exposure under section 31 of the proposed rule (using a PD equal to the protection provider's PD, an ELGD and LGD determined as described above, and an EAD equal to the protection amount of the guarantee or credit derivative). If the bank determines that full substitution leads to an inappropriate degree of risk mitigation, the bank may use a higher PD than that of the protection provider. The bank must calculate its risk-based capital requirement for the unprotected exposure under section 31 of the proposed rule (using a PD equal to the

obligor's PD, an ELGD and LGD equal to the hedged exposure's ELGD and LGD not adjusted to reflect the guarantee or credit derivative, and an EAD equal to the EAD of the original hedged exposure minus the protection amount of the guarantee or credit derivative).

The protection amount of an eligible guarantee or eligible credit derivative would be the effective notional amount of the guarantee or credit derivative reduced by any applicable haircuts for maturity mismatch, lack of restructuring, and currency mismatch (each described below). The effective notional amount of a guarantee or credit derivative would be the lesser of the contractual notional amount of the credit risk mitigant and the EAD of the hedged exposure, multiplied by the percentage coverage of the credit risk mitigant. For example, the effective notional amount of a guarantee that covers, on a pro rata basis, 40 percent of any losses on a $100 bond would be $40.

*LGD adjustment approach.* Under the LGD adjustment approach, if the protection amount of the eligible guarantee or eligible credit derivative is greater than or equal to the EAD of the hedged exposure, the bank's risk-based capital requirement for the hedged exposure would be the greater of (i) the risk-based capital requirement for the exposure as calculated under section 31 of the proposed rule (with the ELGD and LGD of the exposure adjusted to reflect the guarantee or credit derivative); or (ii) the risk-based capital requirement for a direct exposure to the protection provider as calculated under section 31 of the proposed rule (using the bank's PD for the protection provider, the bank's ELGD and LGD for the guarantee or credit derivative, and an EAD equal to the EAD of the hedged exposure).

If the protection amount of the eligible guarantee or eligible credit derivative is less than the EAD of the hedged exposure, however, the bank must treat the hedged exposure as two separate exposures (protected and unprotected) in order to recognize the credit risk mitigation benefit of the guarantee or credit derivative. The bank's risk-based capital requirement for the protected exposure would be the greater of (i) the risk-based capital requirement for the protected exposure as calculated under section 31 of the proposed rule (with the ELGD and LGD of the exposure adjusted to reflect the guarantee or credit derivative and EAD set equal to the protection amount of the guarantee or credit derivative); or (ii) the risk-based capital requirement for a direct exposure to the protection provider as calculated under section 31 of the proposed rule (using the bank's PD for the protection provider, the bank's ELGD and LGD for the guarantee or credit derivative, and an EAD set equal to the protection amount of the guarantee or credit derivative). The bank must calculate its risk-based capital requirement for the unprotected exposure under section 31 of the proposed rule using a PD set equal to the obligor's PD, an ELGD and LGD set equal to the hedged exposure's ELGD and LGD (not adjusted to reflect the guarantee or credit derivative), and an EAD set equal to the EAD of the original hedged exposure minus the protection amount of the guarantee or credit derivative.

The PD substitution approach allows a bank to effectively assess risk-based capital against a hedged exposure as if it were a direct exposure to the protection provider, and the LGD adjustment approach produces a risk-based capital requirement for a hedged exposure that is never lower than that of a direct exposure to the protection provider. Accordingly, these approaches do not fully reflect the risk mitigation benefits certain types of guarantees and credit derivatives may provide because the resulting risk-based capital requirement does not consider the joint probability of default of the obligor of the hedged exposure and the protection provider, sometimes referred to as the ''double default'' benefit. The agencies have decided, consistent with the New Accord, to recognize double default benefits in the wholesale framework only for certain hedged exposures covered by certain guarantees and credit derivatives. A later section of the preamble describes which hedged exposures would be eligible for the proposed double default treatment and describes the double default treatment that would be available to those exposures.

*Maturity mismatch haircut.* A bank that seeks to reduce the risk-based capital requirement on a wholesale exposure by recognizing an eligible guarantee or eligible credit derivative would have to adjust the protection amount of the credit risk mitigant downward to reflect any maturity mismatch between the hedged exposure and the credit risk mitigant. A maturity mismatch occurs when the effective residual maturity of a credit risk mitigant is less than that of the hedged exposure(s). When the hedged exposures have different residual maturities, the longest residual maturity of any of the hedged exposures would be used as the residual maturity of all hedged exposures.

The effective residual maturity of a hedged exposure should be gauged as the longest possible remaining time before the obligor is scheduled to fulfil its obligation on the exposure. When determining the effective residual maturity of the guarantee or credit derivative, embedded options that may reduce the term of the credit risk mitigant should be taken into account so that the shortest possible residual maturity for the credit risk mitigant is used to determine the potential maturity mismatch. Where a call is at the discretion of the protection provider, the residual maturity of the guarantee or credit derivative would be deemed to be at the first call date. If the call is at the discretion of the bank purchasing the protection, but the terms of the arrangement at inception of the guarantee or credit derivative contain a positive incentive for the bank to call the transaction before contractual maturity, the remaining time to the first call date would be deemed to be the residual maturity of the credit risk mitigant. For example, where there is a step-up in the cost of credit protection in conjunction with a call feature or where the effective cost of protection increases over time even if credit quality remains the same or improves, the residual maturity of the credit risk mitigant would be the remaining time to the first call.

Eligible guarantees and eligible credit derivatives with maturity mismatches may only be recognized if their original maturities are equal to or greater than one year. As a result, a guarantee or credit derivative would not be recognized for a hedged exposure with an original maturity of less than one year unless the credit risk mitigant has an original maturity of equal to or greater than one year or an effective residual maturity equal to or greater than that of the hedged exposure. In all cases, credit risk mitigants with maturity mismatches may not be recognized when they have an effective residual maturity of three months or less.

When a maturity mismatch exists, a bank would apply the following maturity mismatch adjustment to determine the protection amount of the guarantee or credit derivative adjusted for maturity mismatch: $Pm = E \times (t - 0.25)/(T - 0.25)$, where:

(i) Pm = protection amount of the guarantee or credit derivative adjusted for maturity mismatch;

(ii) E = effective notional amount of the guarantee or credit derivative;

(iii) t = lesser of T or effective residual maturity of the guarantee or credit derivative, expressed in years; and

(iv) T = lesser of 5 or effective residual maturity of the hedged exposure, expressed in years.

*Restructuring haircut.* An originating bank that seeks to recognize an eligible credit derivative that does not include a distressed restructuring as a credit event that triggers payment under the derivative would have to reduce the recognition of the credit derivative by 40 percent. A distressed restructuring is a restructuring of the hedged exposure involving forgiveness or postponement of principal, interest, or fees that results in a charge-off, specific provision, or other similar debit to the profit and loss account.

In other words, the protection amount of the credit derivative adjusted for lack of restructuring credit event (and maturity mismatch, if applicable) would be: $Pr = Pm \times 0.60$, where:

(i) Pr = protection amount of the credit derivative, adjusted for lack of restructuring credit event (and maturity mismatch, if applicable); and

(ii) Pm = effective notional amount of the credit derivative (adjusted for maturity mismatch, if applicable).

*Currency mismatch haircut.* Where the eligible guarantee or eligible credit derivative is denominated in a currency different from that in which any hedged exposure is denominated, the protection amount of the guarantee or credit derivative adjusted for currency mismatch (and maturity mismatch and lack of restructuring credit event, if applicable) would be: $Pc = Pr \times (1 - Hfx)$, where:

(i) Pc = protection amount of the guarantee or credit derivative, adjusted for currency mismatch (and maturity mismatch and lack of restructuring credit event, if applicable);

(ii) Pr = effective notional amount of the guarantee or credit derivative (adjusted for maturity mismatch and lack of restructuring credit event, if applicable); and

(iii) Hfx = haircut appropriate for the currency mismatch between the guarantee or credit derivative and the hedged exposure.

A bank may use a standard supervisory haircut of 8 percent for Hfx (based on a 10-business day holding period and daily marking-to-market and remargining). Alternatively, a bank may use internally estimated haircuts for Hfx based on a 10-business day holding period and daily marking-to-market and remargining if the bank qualifies to use the own-estimates haircuts in paragraph (a)(2)(iii) of section 32, the simple VaR methodology in paragraph (a)(3) of section 32, or the internal models methodology in paragraph (c) of section 32 of the proposed rule. The bank must scale these haircuts up using a square root of time formula if the bank revalues the guarantee or credit derivative less frequently than once every 10 business days.

*Example.* Assume that a bank holds a five-year $100 corporate exposure, purchases a $100 credit derivative to mitigate its credit risk on the exposure, and chooses to use the PD substitution approach. The unsecured ELGD and LGD of the corporate exposure are 20 and 30 percent, respectively; the ELGD and LGD of the credit derivative are 75 and 80 percent, respectively. The credit derivative is an eligible credit derivative, has the bank's exposure as its reference exposure, has a three-year maturity, immediate cash payout on default, no restructuring provision, and no currency mismatch with the bank's hedged exposure. The effective notional amount and initial protection amount of the credit derivative would be $100. The maturity mismatch would reduce the protection amount to $\$100 \times (3 - .25)/(5 - .25)$ or $57.89. The haircut for lack of restructuring would reduce the protection amount to $\$57.89 \times 0.6$ or $34.74. So the bank would treat the $100 corporate exposure as two exposures: (i) An exposure of $34.74 with the PD of the protection provider, an ELGD of 20 percent, an LGD of 30 percent, and an M of 5; and (ii) an exposure of $65.26 with the PD of the obligor, an ELGD of 20 percent, an LGD of 30 percent, and an M of 5.

*Multiple credit risk mitigants.* The New Accord provides that if multiple credit risk mitigants (for example, two eligible guarantees) cover a single exposure, a bank must disaggregate the exposure into portions covered by each credit risk mitigant (for example, the portion covered by each guarantee) and must calculate separately the risk-based capital requirement of each portion.[64] The New Accord also indicates that when credit risk mitigants provided by a single protection provider have differing maturities, they should be subdivided into separate layers of protection.[65] *Question 41: The agencies are interested in the views of commenters as to whether and how the agencies should address these and other similar situations in which multiple credit risk mitigants cover a single exposure.*

*Double default treatment.* As noted above, the proposed rule contains a separate risk-based capital methodology for hedged exposures eligible for double default treatment. To be eligible for double default treatment, a hedged exposure must be fully covered or covered on a pro rata basis (that is, there must be no tranching of credit risk) by an uncollateralized single-reference-obligor credit derivative or guarantee (or certain nth-to-default credit derivatives) provided by an eligible double default guarantor (as defined below). Moreover, the hedged exposure must be a wholesale exposure other than a sovereign exposure.[66] In addition, the obligor of the hedged exposure must not be an eligible double default guarantor, an affiliate of an eligible double default guarantor, or an affiliate of the guarantor.

The proposed rule defines eligible double default guarantor to include a depository institution (as defined in section 3 of the Federal Deposit Insurance Act (12 U.S.C. 1813)); a bank holding company (as defined in section 2 of the Bank Holding Company Act (12 U.S.C. 1841)); a savings and loan holding company (as defined in 12 U.S.C. 1467a) provided all or substantially all of the holding company's activities are permissible for a financial holding company under 12 U.S.C. 1843(k)); a securities broker or dealer registered (under the Securities Exchange Act of 1934) with the Securities and Exchange Commission (SEC); an insurance company in the business of providing credit protection (such as a monoline bond insurer or re-insurer) that is subject to supervision by a state insurance regulator; a foreign bank (as defined in section 211.2 of the Federal Reserve Board's Regulation K (12 CFR 211.2)); a non-U.S. securities firm; or a non-U.S. based insurance company in the business of providing credit protection. To be an eligible double default guarantor, the entity must (i) have a bank-assigned PD that, at the time the guarantor issued the guarantee or credit derivative, was equal to or lower than the PD associated with a long-term external rating of at least the third highest investment grade rating category; and (ii) have a current bank-assigned PD that is equal to or lower than the PD associated with a long-term external rating of at least investment grade. In addition, a non-U.S. based bank, securities firm, or insurance company may qualify as an eligible double default guarantor only if the firm is subject to consolidated supervision and regulation comparable to that imposed on U.S. depository institutions, securities firms, or insurance companies (as the case may be) or has issued and outstanding an unsecured long-term debt security without credit enhancement that has a long-term applicable external rating in one of the

[64] New Accord, ¶ 206.

[65] *Id.*

[66] The New Accord permits certain retail small business exposures to be eligible for double default treatment. Under this proposal, however, a bank must effectively desegment a retail small business exposure (thus rendering it a wholesale exposure) to make it eligible for double default treatment.

three highest investment grade rating categories.

Effectively, the scope of an eligible double default guarantor is limited to financial firms whose normal business includes the provision of credit protection, as well as the management of a diversified portfolio of credit risk. This restriction arises from the agencies' concern to limit double default recognition to professional counterparties that have a high level of credit risk management expertise and that provide sufficient market disclosure. The restriction is also designed to limit the risk of excessive correlation between the creditworthiness of the guarantor and the obligor of the hedged exposure due to their performance depending on common economic factors beyond the systematic risk factor. As a result, hedged exposures to potential credit protection providers or affiliates of credit protection providers would not be eligible for the double default treatment. In addition, the agencies have excluded hedged exposures to sovereign entities from eligibility for double default treatment because of the potential high correlation between the creditworthiness of a sovereign and that of a guarantor.

In addition to limiting the types of guarantees, credit derivatives, guarantors, and hedged exposures eligible for double default treatment, the proposed rule limits wrong-way risk further by requiring a bank to implement a process to detect excessive correlation between the creditworthiness of the obligor of the hedged exposure and the protection provider. The bank must receive prior written approval from its primary Federal supervisor for this process in order to recognize double default benefits for risk-based capital purposes. To apply double default treatment to a particular hedged exposure, the bank must determine that there is not excessive correlation between the creditworthiness of the obligor of the hedged exposure and the protection provider. For example, the creditworthiness of an obligor and a protection provider would be excessively correlated if the obligor derives a high proportion of its income or revenue from transactions with the protection provider. If excessive correlation is present, the bank may not use the double default treatment for the hedged exposure.

The risk-based capital requirement for a hedged exposure subject to double default treatment is calculated by multiplying a risk-based capital requirement for the hedged exposure (as if it were unhedged) by an adjustment factor that considers the PD of the protection provider (see section 34 of the proposed rule). Thus, the PDs of both the obligor of the hedged exposure and the protection provider are factored into the hedged exposure's risk-based capital requirement. In addition, as under the PD substitution treatment in section 33 of the proposed rule, the bank would be allowed to set LGD equal to the lower of the LGD of the unhedged exposure or the LGD of the guarantee or credit derivative if the guarantee or credit derivative provides the bank with the option to receive immediate payout on the occurrence of a credit event. Otherwise, the bank must set LGD equal to the LGD of the guarantee or credit derivative. In addition, the bank must set ELGD equal to the ELGD associated with the required LGD. Accordingly, in order to apply the double default treatment, the bank must estimate a PD for the protection provider and an ELGD and LGD for the guarantee or credit derivative. Finally, a bank using the double default treatment must make applicable adjustments to the protection amount of the guarantee or credit derivative to reflect maturity mismatches, currency mismatches, and lack of restructuring coverage (as under the PD substitution and LGD adjustment approaches in section 33 of the proposed rule).

6. Guarantees and Credit Derivatives That Cover Retail Exposures

The proposed rule provides a different treatment for guarantees and credit derivatives that cover retail exposures. The approach set forth above for guarantees and credit derivatives that cover wholesale exposures is an exposure-by-exposure approach consistent with the overall exposure-by-exposure approach the proposed rule takes to wholesale exposures. The agencies believe that a different treatment for guarantees that cover retail exposures is necessary and appropriate because of the proposed rule's segmentation approach to retail exposures. The approaches to retail guarantees described in this section generally apply only to guarantees of individual retail exposures. Guarantees of multiple retail exposures (such as pool private mortgage insurance (PMI)) are typically tranched (that is, they cover less than the full amount of the hedged exposures) and, therefore, would be securitization exposures.

The proposed rule does not specify the ways in which guarantees and credit derivatives may be taken into account in the segmentation of retail exposures. Likewise, the proposed rule does not explicitly limit the extent to which a bank may take into account the credit risk mitigation benefits of guarantees and credit derivatives in its estimation of the PD, ELGD, and LGD of retail segments, except by the application of overall floors on certain PD and LGD assignments. This approach has the principal advantage of being relatively easy for banks to implement—the approach generally would not disrupt the existing retail segmentation practices of banks and would not interfere with banks' quantification of PD, ELGD, and LGD for retail segments. The agencies are concerned, however, that because this approach would provide banks with substantial discretion to incorporate double default and double recovery effects, the resulting treatment for guarantees of retail exposures would be inconsistent with the treatment for guarantees of wholesale exposures.

To address these concerns, the agencies are considering for purposes of the final rule two principal alternative treatments for guarantees of retail exposures. The first alternative would distinguish between eligible retail guarantees and all other (non-eligible) guarantees of retail exposures. Under this alternative, an eligible retail guarantee would be an eligible guarantee that applies to a single retail exposure and is (i) PMI issued by an insurance company that (A) has issued a senior unsecured long-term debt security without credit enhancement that has an applicable external rating in one of the two highest investment grade rating categories or (B) has a claims payment ability that is rated in one of the two highest rating categories by an NRSRO; or (ii) issued by a sovereign entity or a political subdivision of a sovereign entity. Under this alternative, PMI would be defined as insurance provided by a regulated mortgage insurance company that protects a mortgage lender in the event of the default of a mortgage borrower up to a predetermined portion of the value of a single one-to four-family residential property.

Under this alternative, a bank would be able to recognize the credit risk mitigation benefits of eligible retail guarantees that cover retail exposures in a segment by adjusting its estimates of ELGD and LGD for the segment to reflect recoveries from the guarantor. However, the bank would have to estimate the PD of a segment without reflecting the benefit of guarantees; that is, a segment's PD would be an estimate of the stand-alone probability of default for the retail exposures in the segment, before taking account of any guarantees.

Accordingly, for this limited set of traditional guarantees of retail exposures by high credit quality guarantors, a bank would be allowed to recognize the benefit of the guarantee when estimating ELGD and LGD, but not when estimating PD. *Question 42: The agencies seek comment on this alternative approach's definition of eligible retail guarantee and treatment for eligible retail guarantees, and on whether the agencies should provide similar treatment for any other forms of wholesale credit insurance or guarantees on retail exposures, such as student loans, if the agencies adopt this approach.*

This alternative approach would provide a different treatment for non-eligible retail guarantees. In short, within the retail framework, a bank would not be able to recognize non-eligible retail guarantees when estimating PD, ELGD, and LGD for any segment of retail exposures. In other words, a bank would be required to estimate PD, ELGD, and LGD for segments containing retail exposures with non-eligible guarantees as if the exposures were not guaranteed. However, a bank would be permitted to recognize non-eligible retail guarantees provided by a wholesale guarantor by treating the hedged retail exposure as a direct exposure to the guarantor and applying the appropriate wholesale IRB risk-based capital formula. In other words, for retail exposures covered by non-eligible retail guarantees, a bank would be permitted to reflect the guarantee by ''desegmenting'' the retail exposures (which effectively would convert the retail exposures into wholesale exposures) and then applying the rules set forth above for guarantees that cover wholesale exposures. Thus, under this approach, a bank would not be allowed to recognize either double default or double recovery effects for non-eligible retail guarantees.

The agencies understand that this approach to non-eligible retail guarantees, while addressing the prudential concerns of the agencies, is conservative and may not harmonize with banks' internal risk measurement and management practices in this area. *Question 43: The agencies seek comment on the types of non-eligible retail guarantees banks obtain and the extent to which banks obtain credit risk mitigation in the form of non-eligible retail guarantees.*

A second alternative that the agencies are considering for purposes of the final rule would permit a bank to recognize the credit risk mitigation benefits of all eligible guarantees (whether eligible retail guarantees or not) that cover retail exposures by adjusting its estimates of ELGD and LGD for the relevant segments, but would subject a bank's risk-based capital requirement for a segment of retail exposures that are covered by one or more non-eligible retail guarantees to a floor. Under this second alternative, the agencies could impose a floor on risk-based capital requirements of between 2 percent and 6 percent on such a segment of retail exposures.

*Question 44: The agencies seek comment on both of these alternative approaches to guarantees that cover retail exposures. The agencies also invite comment on other possible prudential treatments for such guarantees.*

*D. Unsettled Securities, Foreign Exchange, and Commodity Transactions*

Section 35 of the proposed rule sets forth the risk-based capital requirements for unsettled and failed securities, foreign exchange, and commodities transactions. Certain transaction types are excluded from the scope of this section, including:

(i) Transactions accepted by a qualifying central counterparty that are subject to daily marking-to-market and daily receipt and payment of variation margin (which do not have a risk-based capital requirement);[67]

(ii) Repo-style transactions (the risk-based capital requirements of which are determined under sections 31 and 32 of the proposed rule);

(iii) One-way cash payments on OTC derivative contracts (the risk-based capital requirements of which are determined under sections 31 and 32 of the proposed rule); and

(iv) Transactions with a contractual settlement period that is longer than the normal settlement period (defined below), which transactions are treated as OTC derivative contracts and assessed a risk-based capital requirement under sections 31 and 32 of the proposed rule. The proposed rule also provides that, in the case of a system-wide failure of a settlement or clearing system, the bank's primary Federal supervisor may waive risk-based capital requirements for unsettled and failed transactions until the situation is rectified.

[67] The agencies consider a qualifying central counterparty to be the functional equivalent of an exchange, and have long exempted exchange-traded contracts from risk-based capital requirements. Transactions rejected by a qualifying central counterparty (because, for example, of a discrepancy in the details of the transaction such as in quantity, price, or in the underlying security, between the buyer and seller) potentially give rise to risk exposure to either party.

The proposed rule contains separate treatments for delivery-versus-payment (DvP) and payment-versus-payment (PvP) transactions with a normal settlement period, on the one hand, and non-DvP/non-PvP transactions with a normal settlement period, on the other hand. The proposed rule provides the following definitions of a DvP transaction, a PvP transaction, and a normal settlement period. A DvP transaction is a securities or commodities transaction in which the buyer is obligated to make payment only if the seller has made delivery of the securities or commodities and the seller is obligated to deliver the securities or commodities only if the buyer has made payment. A PvP transaction is a foreign exchange transaction in which each counterparty is obligated to make a final transfer of one or more currencies only if the other counterparty has made a final transfer of one or more currencies. A transaction has a normal settlement period if the contractual settlement period for the transaction is equal to or less than the market standard for the instrument underlying the transaction and equal to or less than five business days.

A bank must hold risk-based capital against a DvP or PvP transaction with a normal settlement period if the bank's counterparty has not made delivery or payment within five business days after the settlement date. The bank must determine its risk-weighted asset amount for such a transaction by multiplying the positive current exposure of the transaction for the bank by the appropriate risk weight in Table F. The positive current exposure of a transaction of a bank is the difference between the transaction value at the agreed settlement price and the current market price of the transaction, if the difference results in a credit exposure of the bank to the counterparty.

TABLE F.—RISK WEIGHTS FOR UNSETTLED DVP AND PVP TRANSACTIONS

| Number of business days after contractual settlement date | Risk weight to be applied to positive current exposure (percent) |
|---|---|
| From 5 to 15 | 100 |
| From 16 to 30 | 625 |
| From 31 to 45 | 937.5 |
| 46 or more | 1,250 |

A bank must hold risk-based capital against any non-DvP/non-PvP transaction with a normal settlement period if the bank has delivered cash, securities, commodities, or currencies to its counterparty but has not received its

corresponding deliverables by the end of the same business day. The bank must continue to hold risk-based capital against the transaction until the bank has received its corresponding deliverables. From the business day after the bank has made its delivery until five business days after the counterparty delivery is due, the bank must calculate its risk-based capital requirement for the transaction by treating the current market value of the deliverables owed to the bank as a wholesale exposure.

A bank may assign an internal obligor rating to a counterparty for which it is not otherwise required under the proposed rule to assign an obligor rating on the basis of the applicable external rating of any outstanding senior unsecured long-term debt security without credit enhancement issued by the counterparty. A bank may estimate loss severity ratings or ELGD and LGD for the exposure, or may use a 45 percent ELGD and LGD for the exposure provided the bank uses the 45 percent ELGD and LGD for all such exposures. Alternatively, a bank may use a 100 percent risk weight for the exposure as long as the bank uses this risk weight for all such exposures.

If, in a non-DvP/non-PvP transaction with a normal settlement period, the bank has not received its deliverables by the fifth business day after counterparty delivery was due, the bank must deduct the current market value of the deliverables owed to the bank 50 percent from tier 1 capital and 50 percent from tier 2 capital.

The total risk-weighted asset amount for unsettled transactions equals the sum of the risk-weighted asset amount for each DvP and PvP transaction with a normal settlement period and the risk-weighted asset amount for each non-DvP/non-PvP transaction with a normal settlement period.

*E. Securitization Exposures*

This section describes the framework for calculating risk-based capital requirements for securitization exposures under the proposed rule (the securitization framework). In contrast to the proposed framework for wholesale and retail exposures, the proposed securitization framework does not permit a bank to rely on its internal assessments of the risk parameters of a securitization exposure.[68] For securitization exposures, which typically are tranched exposures to a pool of underlying exposures, such assessments would require implicit or explicit estimates of correlations among the losses on the underlying exposures and estimates of the credit risk consequences of tranching. Such correlation and tranching effects are difficult to estimate and validate in an objective manner and on a going-forward basis. Instead, the proposed securitization framework relies principally on two sources of information, where available, to determine risk-based capital requirements: (i) An assessment of the securitization exposure's credit risk made by an NRSRO; or (ii) the risk-based capital requirement for the underlying exposures as if the exposures had not been securitized (along with certain other objective information about the securitization exposure, such as the size and relative seniority of the exposure).

A bank must use the securitization framework for exposures to any transaction that involves the tranching of credit risk (with the exception of a tranched guarantee that applies only to an individual retail exposure), regardless of the number of underlying exposures in the transaction.[69] A single, unified approach to dealing with the tranching of credit risk is important to create a level playing field across the securitization, credit derivatives, and other financial markets. The agencies believe that basing the applicability of the proposed securitization framework on the presence of some minimum number of underlying exposures would complicate the proposed rule without any material improvement in risk sensitivity. The proposed securitization framework is designed specifically to deal with tranched exposures to credit risk, and the principal risk-based capital approaches of the proposed securitization framework take into account the effective number of underlying exposures.

1. Hierarchy of Approaches

The proposed securitization framework contains three general approaches for determining the risk-based capital requirement for a securitization exposure: A Ratings-Based Approach (RBA), an Internal Assessment Approach (IAA), and a Supervisory Formula Approach (SFA). Under the proposed rule, banks generally must apply the following hierarchy of approaches to determine the risk-based capital requirement for a securitization exposure.

First, a bank must deduct from tier 1 capital any after-tax gain-on-sale resulting from a securitization and must deduct from total capital any portion of a CEIO that does not constitute a gain-on-sale, as described in section 42(c) of the proposed rule. Second, a bank must apply the RBA to a securitization exposure if the exposure qualifies for the RBA. As a general matter, an exposure qualifies for the RBA if the exposure has an external rating from an NRSRO or has an inferred rating (that is, the exposure is senior to another securitization exposure in the transaction that has an external rating from an NRSRO). For example, a bank generally must use the RBA approach to determine the risk-based capital requirement for an asset-backed security that has an applicable external rating of AA+ from an NRSRO and for another tranche of the same securitization that is unrated but senior in all respects to the asset-backed security that was rated. In this example, the senior unrated tranche would be treated as if it were rated AA+.

If a securitization exposure does not qualify for the RBA but is an exposure to an ABCP program—such as a credit enhancement or liquidity facility—the bank may apply the IAA (if the bank, the exposure, and the ABCP program qualify for the IAA) or the SFA (if the bank and the exposure qualify for the SFA) to the exposure. As a general matter, a bank would qualify for use of the IAA if the bank establishes and maintains an internal risk rating system for exposures to ABCP programs that has been approved by the bank's primary Federal supervisor. Alternatively, a bank may use the SFA if the bank is able to calculate a set of risk factors relating to the securitization, including the risk-based capital requirement for the underlying exposures as if they were held directly by the bank. A bank that chooses to use the IAA must use the IAA for all exposures that qualify for the IAA.

If a securitization exposure is not a gain-on-sale or a CEIO, does not qualify for the RBA and is not an exposure to an ABCP program, the bank may apply the SFA to the exposure if the bank is able to calculate the SFA risk factors for the securitization. In many cases an originating bank would use the SFA to determine its risk-based capital requirements for retained securitization exposures. If a securitization exposure is not a gain-on-sale or a CEIO and does not qualify for the RBA, the IAA, or the SFA, the bank must deduct the exposure

[68] Although the Internal Assessment Approach described below does allow a bank to use an internal-ratings-based approach to determine its risk-based capital requirement for an exposure to an ABCP program, banks are required to follow NRSRO rating criteria and therefore are required implicitly to use the NRSRO's determination of the correlation of the underlying exposures in the ABCP program.

[69] As noted above, mortgage-backed pass-through securities guaranteed by Fannie Mae or Freddie Mac are also securitization exposures.

from total capital. Total risk-weighted assets for securitization exposures would be the sum of risk-weighted assets calculated under the RBA, IAA, and SFA, plus any risk-weighted asset amounts calculated under the early amortization provisions in section 47 of the proposed rule.

Numerous commenters criticized the complexity of the ANPR's treatment of approaches to securitization exposures and the different treatment accorded to originating banks versus investing banks. As discussed elsewhere in this section, the agencies have responded to these comments by eliminating most of the differences in treatment for originating banks and investing banks and by eliminating the ''Alternative RBA'' from the hierarchy of approaches. As discussed in more detail below, there is one difference in treatment between originating and investing banks in the RBA, consistent with the general risk-based capital rules.

Some commenters expressed dissatisfaction that the ANPR required banks to use the RBA to assess risk-based capital requirements against a securitization exposure with an external or inferred rating. These commenters argued that banks should be allowed to choose between the RBA and the SFA when both approaches are available. The agencies have not altered the proposed securitization framework to provide this element of choice to banks because the agencies believe it would likely create a means for regulatory capital arbitrage.

*Exceptions to the general hierarchy of approaches.* Under the proposed securitization framework, unless one or more of the underlying exposures does not meet the definition of a wholesale, retail, securitization, or equity exposure, the total risk-based capital requirement for all securitization exposures held by a single bank associated with a single securitization (including any regulatory capital requirement that relates to an early amortization provision, but excluding any capital requirements that relate to the bank's gain-on-sale or CEIOs associated with the securitization) cannot exceed the sum of (i) the bank's total risk-based capital requirement for the underlying exposures as if the bank directly held the underlying exposures; and (ii) the bank's total ECL for the underlying exposures. The ECL of the underlying exposures is included in this calculation because if the bank held the underlying exposures on its balance sheet, the bank would have had to estimate the ECL of the exposures and hold reserves or capital against the ECL. This cap ensures that a bank's effective risk-based capital requirement for exposure to a pool of underlying exposures generally would not be greater than the applicable risk-based capital requirement if the underlying exposures were held directly by the bank, taking into consideration the agencies' safety and soundness concerns with respect to CEIOs.

This proposed maximum risk-based capital requirement would be different from the general risk-based capital rules. Under the general risk-based capital rules, banks generally are required to hold a dollar in capital for every dollar in residual interest, regardless of the effective risk-based capital requirement on the underlying exposures. The agencies adopted this dollar-for-dollar capital treatment for a residual interest to recognize that in many instances the relative size of the residual interest retained by the originating bank reveals market information about the quality of the underlying exposures and transaction structure that may not have been captured under the general risk-based capital rules. Given the significantly heightened risk sensitivity of the IRB framework, the agencies believe that the proposed maximum risk-based capital requirement in the proposed securitization framework is more appropriate.

In addition, the proposed rule would address various situations involving overlapping exposures. Consistent with the general risk-based capital rules, if a bank has multiple securitization exposures to an ABCP program that provide duplicative coverage of the underlying exposures of the program (such as when a bank provides a program-wide credit enhancement and multiple pool-specific liquidity facilities to an ABCP program), the bank is not required to hold duplicative risk-based capital against the overlapping position. Instead, the bank would apply to the overlapping position the applicable risk-based capital treatment under the securitization framework that results in the highest capital requirement. If different banks have overlapping exposures to an ABCP program, however, each bank must hold capital against the entire maximum amount of its exposure. Although duplication of capital requirements will not occur for individual banks, some systemic duplication may occur where multiple banks have overlapping exposures to the same ABCP program.

The proposed rule also addresses overlapping exposures that arise when a bank holds a securitization exposure in the form of a mortgage-backed security or participation certificate that results from a mortgage loan swap with recourse. In these situations, a bank must determine a risk-based capital requirement for two separate exposures—the retained recourse obligation on the swapped loans and the percentage of the mortgage-backed security or participation certificate that is not covered by the recourse obligation. The total risk-based capital requirement is capped at the risk-based capital requirement for the underlying exposures as if they were held directly on the bank's balance sheet.

The proposed rule also addresses the risk-based capital treatment of a securitization of non-IRB assets. Specifically, if a bank has a securitization exposure and any underlying exposure of the securitization is not a wholesale, retail, securitization or equity exposure, the bank must (i) apply the RBA if the securitization exposure qualifies for the RBA and is not gain-on-sale or a CEIO; or (ii) otherwise, deduct the exposure from total capital. Music concert and film receivables are examples of types of assets that are not wholesale, retail, securitization, or equity exposures.

The proposed rule contains several additional exceptions to the general hierarchy. For example, in light of the substantial volatility in asset value related to prepayment risk and interest rate risk associated with interest-only mortgage-backed securities, the proposed rule provides that the risk weight for such a security may not be less than 100 percent. In addition, the proposed rule follows the general risk-based capital rules by allowing a sponsoring bank that qualifies as a primary beneficiary and must consolidate an ABCP program as a variable interest entity under GAAP to exclude the consolidated ABCP program assets from risk-weighted assets. In such cases, the bank would hold risk-based capital only against any securitization exposures of the bank to the ABCP program.[70] Moreover, the proposed rule follows the general risk-based capital rules and a Federal statute [71] by including a special set of more lenient rules for the transfer of small business loans and leases with recourse by well-capitalized depository institutions.[72]

[70] *See* Financial Accounting Standards Board, *Interpretation No. 46: Consolidation of Certain Variable Interest Entities* (Jan. 2003).

[71] *See* 12 U.S.C. 1835, which places a cap on the risk-based capital requirement applicable to a well-capitalized depository institution that transfers small business loans with recourse.

[72] The proposed rule does not expressly state that the agencies may permit adequately capitalized banks to use the small business recourse rule on a case-by-case basis because the agencies may do this under the general reservation of authority contained in section 1 of the rule.

*Servicer cash advances.* A traditional securitization typically employs a servicing bank that—on a day-to-day basis—collects principal, interest, and other payments from the underlying exposures of the securitization and forwards such payments to the securitization SPE or to investors in the securitization. Such servicing banks often provide to the securitization a credit facility under which the servicing bank may advance cash to ensure an uninterrupted flow of payments to investors in the securitization (including advances made to cover foreclosure costs or other expenses to facilitate the timely collection of the underlying exposures). These servicer cash advance facilities are securitization exposures, and a servicing bank must determine its risk-based capital requirement for the funded portion of any such facility by using the proposed securitization framework.

Consistent with the general risk-based capital rules with respect to residential mortgage servicer cash advances, however, a servicing bank would not be required to hold risk-based capital against the undrawn portion of an ''eligible'' servicer cash advance facility. Under the proposed rule, an eligible servicer cash advance facility is a servicer cash advance facility in which (i) the servicer is entitled to full reimbursement of advances (except that a servicer may be obligated to make non-reimburseable advances if any such advance with respect to any underlying exposure is limited to an insignificant amount of the outstanding principal balance of the underlying exposure); (ii) the servicer's right to reimbursement is senior in right of payment to all other claims on the cash flows from the underlying exposures of the securitization; and (iii) the servicer has no legal obligation to, and does not, make advances to the securitization if the servicer concludes the advances are unlikely to be repaid. If these conditions are not satisfied, a bank that provides a servicer cash advance facility must determine its risk-based capital requirement for the undrawn portion of the facility in the same manner as the bank would determine its risk-based capital requirement for any other undrawn securitization exposure.

*Amount of a securitization exposure.* For all of the securitization approaches, the amount of an on-balance sheet securitization exposure is the bank's carrying value, if the exposure is held-to-maturity or for trading, or the bank's carrying value minus any unrealized gains and plus any unrealized losses on the exposure, if the exposure is available for sale. The amount of an off-balance sheet securitization exposure is the notional amount of the exposure. For a commitment, such as a liquidity facility extended to an ABCP program, the notional amount may be reduced to the maximum potential amount that the bank currently would be required to fund under the arrangement's documentation (that is, the amount that could be drawn given the assets held by the program). For an OTC derivative contract that is not a credit derivative, the notional amount is the EAD of the derivative contract (as calculated in section 32).

*Implicit support.* The proposed rule also sets forth the regulatory capital consequences if a bank provides support to a securitization in excess of the bank's predetermined contractual obligation to provide credit support to the securitization. First, consistent with the general risk-based capital rules,[73] a bank that provides such implicit support must hold regulatory capital against all of the underlying exposures associated with the securitization as if the exposures had not been securitized, and must deduct from tier 1 capital any after-tax gain-on-sale resulting from the securitization. Second, the bank must disclose publicly (i) that it has provided implicit support to the securitization, and (ii) the regulatory capital impact to the bank of providing the implicit support. The bank's primary Federal supervisor also may require the bank to hold regulatory capital against all the underlying exposures associated with some or all the bank's other securitizations as if the exposures had not been securitized, and to deduct from tier 1 capital any after-tax gain-on-sale resulting from such securitizations.

*Operational requirements for traditional securitizations.* In a traditional securitization, an originating bank typically transfers a portion of the credit risk of exposures to third parties by selling them to an SPE. Banks engaging in a traditional securitization may exclude the underlying exposures from the calculation of risk-weighted assets only if each of the following conditions is met: (i) The transfer is a sale under GAAP; (ii) the originating bank transfers to third parties credit risk associated with the underlying exposures; and (iii) any clean-up calls relating to the securitization are eligible clean-up calls (as discussed below).

Originating banks that meet these conditions must hold regulatory capital against any securitization exposures they retain in connection with the securitization. Originating banks that fail to meet these conditions must hold regulatory capital against the transferred exposures as if they had not been securitized and must deduct from tier 1 capital any gain-on-sale resulting from the transaction.

*Clean-up calls.* For purposes of these operational requirements, a clean-up call is a contractual provision that permits a servicer to call securitization exposures (for example, asset-backed securities) before the stated (or contractual) maturity or call date. In the case of a traditional securitization, a clean-up call is generally accomplished by repurchasing the remaining securitization exposures once the amount of underlying exposures or outstanding securitization exposures has fallen below a specified level. In the case of a synthetic securitization, the clean-up call may take the form of a clause that extinguishes the credit protection once the amount of underlying exposures has fallen below a specified level.

To satisfy the operational requirements for securitizations—and, therefore, to enable an originating bank to exclude the underlying exposures from the calculation of its risk-based capital requirements—any clean-up call associated with a securitization must be an eligible clean-up call. An eligible clean-up call is a clean-up call that:

(i) Is exercisable solely at the discretion of the servicer;

(ii) Is not structured to avoid allocating losses to securitization exposures held by investors or otherwise structured to provide credit enhancement to the securitization (for example, to purchase non-performing underlying exposures); and

(iii) (A) For a traditional securitization, is only exercisable when 10 percent or less of the principal amount of the underlying exposures or securitization exposures (determined as of the inception of the securitization) is outstanding.

(B) For a synthetic securitization, is only exercisable when 10 percent or less of the principal amount of the reference portfolio of underlying exposures (determined as of the inception of the securitization) is outstanding.

Over the last several years, the agencies have published a significant amount of supervisory guidance to assist banks with assessing the extent to which they have transferred credit risk and, consequently, may recognize any reduction in required regulatory capital as a result of a securitization or other

[73] Interagency Guidance on Implicit Recourse in Asset Securitizations, May 23, 2002.

form of credit risk transfer.[74] In general, the agencies would expect banks to continue to use this guidance, most of which remains applicable to the securitization framework. Banks are encouraged to consult with their primary Federal supervisor about transactions that require additional guidance.

2. Ratings-Based Approach (RBA)

Under the RBA, a bank would determine the risk-weighted asset amount for a securitization exposure that has an external rating or inferred rating by multiplying the amount of the exposure by the appropriate risk-weight provided in the tables in section 43 of the proposed rule. An originating bank must use the RBA if its retained securitization exposure has at least two external ratings or an inferred rating based on at least two external ratings; an investing bank must use the RBA if its securitization exposure has one or more external or inferred ratings. For purposes of the proposed rule, an originating bank means a bank that meets either of the following conditions: (i) The bank directly or indirectly originated or securitized the underlying exposures included in the securitization; or (ii) the securitization is an ABCP program and the bank serves as a sponsor of the ABCP program.

This two-rating requirement for originating banks is the only material difference between the treatment of originating banks and investing banks under the securitization framework. Although this two-rating requirement is not included in the New Accord, it is generally consistent with the treatment of originating and investing banks in the general risk-based capital rules. The agencies believe that the market discipline evidenced by a third party purchasing a securitization exposure obviates the need for a second rating for an investing bank. *Question 45: The agencies seek comment on this differential treatment of originating banks and investing banks and on alternative mechanisms that could be employed to ensure the reliability of external and inferred ratings of non-traded securitization exposures retained by originating banks.*

Under the proposed rule, a bank also must use the RBA for securitization exposures with an inferred rating. Similar to the general risk-based capital rules, an unrated securitization exposure would have an inferred rating if another securitization exposure associated with the securitization transaction (that is, issued by the same issuer and backed by the same underlying exposures) has an external rating and the rated securitization exposure (i) is subordinated in all respects to the unrated securitization exposure; (ii) does not benefit from any credit enhancement that is not available to the unrated securitization exposure; and (iii) has an effective remaining maturity that is equal to or longer than the unrated securitization exposure. Under the RBA, securitization exposures with an inferred rating are treated the same as securitization exposures with an identical external rating. *Question 46: The agencies seek comment on whether they should consider other bases for inferring a rating for an unrated securitization position, such as using an applicable credit rating on outstanding long-term debt of the issuer or guarantor of the securitization exposure.*

Under the RBA, the risk-based capital requirement per dollar of securitization exposure would depend on four factors: (i) The applicable rating of the exposure; (ii) whether the rating reflects a long-term or short-term assessment of the exposure's credit risk; (iii) whether the exposure is a ''senior'' exposure; and (iv) a measure of the effective number (''N'') of underlying exposures. For a securitization exposure with only one external or inferred rating, the applicable rating of the exposure is that external or inferred rating. For a securitization exposure with more than one external or inferred rating, the applicable rating of the exposure is the lowest external or inferred rating assigned to the exposure.

A ''senior securitization exposure'' is a securitization exposure that has a first priority claim on the cash flows from the underlying exposures, disregarding the claims of a service provider (such as a swap counterparty or trustee, custodian, or paying agent for a securitization) to fees from the securitization. A liquidity facility that supports an ABCP program is a senior securitization exposure if the liquidity facility provider's right to reimbursement of the drawn amounts is senior to all claims on the cash flow from the underlying exposures except claims of a service provider to fees. *Question 47: The agencies seek comment on the appropriateness of basing the risk-based capital requirement for a securitization exposure under the RBA on the seniority level of the exposure.*

Under the RBA, a bank must use Table G below when the securitization exposure's external rating represents a long-term credit rating or its inferred rating is based on a long-term credit rating. A bank must apply the risk weights in column 1 of Table G to the securitization exposure if the effective number of underlying exposures (N) is 6 or more and the securitization exposure is a senior securitization exposure. If the notional number of underlying exposures of a securitization is 25 or more or if all the underlying exposures are retail exposures, a bank may assume that N is 6 or more (unless the bank knows or has reason to know that N is less than 6). If the notional number of underlying exposures of a securitization is less than 25 and one or more of the underlying exposures is a non-retail exposure, the bank must compute N as described in the SFA section below. If N is 6 or more but the securitization exposure is not a senior securitization exposure, the bank must apply the risk weights in column 2 of Table G. A bank must apply the risk weights in column 3 of Table G to the securitization exposure if N is less than 6. *Question 48: The agencies seek comment on how well this approach captures the most important risk factors for securitization exposures of varying degrees of seniority and granularity.*

[74] *See, e.g.,* OCC Bulletin 99–46 (Dec. 14, 1999) (OCC); FDIC Financial Institution Letter 109–99 (Dec. 13, 1999) (FDIC); SR Letter 99–37 (Dec. 13, 1999) (Board); CEO Ltr. 99–119 (Dec. 14, 1999) (OTS).

TABLE G.—LONG-TERM CREDIT RATING RISK WEIGHTS UNDER RBA AND IAA

| Applicable rating (illustrative rating example) | Column 1 | Column 2 | Column 3 |
|---|---|---|---|
| | Risk weights for senior securitization exposures backed by granular pools (percent) | Risk weights for non-senior securitization exposures backed by granular pools (percent) | Risk weights for securitization exposures backed by non-granular pools (percent) |
| Highest investment grade (for example, AAA) | 7 | 12 | 20 |
| Second highest investment grade (for example, AA) | 8 | 15 | 25 |
| Third-highest investment grade—positive designation (for example, A+) | 10 | 18 | 35 |
| Third-highest investment grade (for example, A) | 12 | 20 | ..... |
| Third-highest investment grade—negative designation (for example, A−) | 20 | 35 | ..... |
| Lowest investment grade—positive designation (for example, BBB+) | 35 | 50 | |
| Lowest investment grade (for example, BBB) | 60 | 75 | |
| Lowest investment grade—negative designation (for example, BBB−) | 100 | | |
| One category below investment grade—positive designation (for example, BB+) | 250 | | |
| One category below investment grade (for example, BB) | 425 | | |
| One category below investment grade—negative designation (for example, BB−) | 650 | | |
| More than one category below investment grade | Deduction from tier 1 and tier 2 capital. | | |

A bank must apply the risk weights in Table H when the securitization exposure's external rating represents a short-term credit rating or its inferred rating is based on a short-term credit rating. A bank must apply the decision rules outlined in the previous paragraph to determine which column of Table H applies.

TABLE H.—SHORT-TERM CREDIT RATING RISK WEIGHTS UNDER RBA AND IAA

| Applicable rating (illustrative rating example) | Column 1 | Column 2 | Column 3 |
|---|---|---|---|
| | Risk weights for senior securitization exposures backed by granular pools (percent) | Risk weights for non-senior securitization exposures backed by granular pools (percent) | Risk weights for securitization exposures backed by non-granular pools (percent) |
| Highest investment grade (for example, A1) | 7 | 12 | 20 |
| Second highest investment grade (for example, A2) | 12 | 20 | 35 |
| Third highest investment grade (for example, A3) | 60 | 75 | 75 |
| All other ratings | Deduction from tier 1 and tier 2 capital. | | |

Within tables G and H, risk weights increase as rating grades decline. Under column 2 of Table G, for example, the risk weights range from 12 percent for exposures with the highest investment grade rating to 650 percent for exposures rated one category below investment grade with a negative designation. This pattern of risk weights is broadly consistent with analyses employing standard credit risk models and a range of assumptions regarding correlation effects and the types of exposures being securitized.[75] These analyses imply that, compared with a corporate bond having a given level of stand-alone credit risk (for example, as measured by its expected loss rate), a securitization tranche having the same level of stand-alone credit risk—but backed by a reasonably granular and diversified pool—will tend to exhibit more systematic risk.[76] This effect is most pronounced for below-investment-grade tranches and is the primary reason why the RBA risk-weights increase rapidly as ratings deteriorate over this range—much more rapidly than for similarly rated corporate bonds.

Under the RBA, a securitization exposure that has an investment grade rating and has fewer than six effective underlying exposures generally receives a higher risk weight than a similarly rated securitization exposure with six or more effective underlying exposures. The agencies have designed the risk weights in this manner to discourage a bank from engaging in regulatory capital arbitrage by securitizing very high-quality wholesale exposures (that is, wholesale exposures with a low PD and LGD), obtaining external ratings on the securitization exposures issued by the securitization, and retaining essentially all the credit risk of the pool of underlying exposures.

Consistent with the ANPR, the proposed rule requires a bank to deduct from regulatory capital any securitization exposure with an external or inferred rating below one category below investment grade for long-term ratings or below investment grade for short-term ratings. Several commenters

[75] *See* Vladislav Peretyatkin and William Perraudin, ''Capital for Asset-Backed Securities,'' Bank of England, February 2003.

[76] *See, e.g.*, Michael Pykhtin and Ashish Dev, ''Credit Risk in Asset Securitizations: An Analytical Model,'' *Risk* (May 2002) S16–S20.

argued that this deduction is excessive in light of the credit risk of such exposures. Although this proposed capital treatment is more conservative than suggested by credit risk modeling analyses, the agencies have decided to retain the deduction approach for low-non-investment grade exposures. The agencies believe that there are significant modeling uncertainties for such low-rated securitization tranches. Moreover, external ratings of these tranches are subject to less market discipline because these positions generally are retained by the bank.

The proposed RBA differs in several important respects from the RBA in the ANPR. First, under the ANPR, an originating bank (but not an investing bank) would have to deduct from regulatory capital the amount of any securitization exposure below the risk-based capital requirement for the underlying exposures as if they were held directly by the bank, regardless of whether the exposure would have qualified for a lower risk-based capital requirement under the RBA. The agencies took this position in the ANPR, in part, to provide incentives for originating banks to shed deeply subordinated, high risk, difficult-to-value securitization exposures. The agencies also were concerned that an external credit rating may be less reliable when the rating applies to a retained, non-traded exposure and is sought by an originating bank primarily for regulatory capital purposes. Numerous commenters criticized this aspect of the ANPR as lacking risk sensitivity and inconsistently treating originating and investing banks. After further review, the agencies have concluded that the risk sensitivity and logic of the securitization framework would be enhanced by permitting originating banks and investing banks to use the RBA on generally equal terms. The agencies have revised the RBA to permit originating banks to use the RBA even if the retained securitization exposure is below the risk-based capital requirement for the underlying exposures as if they were held directly by the bank.

In addition, the agencies have enhanced the risk sensitivity of the RBA in the ANPR by introducing more risk-weight gradations for securitization exposures with a long-term external or inferred rating in the third-highest investment grade rating category. Although the ANPR RBA applied the same risk weight to all securitization exposures with long-term external ratings in the third-highest investment grade rating category, the proposed rule provides three different risk weights to securitization exposures that have long-term external ratings in the third-highest investment grade rating category depending on whether the rating has positive, negative, or no designation.

The agencies also have modified the ANPR RBA to expand the set of lower risk-weights applicable to the most senior tranches of reasonably granular securitizations to better reflect the low systematic risk of such tranches. For example, under the ANPR, certain relatively senior tranches of reasonably granular securitizations with long-term external ratings in the two highest investment grade rating categories received a lower risk-weight than more subordinated tranches of the same securitizations. Under the proposed rule, the most senior tranches of reasonably granular securitizations with long-term investment grade external ratings receive a more favorable risk-weight as compared to more subordinated tranches of the same securitizations. In addition, in response to comments, the agencies have reduced the granularity requirement for a senior securitization exposure to qualify for the lower risk weights. Under the ANPR RBA, only securitization exposures to a securitization that has an N of 100 or more could qualify for the lower risk-weights. Under the proposed rule, securitization exposures to a securitization that has an N of 6 or more would qualify for the lower risk weights.

Although the proposed rule's RBA expands the availability of the lower risk weights for senior securitization exposures in several respects, it also has a more conservative but simpler definition of a senior securitization exposure. The ANPR RBA imposed a mathematical test for determining the relative seniority of a securitization tranche. This test allowed the designation of multiple senior securitization tranches for a particular securitization. By contrast, the proposed RBA designates the most senior securitization tranche in a particular securitization as the only securitization tranche eligible for the lower risk weights.

In addition, some commenters argued that the ANPR RBA risk weights for highly-rated senior retail securitization exposures were excessive in light of the credit risk associated with such exposures. The agencies have determined that empirical research on this point (including that provided by commenters) is inconclusive and does not warrant a reduction in the RBA risk weights of these exposures.

3. Internal Assessment Approach (IAA)

The proposed rule permits a bank to compute its risk-based capital requirement for a securitization exposure to an ABCP program (such as a liquidity facility or credit enhancement) using the bank's internal assessment of the credit quality of the securitization exposure. To do so, the bank's internal assessment process and the ABCP program must meet certain qualification requirements in section 44 of the proposed rule, and the securitization exposure must initially be internally rated at least equivalent to investment grade. A bank that elects to use the IAA for any securitization exposure to an ABCP program must use the IAA to compute risk-based capital requirements for all securitization exposures that qualify for the IAA approach. Under the IAA, a bank would map its internal credit assessment of a securitization exposure to an equivalent external credit rating from an NRSRO. The bank would determine the risk-weighted asset amount for a securitization exposure by multiplying the amount of the exposure (using the methodology set forth above in the RBA section) by the appropriate risk weight provided in Table G or H above.

The agencies included the IAA for securitization exposures to ABCP programs in response to comments on the ANPR. The ANPR indicated that the agencies expected banks to use the SFA or a ''Look-Through Approach'' to determine risk-based capital requirements for exposures to ABCP programs. Under the Look-Through Approach, a bank would determine its risk-based capital requirement for an eligible liquidity facility provided to an ABCP program by multiplying (i) 8 percent; (ii) the maximum potential drawdown on the facility; (iii) an applicable conversion factor of between 50 and 100 percent; and (iv) the applicable risk weight (which would typically be 100 percent). Commenters expressed concern that ABCP program sponsors would not have sufficient data about the underlying exposures in the ABCP program to use the SFA and that the Look-Through Approach produced economically unreasonable capital requirements for these historically safe credit exposures. The agencies are proposing to replace the Look-Through Approach with the IAA, which is similar to an approach already available to qualifying banks under the general risk-based capital rules for credit enhancements to ABCP programs and which the agencies believe would provide a more risk-sensitive and economically appropriate risk-based

capital treatment for bank exposures to ABCP programs.

To use the IAA, a bank must receive prior written approval from its primary Federal supervisor. To receive such approval, the bank would have to demonstrate that its internal credit assessment process satisfies all the following criteria. The bank's internal credit assessments of securitization exposures to ABCP programs must be based on publicly available rating criteria used by an NRSRO for evaluating the credit risk of the underlying exposures. The bank's internal credit assessments of securitization exposures used for regulatory capital purposes must be consistent with those used in the bank's internal risk management process, capital adequacy assessment process, and management information reporting systems.

In addition, the bank's internal credit assessment process must have sufficient granularity to identify gradations of risk. Each of the bank's internal credit assessment categories must correspond to an external credit rating of an NRSRO. The proposed rule also requires that the bank's internal credit assessment process, particularly the stress test factors for determining credit enhancement requirements, be at least as conservative as the most conservative of the publicly available rating criteria of the NRSROs that have provided external credit ratings to the commercial paper issued by the ABCP program.

Moreover, the bank must have an effective system of controls and oversight that ensures compliance with these operational requirements and maintains the integrity of the internal credit assessments. The bank must review and update each internal credit assessment whenever new material information is available, but no less frequently than annually. The bank must also validate its internal credit assessment process on an ongoing basis, but not less frequently than annually.

To use the IAA on a specific exposure to an ABCP program, the program must exhibit the following characteristics:

(i) All the commercial paper issued by the ABCP program must have an external rating.

(ii) The ABCP program must have robust credit and investment guidelines (that is, underwriting standards).

(iii) The ABCP program must perform a detailed credit analysis of the asset sellers' risk profiles.

(iv) The ABCP program's underwriting policy must establish minimum asset eligibility criteria that include a prohibition of the purchase of assets that are significantly past due or defaulted, as well as limitations on concentrations to an individual obligor or geographic area and the tenor of the assets to be purchased.

(v) The aggregate estimate of loss on an asset pool that the ABCP program is considering purchasing must consider all sources of potential risk, such as credit and dilution risk.

(vi) The ABCP program must incorporate structural features into each purchase of assets to mitigate potential credit deterioration of the underlying exposures. Such features may include wind-down triggers specific to a pool of underlying exposures.

4. Supervisory Formula Approach (SFA)

*General requirements.* Under the SFA, a bank would determine the risk-weighted asset amount for a securitization exposure by multiplying the SFA risk-based capital requirement for the exposure (as determined by the supervisory formula set forth below) by 12.5. If the SFA risk weight for a securitization exposure is 1,250 percent or greater, however, the bank must deduct the exposure from total capital rather than risk weight the exposure. Deduction is consistent with the treatment of other high-risk securitization exposures, such as CEIOs.

The SFA capital requirement for a securitization exposure depends on the following seven inputs:

(i) The amount of the underlying exposures (UE);

(ii) The securitization exposure's proportion of the tranche in which it resides (TP);

(iii) The sum of the risk-based capital requirement and ECL for the underlying exposures as if they were held directly on the bank's balance sheet divided by the amount of the underlying exposures ($K_{IRB}$);

(iv) The tranche's credit enhancement level (L);

(v) The tranche's thickness (T);

(vi) The securitization's effective number of underlying exposures (N); and

(vii) The securitization's exposure-weighted average loss given default (EWALGD).

A bank may only use the SFA to determine its risk-based capital requirement for a securitization exposure if the bank can calculate each of these seven inputs on an ongoing basis. In particular, if a bank cannot compute $K_{IRB}$ because the bank cannot compute the risk-based capital requirement for all underlying exposures, the bank may not use the SFA to compute its risk-based capital requirement for the securitization exposure. In those cases, the bank would deduct the exposure from regulatory capital.

The SFA capital requirement for a securitization exposure is UE multiplied by TP multiplied by the greater of (i) 0.0056 * T; or (ii) S[L+T] − S[L], where:

$$\text{(i) } S[Y] = \begin{cases} Y & \text{when } Y \le K_{IRB} \\ K_{IRB} + K[Y] - K[K_{IRB}] + \dfrac{d \cdot K_{IRB}}{20}\left(1 - e^{\frac{20 \cdot (K_{IRB} - Y)}{K_{IRB}}}\right) & \text{when } Y > K_{IRB} \end{cases}$$

$$\text{(ii) } K[Y] = (1-h) \cdot [(1-\beta[Y;a,b]) \cdot Y + \beta[Y;a+1,b] \cdot c]$$

$$\text{(iii) } h = \left(1 - \frac{K_{IRB}}{EWALGD}\right)^N$$

$$\text{(iv) } a = g \cdot c$$

(v) $b = g \cdot (1 - c)$

(vi) $c = \frac{K_{IRB}}{1 - h}$

(vii) $g = \frac{(1 - c) \cdot c}{f} - 1$

(viii) $f = \frac{v + K_{IRB}^2}{1 - h} - c^2 + \frac{(1 - K_{IRB}) \cdot K_{IRB} - v}{(1 - h) \cdot 1000}$

(ix) $v = K_{IRB} \cdot \frac{(EWALGD - K_{IRB}) + .25 \cdot (1 - EWALGD)}{N}$

(x) $d = 1 - (1 - h) \cdot (1 - \beta[K_{IRB}; a, b])$

In these expressions, β[Y; a, b] refers to the cumulative beta distribution with parameters a and b evaluated at Y. In the case where N=1 and EWALGD=100 percent, S[Y] in formula (1) must be calculated with K[Y] set equal to the product of $K_{IRB}$ and Y, and d set equal to $1 - K_{IRB}$. The major inputs to the SFA formula (UE, TP, $K_{IRB}$, L, T, EWALGD, and N) are defined below and in section 45 of the proposed rule.

The SFA formula effectively imposes a 56 basis point minimum risk-based capital requirement (8 percent of the 7 percent risk weight) per dollar of securitization exposure. A number of commenters on the ANPR contended that this floor capital requirement in the SFA would be excessive for many senior securitization exposures. Although such a floor may impose a capital requirement that is too high for some securitization exposures, the agencies continue to believe that some minimum prudential capital requirement is appropriate in the securitization context. This 7 percent risk-weight floor is also consistent with the lowest capital requirement available under the RBA and, thus, should reduce incentives for regulatory capital arbitrage.

The SFA formula is a blend of credit risk modeling results and supervisory judgment. The function S[Y] incorporates two distinct features. First, a pure model-based estimate of the pool's aggregate systematic or non-diversifiable credit risk that is attributable to a first loss position covering losses up to and including Y. Because the tranche of interest covers losses over a specified range (defined in terms of L and T), the tranche's systematic risk can be represented as S[L+T] − S[L]. The second feature involves a supervisory add-on primarily intended to avoid behavioral distortions associated with what would otherwise be a discontinuity in capital requirements for relatively thin mezzanine tranches lying just below and just above the $K_{IRB}$ boundary: all tranches at or below $K_{IRB}$ would be deducted from capital, whereas a very thin tranche just above $K_{IRB}$ would incur a pure model-based percentage capital requirement that could vary between zero and one, depending on the number of effective underlying exposures (N). The supervisory add-on applies primarily to positions just above $K_{IRB}$, and its quantitative effect diminishes rapidly as the distance from $K_{IRB}$ widens.

Under the SFA, a bank must deduct from regulatory capital any securitization exposures (or parts thereof) that absorb losses at or below the level of $K_{IRB}$. However, the specific securitization exposures that are subject to this deduction treatment under the SFA may change over time in response to variation in the credit quality of the pool of underlying exposures. For example, if the pool's IRB capital requirement were to increase after the inception of a securitization, additional portions of unrated securitization exposures may fall below $K_{IRB}$ and thus become subject to deduction under the SFA. Therefore, if a bank owns an unrated first-loss securitization exposure well in excess of $K_{IRB}$, the capital requirement on the exposure could climb rapidly in the event of marked deterioration in the credit quality of the underlying exposures.

Apart from the risk-weight floor and other supervisory adjustments described above, the supervisory formula attempts to be as consistent as possible with the parameters and assumptions of the IRB framework that would apply to the underlying exposures if held directly by a bank.[77] The specification of S[Y] assumes that $K_{IRB}$ is an accurate measure of the total systematic credit risk of the pool of underlying exposures and that a securitization merely redistributes this systematic risk among its various tranches. In this way, S[Y] embodies precisely the same asset correlations as are assumed elsewhere within the IRB framework. In addition, this specification embodies the result that a pool's systematic risk (that is, $K_{IRB}$) tends to be redistributed toward more senior tranches as the effective number of underlying exposures in the pool (N) declines.[78] The importance of pool granularity depends on the pool's average loss severity rate, EWALGD. For small values of N, the framework implies that, as EWALGD increases, systematic risk is shifted toward senior tranches. For highly granular pools, such as securitizations of retail exposures, EWALGD would have no

[77] The conceptual basis for specification of K[x] is developed in Michael B. Gordy and David Jones, ''Random Tranches,'' *Risk*. (Mar. 2003) 78–83.

[78] *See* Michael Pykhtin and Ashish Dev, ''Coarse-grained CDOs,'' *Risk* (Jan. 2003) 113–116.

influence on the SFA capital requirement.

*Inputs to the SFA formula.* The proposed rule provides the following definitions of the seven inputs into the SFA formula.

(i) *Amount of the underlying exposures (UE).* This input (measured in dollars) is the EAD of any underlying wholesale and retail exposures plus the amount of any underlying exposures that are securitization exposures (as defined in section 42(e) of the proposed rule) plus the adjusted carrying value of any underlying equity exposures (as defined in section 51(b) of the proposed rule). UE also would include any funded spread accounts, cash collateral accounts, and other similar funded credit enhancements.

(ii) *Tranche percentage (TP).* TP is the ratio of (i) the amount of the bank's securitization exposure to (ii) the amount of the securitization tranche that contains the bank's securitization exposure.

(iii) $K_{IRB}$. $K_{IRB}$ is the ratio of (i) the risk-based capital requirement for the underlying exposures plus the ECL of the underlying exposures (all as determined as if the underlying exposures were directly held by the bank) to (ii) UE. The definition of $K_{IRB}$ includes the ECL of the underlying exposures in the numerator because if the bank held the underlying exposures on its balance sheet, the bank also would hold reserves against the exposures.

The calculation of $K_{IRB}$ must reflect the effects of any credit risk mitigant applied to the underlying exposures (either to an individual underlying exposure, a group of underlying exposures, or to the entire pool of underlying exposures). In addition, all assets related to the securitization are to be treated as underlying exposures for purposes of the SFA, including assets in a reserve account (such as a cash collateral account).

(iv) *Credit enhancement level (L).* L is the ratio of (i) the amount of all securitization exposures subordinated to the securitization tranche that contains the bank's securitization exposure to (ii) UE. Banks must determine L before considering the effects of any tranche-specific credit enhancements (such as third-party guarantees that benefit only a single tranche). Any after-tax gain-on-sale or CEIOs associated with the securitization may not be included in L.

Any reserve account funded by accumulated cash flows from the underlying exposures that is subordinated to the tranche that contains the bank's securitization exposure may be included in the numerator and denominator of L to the extent cash has accumulated in the account. Unfunded reserve accounts (that is, reserve accounts that are to be funded from future cash flows from the underlying exposures) may not be included in the calculation of L.

In some cases, the purchase price of receivables will reflect a discount that provides credit enhancement (for example, first loss protection) for all or certain tranches. When this arises, L should be calculated inclusive of this discount if the discount provides credit enhancement for the securitization exposure.

(v) *Thickness of tranche (T).* T is the ratio of (i) the size of the tranche that contains the bank's securitization exposure to (ii) UE.

(vi) *Effective number of exposures (N).* As a general matter, the effective number of exposures would be calculated as follows:

$$N = \frac{\left(\sum_i EAD_i\right)^2}{\sum_i EAD_i^2}$$

where $EAD_i$ represents the EAD associated with the $i^{th}$ instrument in the pool of underlying exposures. For purposes of computing N, multiple exposures to one obligor must be treated as a single underlying exposure. In the case of a re-securitization (that is, a securitization in which some or all of the underlying exposures are themselves securitization exposures), a bank must treat each underlying securitization exposure as a single exposure and must not look through to the exposures that secure the underlying securitization exposures. The agencies recognize that this simple and conservative approach to re-securitizations may result in the differential treatment of economically similar securitization exposures.

*Question 49: The agencies seek comment on suggested alternative approaches for determining the N of a re-securitization.*

N represents the granularity of a pool of underlying exposures using an ''effective'' number of exposures concept rather than a ''gross'' number of exposures concept to appropriately assess the diversification of pools that have individual underlying exposures of different sizes. An approach that simply counts the gross number of underlying exposures in a pool treats all exposures in the pool equally. This simplifying assumption could radically overestimate the granularity of a pool with numerous small exposures and one very large exposure. The effective exposure approach captures the notion that the risk profile of such an unbalanced pool is more like a pool of several medium-sized exposures than like a pool of a large number of equally sized small exposures.

For example, suppose Pool A contains four loans with EADs of $100 each. Under the formula set forth above, N for Pool A would be four, precisely equal to the actual number of exposures. Suppose Pool B also contains four loans: One loan with an EAD of $100 and three loans with an EAD of $1. Although both pools contain four loans, Pool B is much less diverse and granular than Pool A because Pool B is dominated by the presence of a single $100 loan. Intuitively, therefore, N for Pool B should be closer to one than to four. Under the formula in the rule, N for Pool B is calculated as follows:

$$N = \frac{(100+1+1+1)^2}{100^2+1^2+1^2+1^2} = \frac{10,609}{10,003} = 1.06$$

(vii) *Exposure-weighted average loss given default (EWALGD).* The EWALGD is calculated as:

$$EWALGD = \frac{\sum_i LGD_i \cdot EAD_i}{\sum_i EAD_i}$$

where $LGD_i$ represents the average LGD associated with all exposures to the $i^{th}$ obligor. In the case of a re-securitization, an LGD of 100 percent must be assumed for any underlying exposure that is itself a securitization exposure.

Under certain conditions, a bank may employ the following simplifications to the SFA. First, for securitizations all of whose underlying exposures are retail exposures, a bank may set h = 0 and v = 0. In addition, if the share of a securitization corresponding to the largest underlying exposure ($C_1$) is no more than 0.03 (or 3 percent of the underlying exposures), then for purposes of the SFA the bank may set EWALGD=0.50 and N equal to the following amount:

$$N = \frac{1}{C_1 C_m + \left(\frac{C_m - C_1}{m-1}\right) \max(1 - mC_1, 0)}$$

where $C_m$ is the ratio of (i) the sum of the amounts of the largest 'm' underlying exposures of the securitization; to (ii) UE. A bank may select the level of 'm' in its discretion. For example, if the three largest underlying exposures of a securitization represent 15 percent of the pool of underlying exposures, $C_3$ for the securitization is 0.15. As an alternative simplification option, if only $C_1$ is available, and $C_1$ is no more than 0.03, then the bank may set EWALGD=0.50 and $N=1/C_1$.

5. Eligible Disruption Liquidity Facilities

The version of the SFA contained in the New Accord provides a more favorable capital treatment for eligible disruption liquidity facilities than for other securitization exposures. Under the New Accord, an eligible disruption liquidity facility is a liquidity facility that supports an ABCP program and that (i) is subject to an asset quality test that precludes funding of underlying exposures that are in default; (ii) can be used to fund only those exposures that have an investment grade external rating at the time of funding, if the underlying exposures that the facility must fund against are externally rated exposures at the time that the exposures are sold to the program; and (iii) may only be drawn in the event of a general market disruption. Under the New Accord, a bank that uses the SFA to compute its risk-based capital requirement for an eligible disruption liquidity facility may multiply the facility's SFA-determined risk weight by 20 percent. *Question 50: The agencies have not included this concept in the proposed rule but seek comment on the prevalence of eligible disruption liquidity facilities and a bank's expected use of the SFA to calculate risk-based capital requirements for such facilities.*

6. Credit Risk Mitigation for Securitization Exposures

An originating bank that has obtained a credit risk mitigant to hedge its securitization exposure to a synthetic or traditional securitization that satisfies the operational criteria in section 41 of the proposed rule may recognize the credit risk mitigant, but only as provided in section 46 of the proposed rule. An investing bank that has obtained a credit risk mitigant to hedge a securitization exposure also may recognize the credit risk mitigant, but only as provided in section 46. A bank that has used the RBA or IAA to calculate its risk-based capital requirement for a securitization exposure whose external or inferred rating (or equivalent internal rating under the IAA) reflects the benefits of a particular credit risk mitigant provided to the associated securitization or that supports some or all of the underlying exposures, however, may not use the securitization credit risk mitigation rules to further reduce its risk-based capital requirement for the exposure based on that credit risk mitigant. For example, a bank that owns a AAA-rated asset-backed security that benefits, along with all the other securities issued by the securitization SPE, from an insurance wrap that is part of the securitization transaction would calculate its risk-based capital requirement for the security strictly under the RBA; no additional credit would be given for the presence of the insurance wrap. On the other hand, if a bank owns a BBB-rated asset-backed security and obtains a credit default swap from a AAA-rated counterparty to protect the bank from losses on the security, the bank would be able to apply the securitization CRM rules to recognize the risk mitigating effects of the credit default swap and determine the risk-based capital requirement for the position.

The proposed rule contains a separate treatment of CRM for securitization exposures (versus wholesale and retail exposures) because the wholesale and retail exposure CRM approaches rely on substitutions of, or adjustments to, the risk parameters of the hedged exposure. Because the securitization framework does not rely on risk parameters to determine risk-based capital requirements for securitization exposures, a different treatment of CRM for securitization exposures is necessary.

The securitization CRM rules, like the wholesale and retail CRM rules, address collateral separately from guarantees and credit derivatives. A bank is not permitted to recognize collateral other than financial collateral as a credit risk mitigant for securitization exposures. A bank may recognize financial collateral in determining the bank's risk-based capital requirement for a securitization exposure using a collateral haircut approach. The bank's risk-based capital requirement for a collateralized securitization exposure is equal to the risk-based capital requirement for the securitization exposure as calculated under the RBA or the SFA multiplied by the ratio of adjusted exposure amount (E*) to original exposure amount (E), where:

(i) $E^* = \max\{0, [E - C \times (1 - Hs - Hfx)]\}$;

(ii) E = the amount of the securitization exposure (as calculated under section 42(e) of the proposed rule);

(iii) C = the current market value of the collateral;

(iv) Hs = the haircut appropriate to the collateral type; and

(v) Hfx = the haircut appropriate for any currency mismatch between the collateral and the exposure.

Where the collateral is a basket of different asset types or a basket of assets denominated in different currencies, the haircut on the basket will be

$$H = \sum_i a_i H_i,$$

where $a_i$ is the current market value of the asset in the basket divided by the current market value of all assets in the basket and $H_i$ is the haircut applicable to that asset.

With the prior written approval of its primary Federal supervisor, a bank may calculate haircuts using its own internal estimates of market price volatility and foreign exchange volatility, subject to the requirements for use of own-estimates haircuts contained in section 32 of the proposed rule. Banks that use own-estimates haircuts for collateralized securitization exposures must assume a minimum holding period ($T_M$) for securitization exposures of 65 business days.

A bank that does not qualify for and use own-estimates haircuts must use the collateral type haircuts (Hs) in Table 3 of this preamble and must use a currency mismatch haircut (Hfx) of 8 percent if the exposure and the collateral are denominated in different currencies. To reflect the longer-term nature of securitization exposures as compared to eligible margin loans and OTC derivative contracts, however, these standard supervisory haircuts (which are based on a 10-business-day holding period and daily marking-to-

market and remargining) must be adjusted to a 65-business-day holding period (the approximate number of business days in a calendar quarter) by multiplying them by the square root of 6.5 (2.549510). A bank also must adjust the standard supervisory haircuts upward on the basis of a holding period longer than 65 business days where and as appropriate to take into account the illiquidity of an instrument.

A bank may only recognize an eligible guarantee or eligible credit derivative provided by an eligible securitization guarantor in determining the bank's risk-based capital requirement for a securitization exposure. Eligible guarantee and eligible credit derivative are defined the same way as in the CRM rules for wholesale and retail exposures. An eligible securitization guarantor is defined to mean (i) a sovereign entity, the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Commission, a Federal Home Loan Bank, the Federal Agricultural Mortgage Corporation (Farmer Mac), a multi-lateral development bank, a depository institution (as defined in section 3 of the Federal Deposit Insurance Act (12 U.S.C. 1813)), a bank holding company (as defined in section 2 of the Bank Holding Company Act (12 U.S.C. 1841)), a savings and loan holding company (as defined in 12 U.S.C. 1467a) provided all or substantially all of the holding company's activities are permissible for a financial holding company under 12 U.S.C. 1843(k)), a foreign bank (as defined in section 211.2 of the Federal Reserve Board's Regulation K (12 CFR 211.2)), or a securities firm; (ii) any other entity (other than an SPE) that has issued and outstanding an unsecured long-term debt security without credit enhancement that has a long-term applicable external rating in one of the three highest investment grade rating categories; or (iii) any other entity (other than an SPE) that has a PD assigned by the bank that is lower than or equivalent to the PD associated with a long-term external rating in the third-highest investment grade rating category.

A bank may recognize an eligible guarantee or eligible credit derivative provided by an eligible securitization guarantor in determining the bank's risk-based capital requirement for the securitization exposure as follows. If the protection amount of the eligible guarantee or eligible credit derivative equals or exceeds the amount of the securitization exposure, then the bank may set the risk-weighted asset amount for the securitization exposure equal to the risk-weighted asset amount for a direct exposure to the eligible securitization guarantor (as determined in the wholesale risk weight function described in section 31 of the proposed rule), using the bank's PD for the guarantor, the bank's ELGD and LGD for the guarantee or credit derivative, and an EAD equal to the amount of the securitization exposure (as determined in section 42(e) of the proposed rule).

If, on the other hand, the protection amount of the eligible guarantee or eligible credit derivative is less than the amount of the securitization exposure, then the bank must divide the securitization exposure into two exposures in order to recognize the guarantee or credit derivative. The risk-weighted asset amount for the securitization exposure is equal to the sum of the risk-weighted asset amount for the covered portion and the risk-weighted asset amount for the uncovered portion. The risk-weighted asset amount for the covered portion is equal to the risk-weighted asset amount for a direct exposure to the eligible securitization guarantor (as determined in the wholesale risk weight function described in section 31 of the proposed rule), using the bank's PD for the guarantor, the bank's ELGD and LGD for the guarantee or credit derivative, and an EAD equal to the protection amount of the credit risk mitigant. The risk-weighted asset amount for the uncovered portion is equal to the product of (i) 1.0 minus (the protection amount of the eligible guarantee or eligible credit derivative divided by the amount of the securitization exposure); and (ii) the risk-weighted asset amount for the securitization exposure without the credit risk mitigant (as determined in sections 42–45 of the proposed rule).

For any hedged securitization exposure, the bank must make applicable adjustments to the protection amount as required by the maturity mismatch, currency mismatch, and lack of restructuring provisions in paragraphs (d), (e), and (f) of section 33 of the proposed rule. If the risk-weighted asset amount for a guaranteed securitization exposure is greater than the risk-weighted asset amount for the securitization exposure without the guarantee or credit derivative, a bank may always elect not to recognize the guarantee or credit derivative.

When a bank recognizes an eligible guarantee or eligible credit derivative provided by an eligible securitization guarantor in determining the bank's risk-based capital requirement for a securitization exposure, the bank also must (i) calculate ECL for the exposure using the same risk parameters that it uses for calculating the risk-weighted asset amount of the exposure (that is, the PD associated with the guarantor's rating grade, the ELGD and LGD of the guarantee, and an EAD equal to the protection amount of the credit risk mitigant); and (ii) add this ECL to the bank's total ECL.

7. Synthetic Securitizations

*Background.* In a synthetic securitization, an originating bank uses credit derivatives or guarantees to transfer the credit risk, in whole or in part, of one or more underlying exposures to third-party protection providers. The credit derivative or guarantee may be either collateralized or uncollateralized. In the typical synthetic securitization, the underlying exposures remain on the balance sheet of the originating bank, but a portion of the originating bank's credit exposure is transferred to the protection provider or covered by collateral pledged by the protection provider.

In general, the proposed rule's treatment of synthetic securitizations is identical to that of traditional securitizations. The operational requirements for synthetic securitizations are more detailed than those for traditional securitizations and are intended to ensure that the originating bank has truly transferred credit risk of the underlying exposures to one or more third-party protection providers.

Although synthetic securitizations typically employ credit derivatives, which might suggest that such transactions would be subject to the CRM rules in section 33 of the proposed rule, banks must first apply the securitization framework when calculating risk-based capital requirements for a synthetic securitization exposure. Banks may ultimately be redirected to the securitization CRM rules to adjust the securitization framework capital requirement for an exposure to reflect the CRM technique used in the transaction.

*Operational requirements for synthetic securitizations.* For synthetic securitizations, an originating bank may recognize for risk-based capital purposes the use of CRM to hedge, or transfer credit risk associated with, underlying exposures only if each of the following conditions is satisfied:

(i) The credit risk mitigant is financial collateral, an eligible credit derivative from an eligible securitization guarantor (defined above), or an eligible guarantee from an eligible securitization guarantor.

(ii) The bank transfers credit risk associated with the underlying exposures to third-party investors, and

the terms and conditions in the credit risk mitigants employed do not include provisions that:

(A) Allow for the termination of the credit protection due to deterioration in the credit quality of the underlying exposures;

(B) Require the bank to alter or replace the underlying exposures to improve the credit quality of the underlying exposures;

(C) Increase the bank's cost of credit protection in response to deterioration in the credit quality of the underlying exposures;

(D) Increase the yield payable to parties other than the bank in response to a deterioration in the credit quality of the underlying exposures; or

(E) Provide for increases in a retained first loss position or credit enhancement provided by the bank after the inception of the securitization.

(iii) The bank obtains a well-reasoned opinion from legal counsel that confirms the enforceability of the credit risk mitigant in all relevant jurisdictions.

(iv) Any clean-up calls relating to the securitization are eligible clean-up calls (as discussed above).

Failure to meet the above operational requirements for a synthetic securitization would prevent the originating bank from using the securitization framework and would require the originating bank to hold risk-based capital against the underlying exposures as if they had not been synthetically securitized. A bank that provides credit protection to a synthetic securitization must use the securitization framework to compute risk-based capital requirements for its exposures to the synthetic securitization even if the originating bank failed to meet one or more of the operational requirements for a synthetic securitization.

Consistent with the treatment of traditional securitization exposures, banks would be required to use the RBA for synthetic securitization exposures that have an appropriate number of external or inferred ratings. For an originating bank, the RBA would typically be used only for the most senior tranche of the securitization, which often would have an inferred rating. If a bank has a synthetic securitization exposure that does not have an external or inferred rating, the bank would apply the SFA to the exposure (if the bank and the exposure qualify for use of the SFA) without considering any CRM obtained as part of the synthetic securitization. Then, if the bank has obtained a credit risk mitigant on the exposure as part of the synthetic securitization, the bank would apply the securitization CRM rules to reduce its risk-based capital requirement for the exposure. For example, if the credit risk mitigant is financial collateral, the bank must use the standard supervisory or own-estimates haircuts to reduce its risk-based capital requirement. If the bank is a protection provider to a synthetic securitization and has obtained a credit risk mitigant on its exposure, the bank would also apply the securitization CRM rules in section 46 of the proposed rule to reduce its risk-based capital requirement on the exposure. If neither the RBA nor the SFA is available, a bank would deduct the exposure from regulatory capital.

*First-loss tranches.* If a bank has a first-loss position in a pool of underlying exposures in connection with a synthetic securitization, the bank must deduct the position from regulatory capital unless (i) the position qualified for use of the RBA or (ii) the bank and the position qualified for use of the SFA and a portion of the position was above KIRB.

*Mezzanine tranches.* In a typical synthetic securitization, an originating bank obtains credit protection on a mezzanine, or second-loss, tranche of a synthetic securitization by either (i) obtaining a credit default swap or financial guarantee from a third-party financial institution; or (ii) obtaining a credit default swap or financial guarantee from an SPE whose obligations are secured by financial collateral.

For a bank that creates a synthetic mezzanine tranche by obtaining an eligible credit derivative or guarantee from an eligible securitization guarantor, the bank generally would treat the notional amount of the credit derivative or guarantee (as adjusted to reflect any maturity mismatch, lack of restructuring coverage, or currency mismatch) as a wholesale exposure to the protection provider and use the IRB framework for wholesale exposures to determine the bank's risk-based capital requirement for the exposure. A bank that creates the synthetic mezzanine tranche by obtaining a guarantee or credit derivative that is collateralized by financial collateral but provided by a non-eligible securitization guarantor generally would (i) first use the SFA to calculate the risk-based capital requirement on the exposure (ignoring the guarantee or credit derivative and the associated collateral); and (ii) then use the securitization CRM rules to calculate any reductions to the risk-based capital requirement resulting from the associated collateral. The bank may look only to the protection provider from which it obtains the guarantee or credit derivative when determining its risk-based capital requirement for the exposure (that is, if the protection provider hedges the guarantee or credit derivative with a guarantee or credit derivative from a third party, the bank may not look through the protection provider to that third party when calculating its risk-based capital requirement for the exposure).

For a bank providing credit protection on a mezzanine tranche of a synthetic securitization, the bank would use the RBA to determine the risk-based capital requirement for the exposure if the exposure has an external or inferred rating. If the exposure does not have an external or inferred rating and the exposure qualifies for use of the SFA, the bank would use the SFA to calculate the risk-based capital requirement for the exposure. If neither the RBA nor the SFA are available, the bank would deduct the exposure from regulatory capital. If a bank providing credit protection on the mezzanine tranche of a synthetic securitization obtains a credit risk mitigant to hedge its exposure, the bank could apply the securitization CRM rules to reflect the risk reduction achieved by the credit risk mitigant.

*Super-senior tranches.* A bank that has the most senior position in a pool of underlying exposures in connection with a synthetic securitization would use the RBA to calculate its risk-based capital requirement for the exposure if the exposure has at least one external or inferred rating (in the case of an investing bank) or at least two external or inferred ratings (in the case of an originating bank). If the super-senior tranche does not have an external or inferred rating and the bank and the exposure qualify for use of the SFA, the bank would use the SFA to calculate the risk-based capital requirement for the exposure. If neither the RBA nor the SFA are available, the bank would deduct the exposure from regulatory capital. If an investing bank in the super-senior tranche of a synthetic securitization obtains a credit risk mitigant to hedge its exposure, however, the investing bank may apply the securitization CRM rules to reflect the risk reduction achieved by the credit risk mitigant.

8. Nth To Default Credit Derivatives

Credit derivatives that provide credit protection only for the nth defaulting reference exposure in a group of reference exposures (nth to default credit derivatives) are similar to synthetic securitizations that provide credit protection only after the first-loss

tranche has defaulted or become a loss. A simplified treatment is available to banks that purchase and provide such credit protection. A bank that obtains credit protection on a group of underlying exposures through a first-to-default credit derivative must determine its risk-based capital requirement for the underlying exposures as if the bank had synthetically securitized only the underlying exposure with the lowest capital requirement (K) (as calculated under Table 2 of the proposed rule) and had obtained no credit risk mitigant on the other (higher capital requirement) underlying exposures. If the bank purchases credit protection on a group of underlying exposures through an nth-to-default credit derivative (other than a first-to-default credit derivative), it may only recognize the credit protection for risk-based capital purposes either if it has obtained credit protection on the same underlying exposures in the form of first-through-(n-1)-to-default credit derivatives, or if n-1 of the underlying exposures have already defaulted. In such a case, the bank would again determine its risk-based capital requirement for the underlying exposures as if the bank had only synthetically securitized the n-1 underlying exposures with the lowest capital requirement (K) (as calculated under Table 2 of the proposed rule) and had obtained no credit risk mitigant on the other underlying exposures.

A bank that provides credit protection on a group of underlying exposures through a first-to-default credit derivative must determine its risk-weighted asset amount for the derivative by applying the RBA (if the derivative qualifies for the RBA) or, if the derivative does not qualify for the RBA, by setting its risk-weighted asset amount for the derivative equal to the product of (i) the protection amount of the derivative; (ii) 12.5; and (iii) the sum of the risk-based capital requirements (K) of the individual underlying exposures (as calculated under Table 2 of the proposed rule), up to a maximum of 100 percent. If a bank provides credit protection on a group of underlying exposures through an nth-to-default credit derivative (other than a first-to-default credit derivative), the bank must determine its risk-weighted asset amount for the derivative by applying the RBA (if the derivative qualifies for the RBA) or, if the derivative does not qualify for the RBA, by setting the risk-weighted asset amount for the derivative equal to the product of (i) the protection amount of the derivative; (ii) 12.5; and (iii) the sum of the risk-based capital requirements (K) of the individual underlying exposures (as calculated under Table 2 of the proposed rule and excluding the n-1 underlying exposures with the lowest risk-based capital requirements), up to a maximum of 100 percent.

For example, a bank provides credit protection in the form of a second-to-default credit derivative on a basket of five reference exposures. The derivative is unrated and the protection amount of the derivative is $100. The risk-based capital requirements of the underlying exposures are 2.5 percent, 5.0 percent, 10.0 percent, 15.0 percent, and 20 percent. The risk-weighted asset amount of the derivative would be $100 × 12.5 × (.05 + .10 + .15 + .20) or $625. If the derivative were externally rated in the lowest investment grade rating category with a positive designation, the risk-weighted asset amount would be $100 × 0.50 or $50.

9. Early Amortization Provisions

*Background.* Many securitizations of revolving credit facilities (for example, credit card receivables) contain provisions that require the securitization to be wound down and investors to be repaid if the excess spread falls below a certain threshold.[79] This decrease in excess spread may, in some cases, be caused by deterioration in the credit quality of the underlying exposures. An early amortization event can increase a bank's capital needs if new draws on the revolving credit facilities would need to be financed by the bank using on-balance sheet sources of funding. The payment allocations used to distribute principal and finance charge collections during the amortization phase of these transactions also can expose a bank to greater risk of loss than in other securitization transactions. To address the risks that early amortization of a securitization poses to originating banks, the agencies propose the capital treatment described below.

The proposed rule would define an early amortization provision as a provision in a securitization's governing documentation that, when triggered, causes investors in the securitization exposures to be repaid before the original stated maturity of the securitization exposure, unless the provision is solely triggered by events not related to the performance of the underlying exposures or the originating bank (such as material changes in tax laws or regulations). Under the proposed rule, an originating bank must generally hold regulatory capital against the sum of the originating bank's interest and the investors' interest arising from a revolving securitization that contains an early amortization provision. An originating bank must compute its capital requirement for its interest using the hierarchy of approaches for securitization exposures as described above. The originating bank's risk-weighted asset amount with respect to the investors' interest in the securitization is equal to the product of the following four quantities: (i) The EAD associated with the investors' interest; (ii) the appropriate conversion factor (CF) as determined below; (iii) $K_{IRB}$; and (iv) 12.5.

Under the proposed rule, as noted above, a bank is not required to hold regulatory capital against the investors' interest if early amortization is solely triggered by events not related to the performance of the underlying exposures or the originating bank, such as material changes in tax laws or regulation. Under the New Accord, a bank is also not required to hold regulatory capital against the investors' interest if (i) the securitization has a replenishment structure in which the individual underlying exposures do not revolve and the early amortization ends the ability of the originating bank to add new underlying exposures to the securitization; (ii) the securitization involves revolving assets and contains early amortization features that mimic term structures (that is, where the risk of the underlying exposures does not return to the originating bank); or (iii) investors in the securitization remain fully exposed to future draws by borrowers on the underlying exposures even after the occurrence of early amortization. *Question 51: The agencies seek comment on the appropriateness of these additional exemptions in the U.S. markets for revolving securitizations.*

Under the proposed rule, the investors' interest with respect to a revolving securitization captures both the drawn balances and undrawn lines of the underlying exposures that are allocated to the investors in the securitization. The EAD associated with the investors' interest is equal to the EAD of the underlying exposures multiplied by the ratio of the total amount of securitization exposures issued by the SPE to investors; divided by the outstanding principal amount of underlying exposures.

[79] The proposed rule defines excess spread for a period as gross finance charge collections (including market interchange fees) and other income received by the SPE over the period minus interest paid to holders of securitization exposures, servicing fees, charge-offs, and other senior trust similar expenses of the SPE over the period, all divided by the principal balance of the underlying exposures at the end of the period.

In general, the applicable CF would depend on whether the early amortization provision repays investors through a ''controlled'' or ''non-controlled'' mechanism and whether the underlying exposures are revolving retail credit facilities that are uncommitted—that is, unconditionally cancelable by the bank to the fullest extent of Federal law (for example, credit card receivables)—or are other revolving credit facilities (for example, revolving corporate credit facilities). Under the proposed rule, a ''controlled'' early amortization provision meets each of the following conditions:

(i) The originating bank has appropriate policies and procedures to ensure that it has sufficient capital and liquidity available in the event of an early amortization;

(ii) Throughout the duration of the securitization (including the early amortization period) there is the same pro rata sharing of interest, principal, expenses, losses, fees, recoveries, and other cash flows from the underlying exposures, based on the originating bank's and the investors' relative shares of the underlying exposures outstanding measured on a consistent monthly basis;

(iii) The amortization period is sufficient for at least 90 percent of the total underlying exposures outstanding at the beginning of the early amortization period to have been repaid or recognized as in default; and

(iv) The schedule for repayment of investor principal is not more rapid than would be allowed by straight-line amortization over an 18-month period.

An early amortization provision that does not meet any of the above criteria is a ''non-controlled'' early amortization provision. *Question 52: The agencies solicit comment on the distinction between controlled and non-controlled early amortization provisions and on the extent to which banks use controlled early amortization provisions. The agencies also invite comment on the proposed definition of a controlled early amortization provision, including in particular the 18-month period set forth above.*

*Controlled early amortization.* To calculate the appropriate CF for a securitization of uncommitted revolving retail exposures that contains a *controlled* early amortization provision, a bank must compare the three-month average excess spread for the securitization to the point at which the bank is required to trap excess spread under the securitization transaction. In securitizations that do not require excess spread to be trapped, or that specify a trapping point based primarily on performance measures other than the three-month average excess spread, the excess spread trapping point is 4.5 percent. The bank must divide the three-month average excess spread level by the excess spread trapping point and apply the appropriate CF from Table I. *Question 53: The agencies seek comment on the appropriateness of the 4.5 percent excess spread trapping point and on other types and levels of early amortization triggers used in securitizations of revolving retail exposures that should be considered by the agencies.*

TABLE I.—CONTROLLED EARLY AMORTIZATION PROVISIONS

| | Uncommitted | Committed |
|---|---|---|
| Retail Credit Lines | 3-month average excess spread Conversion Factor (CF)<br>133.33% of trapping point or more<br>0% CF.<br>less than 133.33% to 100% of trapping point<br>1% CF.<br>less than 100% to 75% of trapping point<br>2% CF.<br>less than 75% to 50% of trapping point<br>10% CF.<br>less than 50% to 25% of trapping point<br>20% CF.<br>less than 25% of trapping point<br>40% CF. | 90% CF. |
| Non-retail Credit Lines | 90% CF | 90% CF. |

A bank must apply a 90 percent CF for all other revolving underlying exposures (that is, committed exposures and non-retail exposures) in securitizations containing a *controlled* early amortization provision. The CFs for uncommitted revolving retail credit lines are much lower than for committed retail credit lines or for non-retail credit lines because of the demonstrated ability of banks to monitor and, when appropriate, to curtail promptly uncommitted retail credit lines for customers of deteriorating credit quality. Such account management tools are unavailable for committed lines, and banks may be less proactive about using such tools in the case of uncommitted non-retail credit lines owing to lender liability concerns and the prominence of broad-based, longer-term customer relationships.

*Question 54: The agencies seek comment on and supporting empirical analysis of the appropriateness of a more simple alternative approach that would impose at all times a flat CF on the entire investors' interest of a revolving securitization with a controlled early amortization provision, and on what an appropriate level of such a CF would be (for example, 10 or 20 percent).*

*Noncontrolled early amortization.* To calculate the appropriate CF for securitizations of uncommitted revolving retail exposures that contain a *noncontrolled* early amortization provision, a bank must perform the excess spread calculations described in the controlled early amortization section above and then apply the CFs in Table J.

TABLE J.—NON-CONTROLLED EARLY AMORTIZATION PROVISIONS

| | Uncommitted | Committed |
|---|---|---|
| Retail Credit Lines | 3-month average excess spread Conversion Factor (CF) | 100% CF. |

TABLE J.—NON-CONTROLLED EARLY AMORTIZATION PROVISIONS—Continued

| | Uncommitted | Committed |
|---|---|---|
| | 133.33% of trapping point or more<br>0% CF.<br>less than 133.33% to 100% of trapping point<br>5% CF.<br>less than 100% to 75% of trapping point<br>15% CF.<br>less than 75% to 50% of trapping point<br>50% CF.<br>less than 50% of trapping point<br>100% CF. | |
| Non-retail Credit Lines | 100% CF | 100% CF. |

A bank must use a 100 percent CF for all other revolving underlying exposures (that is, committed exposures and nonretail exposures) in securitizations containing a noncontrolled early amortization provision. In other words, no risk transference would be recognized for these transactions; an originating bank's IRB capital requirement would be the same as if the underlying exposures had not been securitized.

In circumstances where a securitization contains a mix of retail and nonretail exposures or a mix of committed and uncommitted exposures, a bank may take a pro rata approach to determining the risk-based capital requirement for the securitization's early amortization provision. If a pro rata approach is not feasible, a bank must treat the securitization as a securitization of nonretail exposures if a single underlying exposure is a nonretail exposure and must treat the securitization as a securitization of committed exposures if a single underlying exposure is a committed exposure.

*F. Equity Exposures*

1. Introduction and Exposure Measurement

This section describes the proposed rule's risk-based capital treatment for equity exposures. Under the proposed rule, a bank would have the option to use either a simple risk-weight approach (SRWA) or an internal models approach (IMA) for equity exposures that are not exposures to an investment fund. A bank would use a look-through approach for equity exposures to an investment fund. Under the SRWA, a bank would generally assign a 300 percent risk weight to publicly traded equity exposures and a 400 percent risk weight to non-publicly traded equity exposures. Certain equity exposures to sovereigns, multilateral institutions, and public sector enterprises would have a risk weight of 0 percent, 20 percent, or 100 percent; and certain community development equity exposures, hedged equity exposures, and, up to certain limits, non-significant equity exposures would receive a 100 percent risk weight.

Alternatively, a bank that meets certain minimum quantitative and qualitative requirements on an ongoing basis and obtains the prior written approval of its primary Federal supervisor could use the IMA to determine its risk-based capital requirement for all modeled equity exposures. A bank that qualifies to use the IMA may apply the IMA to its publicly traded and non-publicly traded equity exposures, or may choose to apply the IMA only to its publicly traded equity exposures. However, if the bank applies the IMA to its publicly traded equity exposures, it must apply the IMA to all such exposures. Similarly, if a bank applies the IMA to both publicly traded and non-publicly traded equity exposures, it must apply the IMA to all such exposures. If a bank does not qualify to use the IMA, or elects not to use the IMA, to compute its risk-based capital requirements for equity exposures, the bank must apply the SRWA to assign risk weights to its equity exposures.

The proposed rule defines a publicly traded equity exposure as an equity exposure traded on (i) any exchange registered with the SEC as a national securities exchange under section 6 of the Securities Exchange Act of 1934 (15 U.S.C. 78f) or (ii) any non-U.S.-based securities exchange that is registered with, or approved by, a national securities regulatory authority, provided that there is a liquid, two-way market for the exposure (that is, there are enough bona fide offers to buy and sell so that a sales price reasonably related to the last sales price or current bona fide competitive bid and offer quotations can be determined promptly and a trade can be settled at such a price within five business days). *Question 55: The agencies seek comment on this definition.*

A bank using either the IMA or the SRWA must determine the adjusted carrying value for each equity exposure. The proposed rule defines the adjusted carrying value of an equity exposure as:

(i) For the on-balance sheet component of an equity exposure, the bank's carrying value of the exposure reduced by any unrealized gains on the exposure that are reflected in such carrying value but excluded from the bank's tier 1 and tier 2 capital;[80] and

(ii) For the off-balance sheet component of an equity exposure, the effective notional principal amount of the exposure, the size of which is equivalent to a hypothetical on-balance sheet position in the underlying equity instrument that would evidence the same change in fair value (measured in dollars) for a given small change in the price of the underlying equity instrument, minus the adjusted carrying value of the on-balance sheet component of the exposure as calculated in (i).

The agencies created the definition of the effective notional principal amount of the off-balance sheet portion of an equity exposure to provide a uniform method for banks to measure the on-balance sheet equivalent of an off-balance sheet exposure. For example, if the value of a derivative contract referencing the common stock of company X changes the same amount as the value of 150 shares of common stock of company X, for a small (for example, 1 percent) change in the value of the common stock of company X, the effective notional principal amount of the derivative contract is the current value of 150 shares of common stock of company X regardless of the number of shares the derivative contract

[80] The potential downward adjustment to the carrying value of an equity exposure reflects the fact that 100 percent of the unrealized gains on available-for-sale equity exposures are included in carrying value but only up to 45 percent of any such unrealized gains are included in regulatory capital.

references. The adjusted carrying value of the off-balance sheet component of the derivative is the current value of 150 shares of common stock of company X minus the adjusted carrying value of any on-balance sheet amount associated with the derivative. *Question 56: The agencies seek comment on the approach to adjusted carrying value for the off-balance sheet component of equity exposures and on alternative approaches that may better capture the market risk of such exposures.*

*Hedge transactions.* For purposes of determining risk-weighted assets under both the SRWA and the IMA, a bank may identify hedge pairs, which the proposed rule defines as two equity exposures that form an effective hedge so long as each equity exposure is publicly traded or has a return that is primarily based on a publicly traded equity exposure. A bank may risk weight only the effective and ineffective portions of a hedge pair rather than the entire adjusted carrying value of each exposure that makes up the pair. Two equity exposures form an effective hedge if the exposures either have the same remaining maturity or each has a remaining maturity of at least three months; the hedge relationship is formally documented in a prospective manner (that is, before the bank acquires at least one of the equity exposures); the documentation specifies the measure of effectiveness (E) the bank will use for the hedge relationship throughout the life of the transaction; and the hedge relationship has an E greater than or equal to 0.8. A bank must measure E at least quarterly and must use one of three alternative measures of E—the dollar-offset method, the variability-reduction method, or the regression method.

It is possible that only part of a bank's exposure to a particular equity instrument would be part of a hedge pair. For example, assume a bank has an equity exposure A with a $300 adjusted carrying value and chooses to hedge a portion of that exposure with an equity exposure B with an adjusted carrying value of $100. Also assume that the combination of equity exposure B and $100 of the adjusted carrying value of equity exposure A form an effective hedge with an E of 0.8. In this situation the bank would treat $100 of equity exposure A and $100 of equity exposure B as a hedge pair, and the remaining $200 of its equity exposure A as a separate, stand-alone position.

The effective portion of a hedge pair is E multiplied by the greater of the adjusted carrying values of the equity exposures forming a hedge pair, whereas the ineffective portion is (1–E) multiplied by the greater of the adjusted carrying values of the equity exposures forming a hedge pair. In the above example, the effective portion of the hedge pair would be $0.8 \times \$100 = \$80$ and the ineffective portion of the hedge pair would be $(1 - 0.8) \times \$100 = \$20$.

*Measures of hedge effectiveness.* Under the dollar-offset method of measuring effectiveness, the bank must determine the ratio of the cumulative sum of the periodic changes in the value of one equity exposure to the cumulative sum of the periodic changes in the value of the other equity exposure, termed the ratio of value change (RVC). If the changes in the values of the two exposures perfectly offset each other, the RVC will be $-1$. If RVC is positive, implying that the values of the two equity exposures moved in the same direction, the hedge is not effective and E = 0. If RVC is negative and greater than or equal to $-1$ (that is, between zero and $-1$), then E equals the absolute value of RVC. If RVC is negative and less than $-1$, then E equals 2 plus RVC.

The variability-reduction method of measuring effectiveness compares changes in the value of the combined position of the two equity exposures in the hedge pair (labeled X) to changes in the value of one exposure as though that one exposure were not hedged (labeled A). This measure of E expresses the time-series variability in X as a proportion of the variability of A. As the variability described by the numerator becomes small relative to the variability described by the denominator, the measure of effectiveness improves, but is bounded from above by a value of 1. E can be computed as:

$$E = 1 - \frac{\sum_{t=1}^{T}\left(X_t - X_{t-1}\right)^2}{\sum_{t=1}^{T}\left(A_t - A_{t-1}\right)^2}, \text{ where}$$

$X_t = A_t - B_t$

A = the value at time t of the one exposure in a hedge pair, and

$B_t$ = the value at time t of the other exposure in a hedge pair.

The value of t will range from zero to T, where T is the length of the observation period for the values of A and B, and is comprised of shorter values each labeled t.

The regression method of measuring effectiveness is based on a regression in which the change in value of one exposure in a hedge pair is the dependent variable and the change in value of the other exposure in a hedge pair is the independent variable. E equals the coefficient of determination of this regression, which is the proportion of the variation in the dependent variable explained by variation in the independent variable. The closer the relationship between the values of the two exposures, the higher E will be.

2. Simple Risk-Weight Approach (SRWA)

Under the SRWA in section 52 of the proposed rule, a bank would determine the risk-weighted asset amount for each equity exposure, other than an equity exposure to an investment fund, by multiplying the adjusted carrying value of the equity exposure, or the effective portion and ineffective portion of a hedge pair as described below, by the lowest applicable risk weight in Table K. A bank would determine the risk-weighted asset amount for an equity exposure to an investment fund as set forth below (and in section 54 of the proposed rule). Use of the SRWA would be most appropriate when a bank's equity holdings are principally composed of non-traded instruments.

If a bank exclusively uses the SRWA for its equity exposures, the bank's aggregate risk-weighted asset amount for its equity exposures (other than equity exposures to investment funds) would be equal to the sum of the risk-weighted asset amounts for each of the bank's individual equity exposures.

TABLE K

| Risk weight | Equity exposure |
|---|---|
| 0 Percent | An equity exposure to an entity whose credit exposures are exempt from the 0.03 percent PD floor. |
| 20 Percent | An equity exposure to a Federal Home Loan Bank or Farmer Mac if the equity exposure is not publicly traded and is held as a condition of membership in that entity. |
| 100 | • Community development equity exposures [81]<br>• Equity exposures to a Federal Home Loan Bank or Farmer Mac not subject to a 20 percent risk weight. |

TABLE K—Continued

| Risk weight | Equity exposure |
|---|---|
| | • The effective portion of a hedge pair.<br>• Non-significant equity exposures to the extent less than 10 percent of tier 1 plus tier 2 capital. |
| 300 Percent ..... | A publicly traded equity exposure (including the ineffective portion of a hedge pair). |
| 400 Percent ..... | An equity exposure that is not publicly traded. |

*Non-significant equity exposures.* A bank may apply a 100 percent risk weight to non-significant equity exposures, which the proposed rule defines as equity exposures to the extent that the aggregate adjusted carrying value of the exposures does not exceed 10 percent of the bank's tier 1 capital plus tier 2 capital. To compute the aggregate adjusted carrying value of a bank's equity exposures for determining non-significance, the bank may exclude (i) equity exposures that receive less than a 300 percent risk weight under the SRWA (other than equity exposures determined to be non-significant), (ii) the equity exposure in a hedge pair with the smaller adjusted carrying value, and (iii) a proportion of each equity exposure to an investment fund equal to the proportion of the assets of the investment fund that are not equity exposures. If a bank does not know the actual holdings of the investment fund, the bank may calculate the proportion of the assets of the fund that are not equity exposures based on the terms of the prospectus, partnership agreement, or similar contract that defines the fund's permissible investments. If the sum of the investment limits for all exposure classes[81] within the fund exceeds 100 percent, the bank must assume that the investment fund invests to the maximum extent possible in equity exposures.

When determining which of a bank's equity exposures qualify for a 100 percent risk weight based on non-significance, a bank must first include equity exposures to unconsolidated small business investment companies or held through consolidated small business investment companies described in section 302 of the Small Business Investment Act of 1958 (15 U.S.C. 682) and then must include publicly traded equity exposures (including those held indirectly through investment funds) and then must include non-publicly traded equity exposures (including those held indirectly through investment funds).

3. Internal Models Approach (IMA)

The IMA is designed to provide banks with a more sophisticated and risk-sensitive mechanism for calculating risk-based capital requirements for equity exposures. To qualify to use the IMA, a bank must receive prior written approval from its primary Federal supervisor. To receive such approval, the bank must demonstrate to its primary Federal supervisor's satisfaction that the bank meets the following quantitative and qualitative criteria.

*IMA qualification.* First, the bank must have a model that (i) assesses the potential decline in value of its modeled equity exposures; (ii) is commensurate with the size, complexity, and composition of the bank's modeled equity exposures; and (iii) adequately captures both general market risk and idiosyncratic risks. Second, the bank's model must produce an estimate of potential losses for its modeled equity exposures that is no less than the estimate of potential losses produced by a VaR methodology employing a 99.0 percent one-tailed confidence interval of the distribution of quarterly returns for a benchmark portfolio of equity exposures comparable to the bank's modeled equity exposures using a long-term sample period.

In addition, the number of risk factors and exposures in the sample and the data period used for quantification in the bank's model and benchmarking exercise must be sufficient to provide confidence in the accuracy and robustness of the bank's estimates. The bank's model and benchmarking exercise also must incorporate data that are relevant in representing the risk profile of the bank's modeled equity exposures, and must include data from at least one equity market cycle containing adverse market movements relevant to the risk profile of the bank's modeled equity exposures. If the bank's model uses a scenario methodology, the bank must demonstrate that the model produces a conservative estimate of potential losses on the bank's modeled equity exposures over a relevant long-term market cycle. If the bank employs risk factor models, the bank must demonstrate through empirical analysis the appropriateness of the risk factors used.

The agencies also would require that daily market prices be available for all modeled equity exposures, either direct holdings or proxies. Finally, the bank must be able to demonstrate, using theoretical arguments and empirical evidence, that any proxies used in the modeling process are comparable to the bank's modeled equity exposures and that the bank has made appropriate adjustments for differences. The bank must derive any proxies for its modeled equity exposures or benchmark portfolio using historical market data that are relevant to the bank's modeled equity exposures or benchmark portfolio (or, where not, must use appropriately adjusted data), and such proxies must be robust estimates of the risk of the bank's modeled equity exposures.

In evaluating a bank's internal model for equity exposures, the bank's primary Federal supervisor would consider, among other factors, (i) the nature of the bank's equity exposures, including the number and types of equity exposures (for example, publicly traded, non-publicly traded, long, short); (ii) the risk characteristics and makeup of the bank's equity exposures, including the extent to which publicly available price information is obtainable on the exposures; and (iii) the level and degree of concentration of, and correlations among, the bank's equity exposures. Banks with equity portfolios containing equity exposures with values that are highly nonlinear in nature (for example, equity derivatives or convertibles) would have to employ an internal model designed to appropriately capture the risks associated with these instruments.

The agencies do not intend to dictate the form or operational details of a bank's internal model for equity

[81] The proposed rule generally defines these exposures as exposures that would qualify as community development investments under 12 U.S.C. 24(Eleventh), excluding equity exposures to an unconsolidated small business investment company and equity exposures held through a consolidated small business investment company described in section 302 of the Small Business Investment Act of 1958 (15 U.S.C. 682). For savings associations, community development investments would be defined to mean equity investments that are designed primarily to promote community welfare, including the welfare of low- and moderate-income communities or families, such as by providing services or jobs, and excluding equity exposures to an unconsolidated small business investment company and equity exposures held through a consolidated small business investment company described in section 302 of the Small Business Investment Act of 1958 (15 U.S.C. 682).

exposures. Accordingly, the agencies would not prescribe any particular type of model for determining risk-based capital requirements. Although the proposed rule requires a bank that uses the IMA to ensure that its internal model produces an estimate of potential losses for its modeled equity exposures that is no less than the estimate of potential losses produced by a VaR methodology employing a 99.0 percent one-tailed confidence interval of the distribution of quarterly returns for a benchmark portfolio of equity exposures, the proposed rule does not require a bank to use a VaR-based model. The agencies recognize that the type and sophistication of internal models will vary across banks due to differences in the nature, scope, and complexity of business lines in general and equity exposures in particular. The agencies recognize that some banks employ models for internal risk management and capital allocation purposes that can be more relevant to the bank's equity exposures than some VaR models. For example, some banks employ rigorous historical scenario analysis and other techniques for assessing the risk of their equity portfolios.

Banks that choose to use a VaR-based internal model under the IMA should use a historical observation period that includes a sufficient amount of data points to ensure statistically reliable and robust loss estimates relevant to the long-term risk profile of the bank's specific holdings. The data used to represent return distributions should reflect the longest sample period for which data are available and should meaningfully represent the risk profile of the bank's specific equity holdings. The data sample should be long-term in nature and, at a minimum, should encompass at least one complete equity market cycle containing adverse market movements relevant to the risk profile of the bank's modeled exposures. The data used should be sufficient to provide conservative, statistically reliable, and robust loss estimates that are not based purely on subjective or judgmental considerations.

The parameters and assumptions used in a VaR model must be subject to a rigorous and comprehensive regime of stress-testing. Banks utilizing VaR models must subject their internal model and estimation procedures, including volatility computations, to either hypothetical or historical scenarios that reflect worst-case losses given underlying positions in both publicly traded and non-publicly traded equities. At a minimum, banks that use a VaR model must employ stress tests to provide information about the effect of tail events beyond the level of confidence assumed in the IMA.

Banks using non-VaR internal models that are based on stress tests or scenario analyses would have to estimate losses under worst-case modeled scenarios. These scenarios would have to reflect the composition of the bank's equity portfolio and should produce risk-based capital requirements at least as large as those that would be required to be held against a representative market index or other relevant benchmark portfolio under a VaR approach. For example, for a portfolio consisting primarily of publicly held equity securities that are actively traded, risk-based capital requirements produced using historical scenario analyses should be greater than or equal to risk-based capital requirements produced by a baseline VaR approach for a major index or sub-index that is representative of the bank's holdings. Similarly, non-publicly traded equity exposures may be benchmarked against a representative portfolio of publicly traded equity exposures.

The loss estimate derived from the bank's internal model would constitute the regulatory capital requirement for the modeled equity exposures. The equity capital requirement would be incorporated into a bank's risk-based capital ratio through the calculation of risk-weighted equivalent assets. To convert the equity capital requirement into risk-weighted equivalent assets, a bank would multiply the capital requirement by 12.5.

*Question 57: The agencies seek comment on the proposed rule's requirements for IMA qualification, including in particular the proposed rule's use of a 99.0 percent, quarterly returns standard.*

*Risk-weighted assets under the IMA.* As noted above, a bank may apply the IMA only to its publicly traded equity exposures or may apply the IMA to its publicly traded and non-publicly traded equity exposures. In either case, a bank is not allowed to apply the IMA to equity exposures that receive a 0 or 20 percent risk weight under Table 9, community development equity exposures, equity exposures to a Federal Home Loan Bank or Farmer Mac that receive a 100 percent risk weight, and equity exposures to investment funds (collectively, excluded equity exposures).

If a bank applies the IMA to both publicly traded and non-publicly traded equity exposures, the bank's aggregate risk-weighted asset amount for its equity exposures would be equal to the sum of the risk-weighted asset amount of each excluded equity exposure (calculated outside of the IMA section of the proposed rule) and the risk-weighted asset amount of the non-excluded equity exposures (calculated under the IMA section of the proposed rule). The risk-weighted asset amount of the non-excluded equity exposures is generally set equal to the estimate of potential losses on the bank's non-excluded equity exposures generated by the bank's internal model multiplied by 12.5. To ensure that a bank holds a minimum amount of risk-based capital against its modeled equity exposures, however, the proposed rule contains a supervisory floor on the risk-weighted asset amount of the non-excluded equity exposures. As a result of this floor, the risk-weighted asset amount of the non-excluded equity exposures could not fall below the sum of (i) 200 percent multiplied by the aggregate adjusted carrying value or ineffective portion of hedge pairs, as appropriate, of the bank's non-excluded publicly traded equity exposures; and (ii) 300 percent multiplied by the aggregate adjusted carrying value of the bank's non-excluded non-publicly traded equity exposures.

If, on the other hand, a bank applies the IMA only to its publicly traded equity exposures, the bank's aggregate risk-weighted asset amount for its equity exposures would be equal to the sum of (i) the risk-weighted asset amount of each excluded equity exposure (calculated outside of the IMA section of the proposed rule); (ii) 400 percent multiplied by the aggregate adjusted carrying value of the bank's non-excluded non-publicly traded equity exposures; and (iii) the aggregate risk-weighted asset amount of its non-excluded publicly traded equity exposures. The risk-weighted asset amount of the non-excluded publicly traded equity exposures would be equal to the estimate of potential losses on the bank's non-excluded publicly traded equity exposures generated by the bank's internal model multiplied by 12.5. The risk-weighted asset amount for the non-excluded publicly traded equity exposures would be subject to a floor of 200 percent multiplied by the aggregate adjusted carrying value or ineffective portion of hedge pairs, as appropriate, of the bank's non-excluded publicly traded equity exposures. *Question 58: The agencies seek comment on the operational aspects of these floor calculations.*

4. Equity Exposures to Investment Funds

A bank must determine the risk-weighted asset amount for equity exposures to investment funds using

one of three approaches: the Full Look-Through Approach, the Simple Modified Look-Through Approach, or the Alternative Modified Look-Through Approach, unless the equity exposure to an investment fund is a community development equity exposure. Such equity exposures would be subject to a 100 percent risk weight. If an equity exposure to an investment fund is part of a hedge pair, a bank may use the ineffective portion of a hedge pair as the adjusted carrying value for the equity exposure to the investment fund. A bank may choose to apply a different approach to different equity exposures to investment funds; the proposed rule does not require a bank to apply the same approach to all of its equity exposures to investment funds.

The proposed rule defines an investment fund as a company all or substantially all of the assets of which are financial assets and which has no material liabilities. The agencies have proposed a separate treatment for equity exposures to an investment fund to prevent banks from arbitraging the proposed rule's high risk-based capital requirements for certain high-risk exposures and to ensure that banks do not receive a punitive risk-based capital requirement for equity exposures to investment funds that hold only low-risk assets. *Question 59: The agencies seek comment on the necessity and appropriateness of the separate treatment for equity exposures to investment funds and the three approaches in the proposed rule. The agencies also seek comment on the proposed definition of an investment fund.*

Each of the approaches to equity exposures to investment funds imposes a 7 percent minimum risk weight on equity exposures to investment funds. This minimum risk weight is similar to the minimum 7 percent risk weight under the RBA for securitization exposures and the effective 56 basis point minimum risk-based capital requirement per dollar of securitization exposure under the SFA. The agencies believe that this minimum prudential capital requirement is appropriate for exposures not directly held by the bank.

*Full look-through approach.* A bank may use the full look-through approach only if the bank is able to compute a risk-weighted asset amount for each of the exposures held by the investment fund (calculated under the proposed rule as if the exposures were held directly by the bank). Under this approach, a bank would set the risk-weighted asset amount of the bank's equity exposure to the investment fund equal to the greater of (i) the product of (A) the aggregate risk-weighted asset amounts of the exposures held by the fund as if they were held directly by the bank and (B) the bank's proportional ownership share of the fund; and (ii) 7 percent of the adjusted carrying value of the bank's equity exposure to the investment fund.

*Simple modified look-through approach.* Under this approach, a bank may set the risk-weighted asset amount for its equity exposure to an investment fund equal to the adjusted carrying value of the equity exposure multiplied by the highest risk weight in Table L that applies to any exposure the fund is permitted to hold under its prospectus, partnership agreement, or similar contract that defines the fund's permissible investments. The bank may exclude derivative contracts that are used for hedging, not speculative purposes, and do not constitute a material portion of the fund's exposures. A bank may not assign an equity exposure to an investment fund to an aggregate risk weight of less than 7 percent under this approach.

TABLE L.— MODIFIED LOOK-THROUGH APPROACHES FOR EQUITY EXPOSURES TO INVESTMENT FUNDS

| Risk weight | Exposure class |
|---|---|
| 0 percent | Sovereign exposures with a long-term external rating in the highest investment grade rating category and sovereign exposures of the United States. |
| 20 percent | Exposures with a long-term external rating in the highest or second-highest investment grade rating category; exposures with a short-term external rating in the highest investment grade rating category; and exposures to, or guaranteed by, depository institutions, foreign banks (as defined in 12 CFR 211.2), or securities firms subject to consolidated supervision or regulation comparable to that imposed on U.S. securities broker-dealers that are repo-style transactions or bankers' acceptances. |
| 50 percent | Exposures with a long-term external rating in the third- highest investment grade rating category or a short-term external rating in the second-highest investment grade rating category. |
| 100 percent | Exposures with a long-term or short-term external rating in percent the lowest investment grade rating category. |
| 200 percent | Exposures with a long-term external rating one rating category percent below investment grade. |
| 300 percent | Publicly traded equity exposures. |
| 400 percent | Non-publicly traded equity exposures; exposures with a long-percent term external rating two or more rating categories below investment grade; and unrated exposures (excluding publicly traded equity exposures). |
| 1,250 percent | OTC derivative contracts and exposures that must be deducted percent from regulatory capital or receive a risk weight greater than 400 percent under this appendix. |

*Alternative modified look-through approach.* Under this approach, a bank may assign the adjusted carrying value of an equity exposure to an investment fund on a pro rata basis to different risk-weight categories in Table L according to the investment limits in the fund's prospectus, partnership agreement, or similar contract that defines the fund's permissible investments. If the sum of the investment limits for all exposure classes within the fund exceeds 100 percent, the bank must assume that the fund invests to the maximum extent permitted under its investment limits in the exposure class with the highest risk weight under Table L, and continues to make investments in the order of the exposure class with the next highest risk-weight under Table L until the maximum total investment level is reached. If more than one exposure class applies to an exposure, the bank must use the highest applicable risk weight. A bank may exclude derivative contracts held by the fund that are used for hedging, not speculative, purposes and do not constitute a material portion of the fund's exposures. The overall risk weight assigned to an equity exposure to an investment fund under this approach may not be less than 7 percent.

## VI. Operational Risk

This section describes features of the AMA framework for determining the risk-based capital requirement for operational risk. The proposed framework remains fundamentally similar to that described in the ANPR. Under this framework, a bank meeting the AMA qualifying criteria would use

its internal operational risk quantification system to calculate its risk-based capital requirement for operational risk.

Currently, the agencies' general risk-based capital rules do not include an explicit capital charge for operational risk. Rather, the existing risk-based capital rules were designed to cover all risks, and therefore implicitly cover operational risk. With the introduction of the IRB framework for credit risk in this NPR, which would result in a more risk-sensitive treatment of credit risk, there no longer would be an implicit capital buffer for other risks.

The agencies recognize that operational risk is a key risk in banks, and evidence indicates that a number of factors are driving increases in operational risk. These factors include greater use of automated technology, proliferation of new and highly complex products, growth of e-banking transactions and related business applications, large-scale acquisitions, mergers, and consolidations, and greater use of outsourcing arrangements. Furthermore, the recent experience of a number of high-profile, high-severity losses across the banking industry, including those resulting from legal settlements, highlight operational risk as a major source of unexpected losses. Because the implicit regulatory capital buffer for operational risk would be removed under the proposed rule, the agencies propose to require banks using the IRB framework for credit risk to use the AMA to address operational risk when computing a capital charge for regulatory capital purposes.

As defined previously, operational risk exposure is the 99.9th percentile of the distribution of potential aggregate operational losses as generated by the bank's operational risk quantification system over a one-year horizon. EOL is the expected value of the same distribution of potential aggregate operational losses. The ANPR specified that a bank's risk-based capital requirement for operational risk would be the sum of EOL and UOL unless the bank could demonstrate that an EOL offset would meet supervisory standards. The agencies described two approaches—reserving and budgeting—that might allow for some offset of EOL; however, the agencies expressed some reservation about both approaches. The agencies believed that reserves established for expected operational losses would likely not meet U.S. accounting standards and that budgeted funds might not be sufficiently capital-like to cover EOL.

While the proposed framework remains fundamentally similar to that described in the ANPR and a bank would continue to be allowed to recognize (i) certain offsets for EOL, and (ii) the effect of risk mitigants such as insurance in calculating its regulatory capital requirement for operational risk, the agencies have clarified certain aspects of the proposed framework. In particular, the agencies have re-assessed the ability of banks to take prudent steps to offset EOL through internal business practices.

After further analysis and discussions with the industry, the agencies believe that certain reserves and other internal business practices could qualify as an EOL offset. Under the proposed rule, a bank's risk-based capital requirement for operational risk may be based on UOL alone if the bank can demonstrate it has offset EOL with eligible operational risk offsets, which are defined as amounts (i) generated by internal business practices to absorb highly predictable and reasonably stable operational losses, including reserves calculated in a manner consistent with GAAP; and (ii) available to cover EOL with a high degree of certainty over a one-year horizon. Eligible operational risk offsets may only be used to offset EOL, not UOL.

In determining whether to accept a proposed EOL offset, the agencies will consider whether the proposed offset would be available to cover EOL with a high degree of certainty over a one-year horizon. Supervisory recognition of EOL offsets will be limited to those business lines and event types with highly predictable, routine losses. Based on discussions with the industry and empirical data, highly predictable and routine losses appear to be limited to those relating to securities processing and to credit card fraud. *Question 60: The agencies are interested in commenters' views on other business lines or event types in which highly predictable, routine losses have been observed.*

In determining its operational risk exposure, the bank could also take into account the effects of risk mitigants such as insurance, subject to approval from its primary Federal supervisor. In order to recognize the effects of risk mitigants such as insurance for risk-based capital purposes, the bank must estimate its operational risk exposure with and without such effects. The reduction in a bank's risk-based capital requirement for operational risk due to risk mitigants may not exceed 20 percent of the bank's risk-based capital requirement for operational risk, after approved adjustments for EOL offsets. A bank must demonstrate that a risk mitigant is able to absorb losses with sufficient certainty to warrant inclusion in the adjustment to the operational risk exposure. For a risk mitigant to meet this standard, it must be insurance that:

(i) Is provided by an unaffiliated company that has a claims paying ability that is rated in one of the three highest rating categories by an NRSRO;

(ii) Has an initial term of at least one year and a residual term of more than 90 days;

(iii) Has a minimum notice period for cancellation of 90 days;

(iv) Has no exclusions or limitations based upon regulatory action or for the receiver or liquidator of a failed bank; and

(v) Is explicitly mapped to an actual operational risk exposure of the bank.

The bank's methodology for recognizing risk mitigants must also capture, through appropriate discounts in the amount of risk mitigants, the residual term of the risk mitigant, where less than one year; the risk mitigant's cancellation terms, where less than one year; the risk mitigant's timeliness of payment; and the uncertainty of payment as well as mismatches in coverage between the risk mitigant and the hedged operational loss event. The bank may not recognize for regulatory capital purposes risk mitigants with a residual term of 90 days or less.

Commenters on the ANPR raised concerns that limiting the risk mitigating benefits of insurance to 20 percent of the bank's regulatory capital requirement for operational risk represents an overly prescriptive and arbitrary value. Concerns were raised that such a cap would inhibit development of this important risk mitigation tool. Commenters believed that the full contract amount of insurance should be recognized as the risk mitigating value. The agencies, however, believe that the 20 percent limit continues to be a prudent limit.

Currently, the primary risk mitigant available for operational risk is insurance. While certain securities products may be developed over time that could provide risk mitigation benefits, no specific products have emerged to-date that have characteristics sufficient to be considered a capital replacement for operational risk. However, as innovation in this field continues, a bank may be able to realize the benefits of risk mitigation through certain capital markets instruments with the approval of its primary Federal supervisor.

If a bank does not qualify to use or does not have qualifying operational risk mitigants, the bank's dollar risk-based capital requirement for operational risk would be its operational

risk exposure minus eligible operational risk offsets (if any). If a bank qualifies to use operational risk mitigants and has qualifying operational risk mitigants, the bank's dollar risk-based capital requirement for operational risk would be the greater of: (i) The bank's operational risk exposure adjusted for qualifying operational risk mitigants minus eligible operational risk offsets (if any); and (ii) 0.8 multiplied by the difference between the bank's operational risk exposure and its eligible operational risk offsets (if any). The dollar risk-based capital requirement for operational risk would be multiplied by 12.5 to convert it into an equivalent risk-weighted asset amount. The resulting amount would be added to the comparable amount for credit risk in calculating the institution's risk-based capital denominator.

## VII. Disclosure

### *1. Overview*

The agencies have long supported meaningful public disclosure by banks with the objective of improving market discipline. The agencies recognize the importance of market discipline in encouraging sound risk management practices and fostering financial stability.

Pillar 3 of the New Accord, market discipline, complements the minimum capital requirements and the supervisory review process by encouraging market discipline through enhanced and meaningful public disclosure. These proposed public disclosure requirements are intended to allow market participants to assess key information about an institution's risk profile and its associated level of capital.

The agencies view public disclosure as an important complement to the advanced approaches to calculating minimum regulatory risk-based capital requirements, which will be heavily based on internal systems and methodologies. With enhanced transparency of the advanced approaches, investors can better evaluate a bank's capital structure, risk exposures, and capital adequacy. With sufficient and relevant information, market participants can better evaluate a bank's risk management performance, earnings potential and financial strength.

Improvements in public disclosures come not only from regulatory standards, but also through efforts by bank management to improve communications to public shareholders and other market participants. In this regard, improvements to risk management processes and internal reporting systems provide opportunities to significantly improve public disclosures over time. Accordingly, the agencies strongly encourage the management of each bank to regularly review its public disclosures and enhance these disclosures, where appropriate, to clearly identify all significant risk exposures —whether on- or off-balance sheet—and their effects on the bank's financial condition and performance, cash flow, and earnings potential.

*Comments on ANPR.* Some commenters to the ANPR indicated that the proposed disclosures were burdensome, excessive, and overly prescriptive. Other commenters believed that the information provided in the disclosures would not be comparable across banks because each bank will use distinct internal methodologies to generate the disclosures. These commenters also expressed concern that some disclosures could be misinterpreted or misunderstood by the public.

The agencies believe, however, the required disclosures would enable market participants to gain key insights regarding a bank's capital structure, risk exposures, risk assessment processes, and ultimately, the capital adequacy of the institution. Some of the proposed disclosure requirements will be new disclosures for banks. Nonetheless, the agencies believe that a significant amount of the proposed disclosure requirements are already required by or consistent with existing GAAP, SEC disclosure requirements, or regulatory reporting requirements for banks.

### *2. General Requirements*

The public disclosure requirements would apply to the top-tier legal entity that is a core or opt-in bank within a consolidated banking group (that is, the top-tier BHC or DI that is a core or opt-in bank). In general, DIs that are a subsidiary of a BHC or another DI would not be subject to the disclosure requirements [82] except that every DI must disclose total and tier 1 capital ratios and their components, similar to current requirements. If a DI is not a subsidiary of a BHC or another DI that must make the full set of disclosures, the DI must make these disclosures.

The risks to which a bank is exposed and the techniques that it uses to identify, measure, monitor, and control those risks are important factors that market participants consider in their assessment of the institution. Accordingly, each bank that is subject to the disclosure requirements must have a formal disclosure policy approved by the board of directors that addresses the institution's approach for determining the disclosures it should make. The policy should address the associated internal controls and disclosure controls and procedures. The board of directors and senior management would be expected to ensure that appropriate verification of the disclosures takes place and that effective internal controls and disclosure controls and procedures are maintained.

A bank should decide which disclosures are relevant for it based on the materiality concept. Information would be regarded as material if its omission or misstatement could change or influence the assessment or decision of a user relying on that information for the purpose of making investment decisions.

To the extent applicable, a bank would be able to fulfill its disclosure requirements under this proposed rule by relying on disclosures made in accordance with accounting standards or SEC mandates that are very similar to the disclosure requirements in this proposed rule. In these situations, a bank would explain material differences between the accounting or other disclosure and the disclosures required under this proposed rule.

*Frequency/timeliness.* Consistent with longstanding requirements in the United States for robust quarterly disclosures in financial and regulatory reports, and considering the potential for rapid changes in risk profiles, the agencies would require that quantitative disclosures be made quarterly. However, qualitative disclosures that provide a general summary of a bank's risk management objectives and policies, reporting system, and definitions may be disclosed annually, provided any significant changes to these are disclosed in the interim. The disclosures must be timely, that is, must be made no later than the reporting deadlines for regulatory reports (for example, FR Y–9C) and financial reports (for example, SEC Forms 10–Q and 10–K). When these deadlines differ, the later deadline would be used.

In some cases, management may determine that a significant change has occurred, such that the most recent reported amounts do not reflect the bank's capital adequacy and risk profile. In those cases, banks should disclose the general nature of these changes and briefly describe how they are likely to

[82] The bank regulatory reports and Thrift Financial Reports will be revised to collect some additional Basel II-related information, as described below in the regulatory reporting section.

affect public disclosures going forward. These interim disclosures should be made as soon as practicable after the determination that a significant change has occurred.

*Location of disclosures and audit/certification requirements.* The disclosures would have to be publicly available (for example, included on a public Web site) for each of the last three years (that is, twelve quarters) or such shorter time period since the bank entered its first floor period. Except as discussed below, management would have some discretion to determine the appropriate medium and location of the disclosures required by this proposed rule. Furthermore, banks would have flexibility in formatting their public disclosures, that is, the agencies are not specifying a fixed format for these disclosures.

Management would be encouraged to provide all of the required disclosures in one place on the entity's public Web site. The public Web site address would be reported in a regulatory report (for example, the FR Y–9C).[83]

Disclosure of tier 1 and total capital ratios must be provided in the footnotes to the year-end audited financial statements.[84] Accordingly, these disclosures must be tested by external auditors as part of the financial statement audit. Disclosures that are not included in the footnotes to the audited financial statements would not be required to be subject to external audit reports for financial statements or internal control reports from management and the external auditor. However, due to the importance of reliable disclosures, the agencies would require the chief financial officer to certify that the disclosures required by the proposed rule are appropriate and that the board of directors and senior management are responsible for establishing and maintaining an effective internal control structure over financial reporting, including the information required by this proposed rule.

*Proprietary and confidential information.* The agencies believe that the proposed requirements strike an appropriate balance between the need for meaningful disclosure and the protection of proprietary and confidential information.[85] Accordingly, the agencies believe that banks would be able to provide all of these disclosures without revealing proprietary and confidential information. However, in rare cases, disclosure of certain items of information required in the proposed rule may prejudice seriously the position of a bank by making public information that is either proprietary or confidential in nature. In such cases, a reporting bank may request confidential treatment for the information if the bank believes that disclosure of specific commercial or financial information in the report would likely result in substantial harm to its competitive position, or that disclosure of the submitted information would result in unwarranted invasion of personal privacy.

*Question 61: The agencies seek commenters' views on all of the elements proposed to be captured through the public disclosure requirements. In particular, the agencies seek comment on the extent to which the proposed disclosures balance providing market participants with sufficient information to appropriately assess the capital strength of individual institutions, fostering comparability from bank to bank, and reducing burden on the banks that are reporting the information.*

*3. Summary of Specific Public Disclosure Requirements*

The public disclosure requirements are comprised of 11 tables that provide important information to market participants on the scope of application, capital, risk exposures, risk assessment processes, and, hence, the capital adequacy of the institution. Again, the agencies note that the substantive content of the tables is the focus of the disclosure requirements, not the tables themselves. The table numbers below refer to the table numbers in the proposed rule.

Table 11.1 disclosures, Scope of Application, include a description of the level in the organization to which the disclosures apply and an outline of any differences in consolidation for accounting and regulatory capital purposes, as well as a description of any restrictions on the transfer of funds and capital within the organization. These disclosures provide the basic context underlying regulatory capital calculations.

Table 11.2 disclosures, Capital Structure, provide information on various components of regulatory capital available to absorb losses and allow for an evaluation of the quality of the capital available to absorb losses within the bank.

Table 11.3 disclosures, Capital Adequacy, provide information about how a bank assesses the adequacy of its capital and require that the bank disclose its minimum capital requirements for significant risk areas and portfolios. The table also requires disclosure of the regulatory capital ratios of the consolidated group and each DI subsidiary. Such disclosures provide insight into the overall adequacy of capital based on the risk profile of the organization.

Tables 11.4, 11.5, and 11.7 disclosures, Credit Risk, provide market participants with insight into different types and concentrations of credit risk to which the bank is exposed and the techniques the bank uses to measure, monitor, and mitigate those risks. These disclosures are intended to enable market participants to assess the credit risk exposures under the IRB framework, without revealing proprietary information or duplicating the supervisor's fundamental review of the bank's IRB framework. Table 11.6 provides the disclosure requirements related to credit exposures from derivatives. This table was added as a supplement to the public disclosures initially in the New Accord as a result of the BCBS's additional efforts to address certain exposures arising from trading activities. See the July 2005 BCBS publication entitled ''The Application of Basel II to Trading Activities and the Treatment of Double Default Effects.''

Table 11.8 disclosures, Securitization, provide information to market participants on the amount of credit risk transferred and retained by the organization through securitization transactions and the types of products securitized by the organization. These disclosures provide users a better understanding of how securitization transactions impact the credit risk of the bank.

[83] Alternatively, banks would be permitted to provide the disclosures in more than one place, as some of them may be included in public financial reports (for example, in Management's Discussion and Analysis included in SEC filings) or other regulatory reports (for example, FR Y–9C Reports). The agencies would require such banks to provide a summary table on their public Web site that specifically indicates where all the disclosures may be found (for example, regulatory report schedules, page numbers in annual reports).

[84] These ratios are required to be disclosed in the footnotes to the audited financial statements pursuant to existing GAAP requirements in Chapter 17 of the ''AICPA Audit and Accounting Guide for Depository and Lending Institutions: Banks, Savings institutions, Credit unions, Finance companies and Mortgage companies.''

[85] Proprietary information encompasses information that, if shared with competitors, would render a bank's investment in these products/systems less valuable, and, hence, could undermine its competitive position. Information about customers is often confidential, in that it is provided under the terms of a legal agreement or counterparty relationship.

Table 11.9 disclosures, Operational Risk, provide insight into the bank's application of the AMA for operational risk and what internal and external factors are considered in determining the amount of capital allocated to operational risk.

Table 11.10 disclosures, Equities, provide market participants with an understanding of the types of equity securities held by the bank and how they are valued. The table also provides information on the capital allocated to different equity products and the amount of unrealized gains and losses.

Table 11.11 disclosures, Interest Rate Risk in Non-Trading Activities, provide information about the potential risk of loss that may result from changes in interest rates and how the bank measures such risk.

*4. Regulatory Reporting*

In addition to the public disclosures that would be required by the consolidated banking organization subject to the advanced approaches, the agencies would require certain additional regulatory reporting from BHCs, their subsidiary DIs, and DIs applying the advanced approaches that are not subsidiaries of BHCs. The agencies believe that the reporting of key risk parameter estimates by each DI applying the advanced approaches will provide the primary Federal supervisor and other relevant supervisors with data important for assessing the reasonableness and accuracy of the institution's calculation of its minimum capital requirements under this rule and the adequacy of the institution's capital in relation to its risks. This information would be collected through regulatory reports. The agencies believe that requiring certain common reporting across banks will facilitate comparable application of the proposed rules.

In this regard, the agencies published for comment elsewhere in today's **Federal Register** a package of proposed reporting schedules. The package includes a summary schedule with aggregate data that would be available to the general public. It also includes supporting schedules that would be viewed as confidential supervisory information. These schedules are broken out by exposure category and would collect risk parameter and other pertinent data in a systematic manner. The agencies also are exploring ways to obtain information that would improve supervisors' understanding of the causes behind changes in risk-based capital requirements. For example, certain data would help explain whether movements are attributable to changes in key risk parameters or other factors. Under the proposed rule, banks would begin reporting this information during their parallel run on a confidential basis. The agencies will share this information with each other for calibration and other analytical purposes. *Question 62: Comments on regulatory reporting issues may be submitted in response to this NPR as well as through the regulatory reporting request for comment noted above.*

List of Acronyms

ABCP Asset Backed Commercial Paper
ALLL Allowance for Loan and Lease Losses
AMA Advanced Measurement Approaches
ANPR Advance Notice of Proposed Rulemaking
AVC Asset Value Correlation
BCBS Basel Committee on Banking Supervision
BHC Bank Holding Company
CF Conversion Factor
CEIO Credit-Enhancing Interest-Only Strip
CRM Credit Risk Mitigation
DI Depository Institution
DvP Delivery versus Payment
E Measure of Effectiveness
EAD Exposure at Default
ECL Expected Credit Loss
EL Expected Loss
ELGD Expected Loss Given Default
EOL Expected Operational Loss
FDIC Federal Deposit Insurance Corporation
FFIEC Federal Financial Institutions Examination Council
FMI Future Margin Income
GAAP Generally Accepted Accounting Principles
HELOC Home Equity Line of Credit
HOLA Home Owners' Loan Act
HVCRE High-Volatility Commercial Real Estate
IAA Internal Assessment Approach
IMA Internal Models Approach
IRB Internal Ratings Based
KIRB Capital Requirement for Underlying Pool of Exposures (securitizations)
LGD Loss Given Default
LTV Loan-to-Value Ratio
M Effective Maturity
MRA Market Risk Amendment
MRC Minimum Risk-Based Capital
OCC Office of the Comptroller of the Currency
OTC Over-the-Counter
OTS Office of Thrift Supervision
PCA Prompt Corrective Action
PD Probability of Default
PFE Potential Future Exposure
PvP Payment versus Payment
QIS–3 Quantitative Impact Study 3
QIS–4 Quantitative Impact Study 4
QIS–5 Quantitative Impact Study 5
QRE Qualifying Revolving Exposure
RBA Ratings-Based Approach
SFA Supervisory Formula Approach
SME Small and Medium-Size Enterprise
SPE Special Purpose Entity
SRWA Simple Risk-Weight Approach
UL Unexpected Loss
UOL Unexpected Operational Loss
VaR Value-at-Risk

Regulatory Flexibility Act Analysis

The Regulatory Flexibility Act (RFA) requires an agency that is issuing a proposed rule to prepare and make available for public comment an initial regulatory flexibility analysis that describes the impact of the proposed rule on small entities. 5 U.S.C. 603(a). The RFA provides that an agency is not required to prepare and publish an initial regulatory flexibility analysis if the agency certifies that the proposed rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. 5 U.S.C. 605(b).

Pursuant to section 605(b) of the RFA (5 U.S.C. 605(b)), the agencies certify that this proposed rule will not, if promulgated in final form, have a significant economic impact on a substantial number of small entities Pursuant to regulations issued by the Small Business Administration (13 CFR 121–201), a ''small entity'' includes a bank holding company, commercial bank, or savings association with assets of $165 million or less (collectively, small banking organizations). The proposed rule would require a bank holding company, national bank, state member bank, state nonmember bank, or savings association to calculate its risk-based capital requirements according to certain internal-ratings-based and internal model approaches if the bank holding company, bank, or savings association (i) has consolidated total assets (as reported on its most recent year-end regulatory report) equal to $250 billion or more; (ii) has consolidated total on-balance sheet foreign exposures at the most recent year-end equal to $10 billion or more; or (iii) is a subsidiary of a bank holding company, bank, or savings association that would be required to use the proposed rule to calculate its risk-based capital requirements.

The agencies estimate that zero small bank holding companies (out of a total of approximately 2,934 small bank holding companies), five small national banks (out of a total of approximately 1,090 small national banks), one small state member bank (out of a total of approximately 491 small state member banks), one small state nonmember bank

(out of a total of approximately 3,249 small state nonmember banks), and zero small savings associations (out of a total of approximately 446 small savings associations) would be subject to the proposed risk-based capital requirements on a mandatory basis. In addition, each of the small banking organizations subject to the proposed rule on a mandatory basis would be a subsidiary of a bank holding company with over $250 billion in consolidated total assets or over $10 billion in consolidated total on-balance sheet foreign exposure. Therefore, the agencies believe that the proposed rule will not, if promulgated in final form, result in a significant economic impact on a substantial number of small entities.

Paperwork Reduction Act

A. Request for Comment on Proposed Information Collection. In accordance with the requirements of the Paperwork Reduction Act of 1995, the agencies may not conduct or sponsor, and the respondent is not required to respond to, an information collection unless it displays a currently valid Office of Management and Budget (OMB) control number. The agencies are requesting comment on a proposed information collection. The agencies are also giving notice that the proposed collection of information has been submitted to OMB for review and approval.

Comments are invited on:

(a) Whether the collection of information is necessary for the proper performance of the agencies' functions, including whether the information has practical utility;

(b) The accuracy of the estimates of the burden of the information collection, including the validity of the methodology and assumptions used;

(c) Ways to enhance the quality, utility, and clarity of the information to be collected;

(d) Ways to minimize the burden of the information collection on respondents, including through the use of automated collection techniques or other forms of information technology; and

(e) Estimates of capital or start up costs and costs of operation, maintenance, and purchase of services to provide information.

Comments should be addressed to:

*OCC:* Communications Division, Office of the Comptroller of the Currency, Public Information Room, Mail stop 1–5, Attention: 1557–NEW, 250 E Street, SW., Washington, DC 20219. In addition, comments may be sent by fax to 202–874–4448, or by electronic mail to *regs.comments@occ.treas.gov.* You can inspect and photocopy the comments at the OCC's Public Information Room, 250 E Street, SW., Washington, DC 20219. You can make an appointment to inspect the comments by calling 202–874–5043.

*Board:* You may submit comments, identified by Docket No. R–1261, by any of the following methods:

- *Agency Web Site: http://www.federalreserve.gov.* Follow the instructions for submitting comments on the *http://www.federalreserve.gov/generalinfo/foia/ProposedRegs.cfm.*
- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *E-mail: regs.comments@federalreserve.gov.* Include docket number in the subject line of the message.
- *FAX:* 202–452–3819 or 202–452–3102.
- *Mail:* Jennifer J. Johnson, Secretary, Board of Governors of the Federal Reserve System, 20th Street and Constitution Avenue, NW., Washington, DC 20551.

All public comments are available from the Board's Web site at *http://www.federalreserve.gov/generalinfo/foia/ProposedRegs.cfm* as submitted, unless modified for technical reasons. Accordingly, your comments will not be edited to remove any identifying or contact information. Public comments may also be viewed electronically or in paper form in Room MP–500 of the Board's Martin Building (20th and C Streets, NW.) between 9 a.m. and 5 p.m. on weekdays.

*FDIC:* You may submit written comments, which should refer to 3064–AC73, by any of the following methods:

- *Agency Web Site: http://www.fdic.gov/regulations/laws/federal/propose.html.* Follow the instructions for submitting comments on the FDIC Web site.
- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *E-mail: Comments@FDIC.gov.*
- *Mail:* Robert E. Feldman, Executive Secretary, Attention: Comments, FDIC, 550 17th Street, NW., Washington, DC 20429.
- *Hand Delivery/Courier:* Guard station at the rear of the 550 17th Street Building (located on F Street) on business days between 7 a.m. and 5 p.m.

*Public Inspection:* All comments received will be posted without change to *http://www.fdic.gov/regulations/laws/federal/propose/html* including any personal information provided. Comments may be inspected at the FDIC Public Information Center, Room 100, 801 17th Street, NW., Washington, DC, between 9 a.m. and 4:30 p.m. on business days.

A copy of the comments may also be submitted to the OMB desk officer for the agencies: By mail to U.S. Office of Management and Budget, 725 17th Street, NW., #10235, Washington, DC 20503 or by facsimile to 202–395–6974, Attention: Federal Banking Agency Desk Officer.

*OTS:* Information Collection Comments, Chief Counsel's Office, Office of Thrift Supervision, 1700 G Street, NW., Washington, DC 20552; send a facsimile transmission to (202) 906–6518; or send an e-mail to *infocollection.comments@ots.treas.gov.* OTS will post comments and the related index on the OTS Internet site at *http://www.ots.treas.gov.* In addition, interested persons may inspect the comments at the Public Reading Room, 1700 G Street, NW., by appointment. To make an appointment, call (202) 906–5922, send an e-mail to *public.info@ots.treas.gov,* or send a facsimile transmission to (202) 906–7755.

B. Proposed Information Collection.

*Title of Information Collection:* Risk-Based Capital Standards: Advanced Capital Adequacy Framework.

*Frequency of Response:* event-generated.

*Affected Public:*

*OCC:* National banks and Federal branches and agencies of foreign banks.

*Board:* State member banks, bank holding companies, affiliates and certain non-bank subsidiaries of bank holding companies, uninsured state agencies and branches of foreign banks, commercial lending companies owned or controlled by foreign banks, and Edge and agreement corporations.

*FDIC:* Insured nonmember banks, insured state branches of foreign banks, and certain subsidiaries of these entities.

*OTS:* Savings associations and certain of their subsidiaries.

*Abstract:* The proposed rule sets forth a new risk-based capital adequacy framework that would require some banks and allow other qualifying banks to use an internal ratings-based approach to calculate regulatory credit risk capital requirements and advanced measurement approaches to calculate regulatory operational risk capital requirements.

The information collection requirements in the proposed rule are found in sections 21–23, 42, 44, 53, and 71. The collections of information are necessary in order to implement the proposed advanced capital adequacy framework.

Sections 21 and 22 require that a bank adopt a written implementation plan that addresses how it will comply with the proposed advanced capital adequacy framework's qualification requirements, including incorporation of a comprehensive and sound planning and governance process to oversee the implementation efforts. The bank must also develop processes for assessing capital adequacy in relation to an organization's risk profile. It must establish and maintain internal risk rating and segmentation systems for wholesale and retail risk exposures, including comprehensive risk parameter quantification processes and processes for annual reviews and analyses of reference data to determine their relevance. It must document its process for identifying, measuring, monitoring, controlling, and internally reporting operational risk; verify the accurate and timely reporting of risk-based capital requirements; and monitor, validate, and refine its advanced systems.

Section 23 requires a bank to notify its primary Federal supervisor when it makes a material change to its advanced systems and to develop an implementation plan after any mergers.

Section 42 outlines the capital treatment for securitization exposures. A bank must disclose publicly that it has provided implicit support to the securitization and the regulatory capital impact to the bank of providing such implicit support.

Section 44 describes the IAA. A bank must receive prior written approval from its primary Federal supervisor before it can use the IAA. A bank must review and update each internal credit assessment whenever new material is available, but at least annually. It must validate its internal credit assessment process on an ongoing basis and at least annually.

Section 53 outlines the IMA. A bank must receive prior written approval from its primary Federal supervisor before it can use the IMA.

Section 71 specifies that each consolidated bank must publicly disclose its total and tier 1 risk-based capital ratios and their components.

*Estimated Burden:* The burden estimates below exclude the following: (1) Any burden associated with changes to the regulatory reports of the agencies (such as the Consolidated Reports of Income and Condition for banks (FFIEC 031 and FFIEC 031; OMB Nos. 7100–0036, 3064–0052, 1557–0081) and the Thrift Financial Report for thrifts (TFR; OMB No. 1550–0023); (2) any burden associated with capital changes in the Basel II market risk rule; and (3) any burden associated with the Quantitative Impact Study (QIS–4 survey, FR 3045; OMB No. 7100–0303). The agencies are concurrently publishing notices, which will address burden associated with the first item (published elsewhere in this issue), and jointly publishing a rulemaking which will address burden associated with the second item. For the third item, the Federal Reserve previously took burden for the QIS–4 survey, and some institutions may leverage the requirements of the QIS–4 survey to fulfill the requirements of this rule.

The burden associated with this collection of information may be summarized as follows:

*OCC*

*Number of Respondents:* 52.

*Estimated Burden Per Respondent:* 15,570 hours.

*Total Estimated Annual Burden:* 809,640 hours.

*Board*

*Number of Respondents:* 15.

*Estimated Burden Per Respondent:* 14,422 hours.

*Total Estimated Annual Burden:* 216,330 hours.

*FDIC*

*Number of Respondents:* 19.

*Estimated Burden Per Respondent:* 410 hours.

*Total Estimated Annual Burden:* 7,800 hours.

*OTS*

*Number of Respondents:* 4.

*Estimated Burden Per Respondent:* 15,000 hours.

*Total Estimated Annual Burden:* 60,000 hours.

## Plain Language

Section 722 of the GLB Act requires the agencies to use ''plain language'' in all proposed and final rules published after January 1, 2000. In light of this requirement, the agencies have sought to present the proposed rule in a simple and straightforward manner. The agencies invite comments on whether there are additional steps the agencies could take to make the proposed rule easier to understand.

## OCC Executive Order 12866

Executive Order 12866 requires Federal agencies to prepare a regulatory impact analysis for agency actions that are found to be ''significant regulatory actions.'' ''Significant regulatory actions'' include, among other things, rulemakings that ''have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities.''[86] Regulatory actions that satisfy one or more of these criteria are referred to as ''economically significant regulatory actions.''

The OCC anticipates that the proposed rule will meet the $100 million criterion and therefore is an economically significant regulatory action. In conducting the regulatory analysis for an economically significant regulatory action, Executive Order 12866 requires each Federal agency to provide to the Administrator of the Office of Management and Budget's (OMB) Office of Information and Regulatory Affairs (OIRA):

- The text of the draft regulatory action, together with a reasonably detailed description of the need for the regulatory action and an explanation of how the regulatory action will meet that need;
- An assessment of the potential costs and benefits of the regulatory action, including an explanation of the manner in which the regulatory action is consistent with a statutory mandate and, to the extent permitted by law, promotes the President's priorities and avoids undue interference with State, local, and tribal governments in the exercise of their governmental functions;
- An assessment, including the underlying analysis, of benefits anticipated from the regulatory action (such as, but not limited to, the promotion of the efficient functioning of the economy and private markets, the enhancement of health and safety, the protection of the natural environment, and the elimination or reduction of discrimination or bias) together with, to the extent feasible, a quantification of those benefits;
- An assessment, including the underlying analysis, of costs anticipated from the regulatory action (such as, but not limited to, the direct cost both to the government in administering the regulation and to businesses and others in complying with the regulation, and any adverse effects on the efficient functioning of the economy, private markets (including productivity, employment, and competitiveness), health, safety, and the natural environment), together with, to the

[86] Executive Order 12866 (September 30, 1993), 58 FR 51735 (October 4, 1993), as amended by Executive Order 13258, 67 FR 9385 (February 28, 2002). For the complete text of the definition of ''significant regulatory action,'' see E.O. 12866 at section 3(f). A ''regulatory action'' is ''any substantive action by an agency (normally published in the **Federal Register**) that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of proposed rulemaking, and notices of proposed rulemaking.'' E.O. 12866 at section 3(e).

extent feasible, a quantification of those costs; and

• An assessment, including the underlying analysis, of costs and benefits of potentially effective and reasonably feasible alternatives to the planned regulation, identified by the agencies or the public (including improving the current regulation and reasonably viable nonregulatory actions), and an explanation why the planned regulatory action is preferable to the identified potential alternatives.

Set forth below is a summary of the OCC's regulatory impact analysis, which can be found in its entirety at *http://www.occ.treas.gov/law/basel.htm* under the link ''Regulatory Impact Analysis for Risk-Based Capital Standards: Revised Capital Adequacy Guidelines (Basel II), Office of the Comptroller of the Currency, International and Economic Affairs (2006)''.

I. The Need for the Regulatory Action.

Federal banking law directs Federal banking agencies, including the OCC, to require banking organizations to hold adequate capital. The law authorizes Federal banking agencies to set minimum capital levels to ensure that banking organizations maintain adequate capital. The law also gives banking agencies broad discretion with respect to capital regulation by authorizing them to use any other methods that they deem appropriate to ensure capital adequacy.

Capital regulation seeks to address market failures that stem from several sources. Asymmetric information about the risk in a bank's portfolio creates a market failure by hindering the ability of creditors and outside monitors to discern a bank's actual risk and capital adequacy. Moral hazard creates market failure in which the bank's creditors fail to restrain the bank from taking excessive risks because deposit insurance either fully or partially protects them from losses. Public policy addresses these market failures because individual banks fail to adequately consider the positive externality or public benefit that adequate capital brings to financial markets and the economy as a whole.

Capital regulations cannot be static. Innovation in and transformation of financial markets require periodic reassessments of what may count as capital and what amount of capital is adequate. Continuing changes in financial markets create both a need and an opportunity to refine capital standards in banking. The Basel II framework, and its proposed implementation in the United States, reflects an appropriate step forward in addressing these changes.

II. Costs and Benefits of the Proposed Rule.

Under the proposed rule, current capital rules would remain in effect in 2008 during a parallel run using both current non-Basel II-based and new Basel II-based capital rules. For the following three years, the proposed rule would apply limits on the amount by which minimum required capital may decrease. This analysis, however, considers the costs and benefits of the proposed rule as fully phased in.

Cost and benefit analysis of changes in minimum capital requirements entails considerable measurement problems. On the cost side, it can be difficult to attribute particular expenditures incurred by institutions to the costs of implementation because banking organizations would likely incur some of these costs as part of their ongoing efforts to improve risk measurement and management systems. On the benefits side, measurement problems are even greater because the benefits of the proposal are more qualitative than quantitative. Measurement problems exist even with an apparently measurable benefit like lower minimum capital because lower minimum requirements do not necessarily mean lower capital. Healthy banking organizations generally hold capital well above regulatory minimums for a variety of reasons, and the effect of reducing the regulatory minimum is uncertain and may vary across regulated institutions.

A. *Benefits of the Proposed Rule.*

1. *Better allocation of capital and reduced impact of moral hazard through reduction in the scope for regulatory arbitrage:* By assessing the amount of capital required for each exposure or pool of exposures, the advanced approach does away with the simplistic risk buckets of current capital rules. Eliminating categorical risk weighting and assigning capital based on measured risk instead greatly curtails or eliminates the ability of troubled organizations to ''game'' regulatory capital requirements by finding ways to comply technically with the requirements while evading their intent and spirit.

2. *Improved signal quality of capital as an indicator of solvency:* The advanced approaches of the proposed rule are designed to more accurately align regulatory capital with risk, which should improve the quality of capital as an indicator of solvency. The improved signaling quality of capital will enhance banking supervision and market discipline.

3. *Encourages banking organizations to improve credit risk management:* One of the principal objectives of the proposed rule is to more closely align capital charges and risk. For any type of credit, risk increases as either the probability of default or the loss given default increases. Under the proposed rule, risk weights depend on these risk measures and consequently capital requirements will more closely reflect risk. This enhanced link between capital requirements and risk will encourage banking organizations to improve credit risk management.

4. *More efficient use of required bank capital:* Increased risk sensitivity and improvements in risk measurement will allow prudential objectives to be achieved more efficiently. If capital rules can better align capital with risk across the system, a given level of capital will be able to support a higher level of banking activity while maintaining the same degree of confidence regarding the safety and soundness of the banking system. Social welfare is enhanced by either the stronger condition of the banking system or the increased economic activity the additional banking services facilitate.

5. *Incorporates and encourages advances in risk measurement and risk management:* The proposed rule seeks to improve upon existing capital regulations by incorporating advances in risk measurement and risk management made over the past 15 years. An objective of the proposed rule is to speed adoption of new risk management techniques and to promote the further development of risk measurement and management through the regulatory process.

6. *Recognizes new developments and accommodates continuing innovation in financial products by focusing on risk:* The proposed rule also has the benefit of facilitating recognition of new developments in financial products by focusing on the fundamentals behind risk rather than on static product categories.

7. *Better aligns capital and operational risk and encourages banking organizations to mitigate operational risk:* Introducing an explicit capital calculation for operational risk eliminates the implicit and imprecise ''buffer'' that covers operational risk under current capital rules. Introducing an explicit capital requirement for operational risk improves assessments of the protection capital provides, particularly at organizations where operational risk dominates other risks. The explicit treatment also increases the transparency of operational risk, which could encourage banking organizations

to take further steps to mitigate operational risk.

8. *Enhanced supervisory feedback:* Although U.S. banking organizations have long been subject to close supervision, aspects of all three pillars of the proposed rule aim to enhance supervisory feedback from Federal banking agencies to managers of banks and thrifts. Enhanced feedback could further strengthen the safety and soundness of the banking system.

9. *Incorporates market discipline into the regulatory framework:* The proposed rule seeks to introduce market discipline directly into the regulatory framework by requiring specific disclosures relating to risk measurement and risk management. Market discipline could complement regulatory supervision to bolster safety and soundness.

10. *Preserves the benefits of international consistency and coordination achieved with the 1988 Basel Accord:* An important objective of the 1988 Accord was competitive consistency of capital requirements for banking organizations competing in global markets. Basel II continues to pursue this objective. Because achieving this objective depends on the consistency of implementation in the United States and abroad, the Basel Committee has established an Accord Implementation Group to promote consistency in the implementation of Basel II.

11. *Ability to opt in offers long-term flexibility to nonmandatory banking organizations:* The proposed U.S. implementation of Basel II allows banking organizations outside of the mandatory group to individually judge when the benefits they expect to realize from adopting the advanced approaches outweigh their costs. Even though the cost and complexity of adopting the advanced approaches may present nonmandatory organizations with a substantial hurdle to opting in at present, the potential long-term benefits of allowing nonmandatory organizations to partake in the benefits described above may be similarly substantial.

*B. Costs of the Proposed Rule.*

Because banking organizations are constantly developing programs and systems to improve how they measure and manage risk, it is difficult to distinguish between expenditures explicitly caused by adoption of the proposed rule and costs that would have occurred irrespective of any new regulation. In an effort to identify how much banking organizations expect to spend to comply with the U.S. implementation of Basel II, the Federal banking agencies included several questions related to compliance costs in QIS–4.[87]

1. *Overall Costs:* According to the 19 out of 26 QIS–4 questionnaire respondents that provided estimates of their implementation costs, organizations will spend roughly $42 million on average to adapt to capital requirements implementing Basel II. Not all of these respondents are likely mandatory organizations. Counting just the likely mandatory organizations, the average is approximately $46 million, so there is little difference between organizations that meet a mandatory threshold and those that do not. Aggregating estimated expenditures from all 19 respondents indicates that these organizations will spend a total of $791 million over several years to implement the proposed rule. Estimated costs for nine respondents meeting one of the mandatory thresholds come to $412 million.

2. *Estimate of costs specific to the proposal:* Ten QIS–4 respondents provided estimates of the portion of costs they would have incurred even if current capital rules remain in effect. Those ten indicated that they would have spent 45 percent on average, or roughly half of their Basel II expenditures on improving risk management anyway. This suggests that of the $42 million organizations expect to spend on implementation, approximately $21 million may represent expenditures each institution would have undertaken even without Basel II. Thus, pure implementation costs may be closer to roughly $395 million for the 19 QIS–4 respondents.

3. *Ongoing costs:* Seven QIS–4 respondents were able to estimate what their recurring costs might be under the proposed implementation of Basel II. On average, the seven organizations estimate that annual recurring expenses attributable to the proposed capital framework will be $2.4 million. Organizations indicated that the ongoing costs to maintain related technology reflect costs for increased personnel and system maintenance. The larger one-time expenditures primarily involve money for system development and software purchases.

4. *Implicit costs:* In addition to explicit setup and recurring costs, banking organizations may also face implicit costs arising from the time and inconvenience of having to adapt to new capital regulations. At a minimum this involves the increased time and attention required of senior bank and thrift management to introduce new programs and procedures and the need to closely monitor the new activities during the inevitable rough patches when the proposed rule first takes effect.

5. *Government administrative costs:* OCC expenditures fall into three broad categories: training, guidance, and supervision. Training includes expenses for AMA workshops, IRB workshops, and other training courses and seminars for examiners. Guidance expenses reflect expenditures on the development of IRB and AMA guidance. Supervision expenses reflect organization-specific supervisory activities related to the development and implementation of the Basel II framework. The largest OCC expenditures have been on the development of IRB and AMA policy guidance. The $4.6 million spent on guidance represents 65 percent of the estimated total OCC Basel II-related expenditure of $7.1 million through the 2005 fiscal year. In part, this large share reflects the absence of data for training and supervision costs for several years, but it also is indicative of the large guidance expenses in 2002 and 2003 when the Basel II framework was in development. To date, Basel II expenditures have not been a large part of overall OCC expenditures. The $3 million spent on Basel II in fiscal year 2005 represents less than one percent of the OCC's $519 million budget for the year.

6. *Total cost:* The OCC's estimate of the total cost of the proposed rule includes expenditures by banking organizations and the OCC from the present through 2011, the final year of the transition period. Combining expenditures by mandatory banking organizations and the OCC provides a present value estimate of $545.9 million for the total cost of the proposed rule.

7. *Procyclicality:* Procyclicality refers to the possibility that banking organizations may reduce lending during economic downturns and increase lending during economic expansions as a consequence of minimum capital requirements. There is some concern that the risk-sensitivity of the IRB approach may cause capital requirements for credit risk to increase during an economic downturn. Although procyclicality may be inherent in banking to some extent, elements of the advanced approaches could reduce inherent procyclicality. Risk management and information systems may provide bank managers with more

[87] For more information on QIS–4, see Office of the Comptroller of the Currency, Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, and Office of Thrift Supervision, ''Summary Findings of the Fourth Quantitative Impact Study,'' February 2006, available online at *http://www.occ.treas.gov/ftp/release/2006–23a.pdf.*

forward-looking information about risk that would allow them to adjust portfolios gradually and with more foresight as the economic outlook changes over the business cycle. Regulatory stress-testing requirements included in the proposal also will help ensure that institutions anticipate cyclicality in capital requirements to the greatest extent possible, reducing the potential economic impact of changes in capital requirements.

III. Competition Among Providers of Financial Services

One potential concern with any regulatory change is the possibility that it might create a competitive advantage for some organizations relative to others, a possibility that certainly applies to a change with the scope of this proposed rule. However, measurement difficulties described in the preceding discussion of costs and benefits also extend to any consideration of the impact on competition. Despite the inherent difficulty of drawing definitive conclusions, this section considers various ways in which competitive effects might be manifest, as well as available evidence related to those potential effects.

1. *Explicit Capital for Operational Risk:* Some have noted that the explicit computation of required capital for operational risk could lead to an increase in total minimum regulatory capital for U.S. ''processing'' banks, generally defined as banking organizations that tend to engage in a variety of activities related to securities clearing, asset management, and custodial services. Some have suggested that the increase in required capital could place such firms at a competitive disadvantage relative to competitors that do not face a similar capital requirement. A careful analysis by Fontnouvelle et al [88] considers the potential competitive impact of the explicit capital requirement for operational risk. Overall, the study concludes that competitive effects from an explicit operational risk capital requirement should be, at most, extremely modest.

2. *Residential Mortgage Lending:* The issue of competitive effects has received substantial attention with respect to the residential mortgage market. The focus on the residential mortgage market stems from the size and importance of the market in the United States and the fact that the proposed rule may lead to substantial reductions in credit-risk capital for residential mortgages. To the extent that corresponding operational-risk capital requirements do not offset these credit-risk-related reductions, overall capital requirements for residential mortgages could decline under the proposed rule. Studies by Calem and Follain [89] and Hancock, Lehnert, Passmore, and Sherlund [90] suggest that banking organizations operating under capital rules based on Basel II may increase their holdings of residential mortgages. Calem and Follain argue that the increase would be significant and come at the expense of general organizations. Hancock *et al.* foresee a more modest increase in residential mortgage holdings at institutions operating under the new Basel II-based rules, and they see this increase primarily as a shift away from the large government sponsored mortgage enterprises.

3. *Small Business Lending:* One potential avenue for competitive effects is small-business lending. Smaller banks—those that are less likely to adopt the advanced approaches to regulatory capital under the proposed rule—tend to rely more heavily on smaller loans within their commercial loan portfolios. To the extent that the proposed rule reduces required capital for such loans, general banking organizations not operating under the proposed rule might be placed at a competitive disadvantage. A study by Berger [91] finds some potential for a relatively small competitive effect on smaller banks in small business lending. However, Berger concludes that the small business market for large banks is very different from the small business market for smaller banks. For instance, a ''small business'' at a larger banking organization is usually much larger than small businesses at community banking organizations.

4. *Mergers and Acquisitions:* Another concern related to potential changes in competitive conditions under the proposed rule is that bifurcation of capital standards might change the landscape with regard to mergers and acquisitions in banking and financial services. For example, banking organizations operating under the new Basel II-based capital requirements might be placed in a better position to acquire other banking organizations operating under the non-Basel II-based rules, possibly leading to an undesirable consolidation of the banking sector. Research by Hannan and Pilloff [92] suggests that the proposed rule is unlikely to have a significant impact on merger and acquisition activity in banking.

5. *Credit Card Competition:* The proposed U.S. implementation of Basel II might also affect competition in the credit card market. Overall capital requirements for credit card loans could increase under the proposed rule. This raises the possibility of a change in the competitive environment among banking organizations subject to the new Basel II-based capital rules, nonbank credit card issuers, and banking organizations not subject to the new Basel II-based capital rules. A study by Lang, Mester, and Vermilyea [93] finds that implementation of a rule based on Basel II will not affect credit card competition at most community and regional banking organizations. The authors also suggest that higher capital requirements for credit cards may only pose a modest disadvantage to institutions that are subject to rules based on Basel II.

Overall, the evidence regarding the impact of the proposed rule on competitive equity is mixed. The body of recent economic research discussed in the body of this report does not reveal persuasive evidence of any sizeable competitive effects. Nonetheless, the Federal banking agencies recognize the need to closely monitor the competitive landscape subsequent to any regulatory change. In particular, the OCC and other Federal banking agencies will be alert

[88] Patrick de Fontnouvelle, Victoria Garrity, Scott Chu, and Eric Rosengren, ''The Potential Impact of Explicit Operational Risk Capital Charges on Bank Processing Activities,'' Manuscript, Federal Reserve Bank of Boston, January 12, 2005. Available at *http://www.federalreserve.gov/generalinfo/basel2/whitepapers.htm.*

[89] Paul S. Calem and James R. Follain, ''An Examination of How the Proposed Bifurcated Implementation of Basel II in the U.S. May Affect Competition Among Banking Organizations for Residential Mortgages,'' manuscript, January 14, 2005.

[90] Diana Hancock, Andreas Lehnert, Wayne Passmore, and Shane M. Sherlund, ''An Analysis of the Potential Competitive Impact of Basel II Capital Standards on U.S. Mortgage Rates and Mortgage Securitization'', Federal Reserve Board manuscript, April 2005. Available at *http://www.federalreserve.gov/generalinfo/basel2/whitepapers.htm.*

[91] Allen N. Berger, ''Potential Competitive Effects of Basel II on Banks in SME Credit Markets in the United States,'' Federal Reserve Board Finance and Economics Discussion Series, 2004–12. Available at *http://www.federalreserve.gov/generalinfo/basel2/whitepapers.htm.*

[92] Timothy H. Hannan and Steven J. Pilloff, ''Will the Proposed Application of Basel II in the United States Encourage Increased Bank Merger Activity? Evidence from Past Merger Activity,'' Federal Reserve Board Finance and Economics Discussion Series, 2004–13. Available at *http://www.federalreserve.gov/generalinfo/basel2/whitepapers.htm.*

[93] William W. Lang, Loretta J. Mester, and Todd A. Vermilyea, ''Potential Competitive Effects on U.S. Bank Credit Card Lending from the Proposed Bifurcated Application of Basel II,'' manuscript, December 2005. Available at *http://www.federalreserve.gov/generalinfo/basel2/whitepapers.htm.*

for early signs of competitive inequities that might result from this proposed rule. A multi-year transition period before full implementation of proposed rules based on Basel II should provide ample opportunity for the agencies to identify any emerging problems. To the extent that undesirable competitive inequities emerge, the agencies have the power to respond to them through many channels, including but not limited to suitable changes to the capital adequacy regulations.

IV. *Analysis of Baseline and Alternatives.*

Executive Order 12866 requires a comparison between the proposed rule, a baseline of what the world would look like without the proposed rule, and several reasonable alternatives to the proposed rule. In this regulatory impact analysis, we analyze two baselines and three alternatives to the proposed rule. We consider two baselines because of two very different outcomes that depend on the capital rules that other countries with internationally active banks might adopt absent the implementation of the Basel II framework in the United States.[94] The first baseline considers the possibility that neither the United States nor these other countries adopt capital rules based on the Basel II framework. The second baseline analyzes the situation where the United States does not adopt the proposed rule, but the other countries with internationally active banking organizations do adopt Basel II.

A. *Presentation of Baselines and Alternatives.*

1. *Baseline Scenario 1: Current capital standards based on the 1988 Basel Accord continue to apply both here and abroad*: Abandoning the Basel II framework in favor of current capital rules would eliminate essentially all of the benefits of the proposed rule described earlier. In place of these lost or diminished benefits, the only advantage of continuing to apply current capital rules to all banking organizations is that maintaining the status quo should alleviate concerns regarding competition among financial service providers. Although the effect of the proposed rule on competition is uncertain in our estimation, staying with current capital rules (or universally applying a revised rule that might emerge from the Basel IA ANPR) eliminates bifurcation and the explicit assignment of capital for operational risk. Concerns regarding competition usually center on these two characteristics of the proposed rule. While continuing to use current capital rules eliminates most of the benefits of adopting the proposed capital rule, it does not eliminate many costs associated with Basel II. Because Basel II costs are difficult to separate from the banking organization's ordinary development costs and ordinary supervisory costs at the agencies, dropping the proposal to implement Basel II would reduce but not eliminate many of these costs associated with the proposed rule.[95]

2. *Baseline Scenario 2: Current capital standards based on the 1988 Basel Accord continue to apply in the United States, but the rest of the world adopts the Basel II framework:* Like the first baseline scenario, abandoning a framework based on Basel II in favor of current capital rules would eliminate essentially all of the benefits of the proposed rule described earlier. Like the first baseline scenario, the one advantage of this scenario is that there would be no bifurcation of capital rules within the United States. However, the emergence of different capital rules across national borders would at least partially offset this advantage. Thus, while concerns regarding competition among U.S. financial service providers might diminish in this scenario, concerns regarding cross-border competition would likely increase. Just as the first baseline scenario eliminated most of the benefits of adopting the proposed rule, the same holds true for the second baseline scenario with one important distinction. Because the United States would be operating under a set of capital rules different from the rest of the world, U.S. banking organizations that are internationally active may face higher costs because they will have to track and comply with more than one set of capital requirements.

3. *Alternative A: Permit U.S. banking organizations to choose among all three Basel II credit risk approaches:* The principal benefit of Alternative A that the proposed rule does not achieve is the increased flexibility of the regulation for banking organizations that would be mandatory banking organizations under the proposed rule. Banking organizations that are not prepared for the adoption of the advanced IRB approach to credit risk under the proposed rule could choose to use the foundation IRB approach or even the standardized approach. How Alternative A might affect benefits depends entirely on how many banking organizations select each of the three available options. The most significant drawback to Alternative A is the increased cost of applying a new set of capital rules to all U.S. banking organizations. The vast majority of banking organizations in the United States would incur no direct costs from new capital rules under the proposed rule. Under Alternative A, direct costs would increase for every U.S. banking organization that would have continued with current capital rules under the proposed rule. Although it is not clear how high these costs might be, general banking organizations would face higher costs because they would be changing capital rules regardless of which option they choose under Alternative A.

4. *Alternative B: Permit U.S. banking organizations to choose among all three Basel II operational risk approaches:* The operational risk approach that banking organizations ultimately selected would determine how the overall benefits of the new capital regulations would change under Alternative B. Just as Alternative A increases the flexibility of credit risk rules for mandatory banking organizations, Alternative B is more flexible with respect to operational risk. Because the Standardized Approach tries to be more sensitive to variations in operational risk than the Basic Indicator Approach and the AMA is more sensitive than the Standardized Approach, the effect of implementing Alternative B depends on how many banking organizations select the more risk sensitive approaches. As was the case with Alternative A, the most significant drawback to Alternative B is the increased cost of applying a new set of capital rules to all U.S. banking organizations. Under Alternative B, direct costs would increase for every U.S. banking organization that would have continued with current capital rules under the proposed rule. It is not clear how much it might cost banking organizations to adopt these capital measures for operational risk, but general banking organizations would face higher costs because they would be changing capital rules regardless of which option they choose under Alternative B.

5. *Alternative C: Use a different asset amount to determine a mandatory organization:* The number of mandatory banking organizations decreases slowly as the size thresholds increase, and the number of banking organizations grows more quickly as the thresholds decrease. Under Alternative C, the framework of

[94] In addition to the United States, members of the Basel Committee on Banking Supervision considering Basel II are Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, and the United Kingdom.

[95] Cost estimates for adopting a rule that might result from the Basel IA ANPR are not currently available.

the proposed rule would remain the same and only the number of mandatory banking organizations would change. Because the structure of the proposed implementation would remain intact, Alternative C would capture all of the benefits of the proposed rule. However, because these benefits derive from applying the proposed rule to individual banking organizations, changing the number of banking organizations affected by the rule will change the cumulative level of the benefits achieved. Generally, the benefits associated with the proposed rule will rise and fall with the number of mandatory banking organizations. Because Alternative C would change the number of mandatory banking organizations subject to the proposed rule, aggregate costs will also rise or fall with the number of mandatory banking organizations.

B. *Overall Comparison of the Proposed Rule with Baselines and Alternatives.*

The Basel II framework and its proposed U.S. implementation seek to incorporate risk measurement and risk management advances into capital requirements. On the basis of their analysis, the agencies believe that the benefits of the proposed rule are significant, durable, and hold the potential to increase with time. The offsetting costs of implementing the proposed rule are also significant, but appear to be largely because of considerable start-up costs. However, much of the apparent start-up costs reflect activities that the banking organizations would undertake as part of their ongoing efforts to improve the quality of their internal risk measurement and management, even in the absence of Basel II and this proposed rule. The advanced approaches seem to have fairly modest ongoing expenses. Against these costs, the significant benefits of Basel II suggest that the proposed rule offers an improvement over either of the two baseline scenarios.

With regard to the three alternative approaches we consider, the proposed rule seems to offer an important degree of flexibility while significantly restricting the cost of the proposed rule by limiting its application to large, complex, internationally active banking organizations. Alternatives A and B introduce more flexibility from the perspective of the large mandatory banking organizations, but each is less flexible with respect to other banking organizations. Either Alternative A or B would compel these banking organizations to select a new set of capital rules and require them to undertake the time and expense of adjusting to these new rules. Alternative C would change the number of mandatory banking organizations. If the number of mandatory banking organizations increases, then the new rule would lose some of the flexibility the proposed rule achieves with the opt-in option. Furthermore, costs would increase as the new rule would compel more banking organizations to incur the expense of adopting the advanced approaches. Decreasing the number of mandatory banking organizations would decrease the aggregate social good of each benefit achieved with the proposed rule. The proposed rule seems to offer a better balance between costs and benefits than any of the three alternatives.

OTS Executive Order 12866 Determination. OTS commented on the development of, and concurs with, OCC's RIA. Rather than replicate that analysis, OTS drafted an RIA incorporating OCC's analysis by reference and adding appropriate material reflecting the unique aspects of the thrift industry. The full text of OTS's RIA is available at the locations for viewing the OTS docket indicated in the **ADDRESSES** section above. OTS believes that its analysis meets the requirements of Executive Order 12866. The following discussion supplements OCC's summary of its RIA.

The NPR would apply to approximately eight mandatory and potential opt-in savings associations representing approximately 46 percent of total thrift industry assets. Approximately 70 percent of the total assets in these eight institutions are concentrated in residential mortgage-related assets. By contrast, national banks tend to concentrate their assets in commercial loans and other kinds of non-mortgage loans. Only about 35 percent of national bank's total assets are residential mortgage-related assets. As a result, the costs and benefits of the NPR for OTS-regulated savings associations will differ in important ways from OCC-regulated national banks. These differences are the focus of OTS's analysis.

*Benefits.* Among the benefits of the NPR, OCC cites: (i) Better allocation of capital and reduced impact of moral hazard through reduction in the scope for regulatory arbitrage; (ii) improved signal quality of capital as an indicator of institution solvency; and (iii) more efficient use of required bank capital. From OTS's perspective, however, the NPR may not provide the degree of benefits anticipated by OCC from these sources.

Because of the low credit risk associated with residential mortgage-related assets, OTS believes that the risk-insensitive leverage ratio, rather than the risk-based capital ratio, may be more binding on its institutions.[96] As a result, these institutions may be required to hold more capital than would be required under proposed credit risk-based standards alone. Therefore, the NPR may cause these institutions to incur much the same implementation costs as banks with riskier assets, but with reduced benefits.

*Costs.* OTS adopts the OCC cost analysis with the following supplemental information on OTS's administrative costs. OTS did not incur a meaningful amount of direct expenditures until 2002 when it transitioned from a monitoring role to active involvement in Basel II. Thereafter, expenditures increased rapidly. The OTS expenditures fall into two broad categories: Policymaking expenses incurred in the development of the ANPR, this NPR, and related guidance; and supervision expenses that reflect institution-specific supervisory activities. OTS estimates that it incurred total expenses of $3,780,000 for fiscal years 2002 through 2005, including $2,640,000 in policymaking expenses and $1,140,000 in supervision expenses. OTS anticipates that supervision expenses will continue to grow as a percentage of the total expense as it moves from policy development to implementation and training. To date, Basel II expenditures have not been a large part of overall expenditures.

*Competition.* OTS agrees with OCC's analysis of competition among providers of financial services. OTS adds, however, that some institutions with low credit risk portfolios face an existing competitive disadvantage because they are bound by a non-risk-based capital requirement—the leverage ratio. Thus, the agencies regulate a class of institutions that currently receive fewer capital benefits from risk-based capital rules because they are bound by the risk-insensitive leverage ratio. This anomaly will likely continue under the NPR.

[96] The leverage ratio is the ratio of core capital to adjusted total assets. Under prompt corrective action requirements, savings associations must maintain a leverage ratio of at least five percent to be well capitalized and at least four percent to be adequately capitalized. Basel II will primarily affect the calculation of risk-weighted assets, rather than the calculation of total assets and will have only a modest impact on the calculation of core capital. Thus, the proposed Basel II changes should not significantly affect the calculated leverage ratio and a savings association that is currently constrained by the leverage ratio would not significantly benefit from the Basel II changes.

In addition, the results from QIS–3 and QIS–4 suggest that the largest reductions in regulatory credit-risk capital requirements from the application of revised rules would occur in the residential mortgage loan area. Thus, to the extent regulatory credit-risk capital requirements affect pricing of such loans, it is possible that core and opt-in institutions who are not constrained by the leverage ratio may experience an improvement in their competitive standing vis-à-vis non-adopters and vis-à-vis adopters who are bound by the leverage ratio. Two research papers—one by Calem and Follain,[97] and another by Hancock, Lenhert, Passmore, and Sherlund[98] addressed this topic. The Calem and Follain paper argues that Basel II will significantly affect the competitive environment in mortgage lending; Hancock, et al. argue that it will not. Both papers are predicated, however, on the current capital regime for non-adopters. The agencies recently published an ANPR seeking comment on various modifications to the existing risk-based capital rules.[99] These changes may reduce the competitive disparities between adopters and non-adopters of Basel II by reducing the competitive advantage of Basel II adopters.

Further, residential mortgages are subject to substantial interest rate risk. The agencies will retain the authority to require additional capital to cover interest rate risk. If regulatory capital requirements affect asset pricing, a substantial regulatory capital interest rate risk component could mitigate any competitive advantages of the proposed rule. Moreover, the capital requirement for interest rate risk would be subject to interpretation by each agency. A consistent evaluation of interest rate risk by the supervisory agencies would present a level playing field among the adopters—an important consideration given the potential size of the capital requirement.

*OCC Unfunded Mandates Reform Act of 1995 Determination.* The Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) (UMRA) requires cost-benefit and other analyses for a rule that would include any Federal mandate that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector of $100 million or more (adjusted annually for inflation) in any one year. The current inflation-adjusted expenditure threshold is $119.6 million. The requirements of the UMRA include assessing a rule's effects on future compliance costs; particular regions or State, local, or tribal governments; communities; segments of the private sector; productivity; economic growth; full employment; creation of productive jobs; and the international competitiveness of U.S. goods and services. The proposed rule qualifies as a significant regulatory action under the UMRA because its Federal mandates may result in the expenditure by the private sector of $119.6 million or more in any one year. As permitted by section 202(c) of the UMRA, the required analyses have been prepared in conjunction with the Executive Order 12866 analysis document titled *Regulatory Impact Analysis for Risk-Based Capital Standards: Revised Capital Adequacy Guidelines.* The analysis is available on the Internet at *http://www.occ.treas.gov/law/basel.htm* under the link of ''Regulatory Impact Analysis for Risk-Based Capital Standards: Revised Capital Adequacy Guidelines (Basel II), Office of the Comptroller of the Currency, International and Economic Affairs (2006)''.

*OTS Unfunded Mandates Reform Act of 1995 Determination.* The Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) (UMRA) requires cost-benefit and other analyses for a rule that would include any Federal mandate that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector of $100 million or more (adjusted annually for inflation) in any one year. The current inflation-adjusted expenditure threshold is $119.6 million. The requirements of the UMRA include assessing a rule's effects on future compliance costs; particular regions or State, local, or tribal governments; communities; segments of the private sector; productivity; economic growth; full employment; creation of productive jobs; and the international competitiveness of U.S. goods and services. The proposed rule qualifies as a significant regulatory action under the UMRA because its Federal mandates may result in the expenditure by the private sector of $119.6 or more in any one year. As permitted by section 202(c) of the UMRA, the required analyses have been prepared in conjunction with the Executive Order 12866 analysis document titled *Regulatory Impact Analysis for Risk-Based Capital Standards: Revised Capital Adequacy Guidelines.* The analysis is available at the locations for viewing the OTS docket indicated in the **ADDRESSES** section above.

**Text of Common Appendix (All Agencies)**

The text of the agencies' common appendix appears below:

[Appendix to Part____]—Capital Adequacy Guidelines for [Bank]s:[100] Internal-Ratings-Based and Advanced Measurement Approaches

Part I General Provisions
Section 1 Purpose, Applicability, and Reservation of Authority
Section 2 Definitions
Section 3 Minimum Risk-Based Capital Requirements
Part II Qualifying Capital
Section 11 Additional Deductions
Section 12 Deductions and Limitations Not Required
Section 13 Eligible Credit Reserves
Part III Qualification
Section 21 Qualification Process
Section 22 Qualification Requirements
Section 23 Ongoing Qualification
Part IV Risk-Weighted Assets for General Credit Risk
Section 31 Mechanics for Calculating Total Wholesale and Retail Risk-Weighted Assets
Section 32 Counterparty Credit Risk
Section 33 Guarantees and Credit Derivatives: PD Substitution and LGD Adjustment Treatments
Section 34 Guarantees and Credit Derivatives: Double Default Treatment
Section 35 Risk-Based Capital Requirement for Unsettled Transactions
Part V Risk-Weighted Assets for Securitization Exposures
Section 41 Operational Criteria for Recognizing the Transfer of Risk
Section 42 Risk-Based Capital Requirement for Securitization Exposures
Section 43 Ratings-Based Approach (RBA)
Section 44 Internal Assessment Approach (IAA)
Section 45 Supervisory Formula Approach (SFA)
Section 46 Recognition of Credit Risk Mitigants for Securitization Exposures
Section 47 Risk-Based Capital Requirement for Early Amortization Provisions
Part VI Risk-Weighted Assets for Equity Exposures
Section 51 Introduction and Exposure Measurement
Section 52 Simple Risk Weight Approach (SRWA)
Section 53 Internal Models Approach (IMA)

[97] Paul S. Calem and James R. Follain, ''An Examination of How the Proposed Bifurcated Implementation of Basel II in the U.S. May Affect Competition Among Banking Organizations for Residential Mortgages,'' manuscript, January 14, 2005.

[98] Diana Hancock, Andreas Lenhert, Wayne Passmore, and Shane M Sherlund, ''An Analysis of the Competitive Impacts of Basel II Capital Standards on U.S. Mortgage Rates and Mortgage Securitization, March 7, 2005, Board of Governors of the Federal Reserve System, working paper.''

[99] 70 FR 61068 (Oct. 20, 2005).

[1] For simplicity, and unless otherwise noted, this NPR uses the term [bank] to include banks, savings associations, and bank holding companies. [AGENCY] refers to the primary Federal supervisor of the bank applying the rule.

Section 54 Equity Exposures to Investment Funds
Section 55 Equity Derivative Contracts
Part VII Risk-Weighted Assets for Operational Risk
Section 61 Qualification Requirements for Incorporation of Operational Risk Mitigants
Section 62 Mechanics of Risk-Weighted Asset Calculation
Part VIII Disclosure
Section 71 Disclosure Requirements

## Part I. General Provisions

### Section 1. Purpose, Applicability, and Reservation of Authority

(a) *Purpose.* This appendix establishes:

(1) Minimum qualifying criteria for [bank]s using [bank]-specific internal risk measurement and management processes for calculating risk-based capital requirements;

(2) Methodologies for such [bank]s to calculate their risk-based capital requirements; and

(3) Public disclosure requirements for such [bank]s.

(b) *Applicability.* (1) This appendix applies to a [bank] that:

(i) Has consolidated total assets, as reported on the most recent year-end Consolidated Report of Condition and Income (Call Report) or Thrift Financial Report (TFR), equal to $250 billion or more;

(ii) Has consolidated total on-balance sheet foreign exposure at the most recent year-end equal to $10 billion or more (where total on-balance sheet foreign exposure equals total cross-border claims less claims with head office or guarantor located in another country plus redistributed guaranteed amounts to the country of head office or guarantor plus local country claims on local residents plus revaluation gains on foreign exchange and derivative products, calculated in accordance with the Federal Financial Institutions Examination Council (FFIEC) 009 Country Exposure Report);

(iii) Is a subsidiary of a depository institution that uses 12 CFR part 3, Appendix C, 12 CFR part 208, Appendix F, 12 CFR part 325, Appendix D, or 12 CFR part 566, Appendix A, to calculate its risk-based capital requirements; or

(iv) Is a subsidiary of a bank holding company (as defined in 12 U.S.C. 1841) that uses 12 CFR part 225, Appendix F, to calculate its risk-based capital requirements.

(2) Any [bank] may elect to use this appendix to calculate its risk-based capital requirements.

(3) A [bank] that is subject to this appendix must use this appendix unless the [AGENCY] determines in writing that application of this appendix is not appropriate in light of the [bank]'s asset size, level of complexity, risk profile, or scope of operations. In making a determination under this paragraph, the [AGENCY] will apply notice and response procedures in the same manner and to the same extent as the notice and response procedures in 12 CFR 3.12 (for national banks), 12 CFR 263.202 (for bank holding companies and state member banks), 12 CFR 325.6(c) (for state nonmember banks), and 12 CFR 567.3(d) (for savings associations).

(c) *Reservation of authority*—(1) *Additional capital in the aggregate.* The [AGENCY] may require a [bank] to hold an amount of capital greater than otherwise required under this appendix if the [AGENCY] determines that the [bank]'s risk-based capital requirement under this appendix is not commensurate with the [bank]'s credit, market, operational, or other risks. In making a determination under this paragraph, the [AGENCY] will apply notice and response procedures in the same manner and to the same extent as the notice and response procedures in 12 CFR 3.12 (for national banks), 12 CFR 263.202 (for bank holding companies and state member banks), 12 CFR 325.6(c) (for state nonmember banks), and 12 CFR 567.3(d) (for savings associations).

(2) *Specific risk-weighted asset amounts.* (i) If the [AGENCY] determines that the risk-weighted asset amount calculated under this appendix by the [bank] for one or more exposures is not commensurate with the risks associated with those exposures, the [AGENCY] may require the [bank] to assign a different risk-weighted asset amount to the exposures, to assign different risk parameters to the exposures (if the exposures are wholesale or retail exposures), or to use different model assumptions for the exposures (if the exposures are equity exposures under the Internal Models Approach (IMA) or securitization exposures under the Internal Assessment Approach (IAA)), all as specified by the [AGENCY].

(ii) If the [AGENCY] determines that the risk-weighted asset amount for operational risk produced by the [bank] under this appendix is not commensurate with the operational risks of the [bank], the [AGENCY] may require the [bank] to assign a different risk-weighted asset amount for operational risk, to change elements of its operational risk analytical framework, including distributional and dependence assumptions, or to make other changes to the [bank]'s operational risk management processes, data and assessment systems, or quantification systems, all as specified by the [AGENCY].

(3) *Other supervisory authority.* Nothing in this appendix limits the authority of the [AGENCY] under any other provision of law or regulation to take supervisory or enforcement action, including action to address unsafe or unsound practices or conditions, deficient capital levels, or violations of law.

### Section 2. Definitions

*Advanced internal ratings-based (IRB) systems* means a [bank]'s internal risk rating and segmentation system; risk parameter quantification system; data management and maintenance system; and control, oversight, and validation system for credit risk of wholesale and retail exposures.

*Advanced systems* means a [bank]'s advanced IRB systems, operational risk management processes, operational risk data and assessment systems, operational risk quantification systems, and, to the extent the [bank] uses the following systems, the counterparty credit risk model, double default excessive correlation detection process, IMA for equity exposures, and IAA for securitization exposures to ABCP programs.

*Affiliate* with respect to a company means any company that controls, is controlled by, or is under common control with, the company. For purposes of this definition, a person or company controls a company if it:

(1) Owns, controls, or holds with power to vote 25 percent or more of a class of voting securities of the company; or

(2) Consolidates the company for financial reporting purposes.

*Applicable external rating* means, with respect to an exposure, the lowest external rating assigned to the exposure by any NRSRO.

*Asset-backed commercial paper (ABCP) program* means a program that primarily issues commercial paper that:

(1) Has an external rating; and

(2) Is backed by underlying exposures held in a bankruptcy-remote SPE.

*Asset-backed commercial paper (ABCP) program sponsor* means a [bank] that:

(1) Establishes an ABCP program;

(2) Approves the sellers permitted to participate in an ABCP program;

(3) Approves the exposures to be purchased by an ABCP program; or

(4) Administers the ABCP program by monitoring the underlying exposures, underwriting or otherwise arranging for the placement of debt or other obligations issued by the program,

compiling monthly reports, or ensuring compliance with the program documents and with the program's credit and investment policy.

*Backtesting* means the comparison of a [bank]'s internal estimates with actual outcomes during a sample period not used in model development. In this context, backtesting is one form of out-of-sample testing.

*Benchmarking* means the comparison of a [bank]'s internal estimates with relevant internal and external data sources or estimation techniques.

*Business environment and internal control factors* means the indicators of a [bank]'s operational risk profile that reflect a current and forward-looking assessment of the [bank]'s underlying business risk factors and internal control environment.

*Carrying value* means, with respect to an asset, the value of the asset on the balance sheet of the [bank], determined in accordance with GAAP.

*Clean-up call* means a contractual provision that permits a servicer to call securitization exposures before their stated maturity or call date. See also *eligible clean-up call.*

*Commodity derivative contract* means a commodity-linked swap, purchased commodity-linked option, forward commodity-linked contract, or any other instrument linked to commodities that gives rise to similar counterparty credit risks.

*Company* means a corporation, partnership, limited liability company, depository institution, business trust, special purpose entity, association, or similar organization.

*Credit derivative* means 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). See also *eligible credit derivative.*

*Credit-enhancing interest-only strip (CEIO)* means an on-balance sheet asset that, in form or in substance:

(1) Represents a contractual right to receive some or all of the interest and no more than a minimal amount of principal due on the underlying exposures of a securitization; and

(2) Exposes the holder to credit risk directly or indirectly associated with the underlying exposures that exceeds a pro rata share of the holder's claim on the underlying exposures, whether through subordination provisions or other credit-enhancement techniques.

*Credit-enhancing representations and warranties* means representations and warranties that are made or assumed in connection with a transfer of underlying exposures (including loan servicing assets) and that obligate a [bank] to protect another party from losses arising from the credit risk of the underlying exposures. Credit-enhancing representations and warranties include provisions to protect a party from losses resulting from the default or nonperformance of the obligors of the underlying exposures or from an insufficiency in the value of the collateral backing the underlying exposures. Credit-enhancing representations and warranties do not include:

(1) Early default clauses and similar warranties that permit the return of, or premium refund clauses that cover, first-lien residential mortgage exposures for a period not to exceed 120 days from the date of transfer, provided that the date of transfer is within one year of origination of the residential mortgage exposure;

(2) Premium refund clauses that cover underlying exposures guaranteed, in whole or in part, by the U.S. government, a U.S. government agency, or a U.S. government sponsored enterprise, provided that the clauses are for a period not to exceed 120 days from the date of transfer; or

(3) Warranties that permit the return of underlying exposures in instances of misrepresentation, fraud, or incomplete documentation.

*Credit risk mitigant* means collateral, a credit derivative, or a guarantee.

*Credit-risk-weighted assets* means 1.06 multiplied by the sum of:

(1) Total wholesale and retail risk-weighted assets;

(2) Risk-weighted assets for securitization exposures; and

(3) Risk-weighted assets for equity exposures.

*Current exposure* means, with respect to a netting set, the larger of zero or the market value of a transaction or portfolio of transactions within the netting set that would be lost upon default of the counterparty, assuming no recovery on the value of the transactions. Current exposure is also called replacement cost.

*Default—(1) Retail.* (i) A retail exposure of a [bank] is in default if:

(A) The exposure is 180 days past due, in the case of a residential mortgage exposure or revolving exposure;

(B) The exposure is 120 days past due, in the case of all other retail exposures; or

(C) The [bank] has taken a full or partial charge-off or write-down of principal on the exposure for credit-related reasons.

(ii) A retail exposure in default remains in default until the [bank] has reasonable assurance of repayment and performance for all contractual principal and interest payments on the exposure.

(2) *Wholesale.* (i) A [bank]'s obligor is in default if, for any wholesale exposure of the [bank] to the obligor, the [bank] has:

(A) Placed the exposure on non-accrual status consistent with the Call Report Instructions or the TFR and the TFR Instruction Manual;

(B) Taken a full or partial charge-off or write-down on the exposure due to the distressed financial condition of the obligor; or

(C) Incurred a credit-related loss of 5 percent or more of the exposure's initial carrying value in connection with the sale of the exposure or the transfer of the exposure to the held-for-sale, available-for-sale, trading account, or other reporting category.

(ii) An obligor in default remains in default until the [bank] has reasonable assurance of repayment and performance for all contractual principal and interest payments on all exposures of the [bank] to the obligor (other than exposures that have been fully written-down or charged-off).

*Dependence* means a measure of the association among operational losses across and within business lines and operational loss event types.

*Depository institution* is defined in section 3 of the Federal Deposit Insurance Act (12 U.S.C. 1813).

*Derivative contract* means a financial contract whose value is derived from the values of one or more underlying assets, reference rates, or indices of asset values or reference rates. Derivative contracts include interest rate derivative contracts, exchange rate derivative contracts, equity derivative contracts, commodity derivative contracts, credit derivatives, and any other instrument that poses similar counterparty credit risks. Derivative contracts also include unsettled securities, commodities, and foreign exchange transactions with a contractual settlement or delivery lag that is longer than the lesser of the market standard for the particular instrument or 5 business days.

*Early amortization provision* means a provision in the documentation governing a securitization that, when triggered, causes investors in the securitization exposures to be repaid before the original stated maturity of the securitization exposures, unless the provision is triggered solely by events not directly related to the performance of the underlying exposures or the originating [bank] (such as material

changes in tax laws or regulations). An early amortization provision is a *controlled early amortization provision* if it meets all the following conditions:

(1) The originating [bank] has appropriate policies and procedures to ensure that it has sufficient capital and liquidity available in the event of an early amortization;

(2) Throughout the duration of the securitization (including the early amortization period), there is the same pro rata sharing of interest, principal, expenses, losses, fees, recoveries, and other cash flows from the underlying exposures based on the originating [bank]'s and the investors' relative shares of the underlying exposures outstanding measured on a consistent monthly basis;

(3) The amortization period is sufficient for at least 90 percent of the total underlying exposures outstanding at the beginning of the early amortization period to be repaid or recognized as in default; and

(4) The schedule for repayment of investor principal is not more rapid than would be allowed by straight-line amortization over an 18-month period.

*Economic downturn conditions* means, with respect to an exposure, those conditions in which the aggregate default rates for the exposure's wholesale or retail exposure subcategory (or subdivision of such subcategory selected by the [bank]) in the exposure's national jurisdiction (or subdivision of such jurisdiction selected by the [bank]) are significantly higher than average.

*Effective maturity (M)* of a wholesale exposure means:

(1) For wholesale exposures other than repo-style transactions, eligible margin loans, and OTC derivative contracts subject to a qualifying master netting agreement:

(i) The weighted-average remaining maturity (measured in years, whole or fractional) of the expected contractual cash flows from the exposure, using the undiscounted amounts of the cash flows as weights; or

(ii) The nominal remaining maturity (measured in years, whole or fractional) of the exposure.

(2) For repo-style transactions, eligible margin loans, and OTC derivative contracts subject to a qualifying master netting agreement, the weighted-average remaining maturity (measured in years, whole or fractional) of the individual transactions subject to the qualifying master netting agreement, with the weight of each individual transaction set equal to the notional amount of the transaction.

*Effective notional amount* means, for an eligible guarantee or eligible credit derivative, the lesser of the contractual notional amount of the credit risk mitigant and the EAD of the hedged exposure, multiplied by the percentage coverage of the credit risk mitigant. For example, the effective notional amount of an eligible guarantee that covers, on a pro rata basis, 40 percent of any losses on a $100 bond would be $40.

*Eligible clean-up call* means a clean-up call that:

(1) Is exercisable solely at the discretion of the servicer;

(2) Is not structured to avoid allocating losses to securitization exposures held by investors or otherwise structured to provide credit enhancement to the securitization; and

(3) (i) For a traditional securitization, is only exercisable when 10 percent or less of the principal amount of the underlying exposures or securitization exposures (determined as of the inception of the securitization) is outstanding; or

(ii) For a synthetic securitization, is only exercisable when 10 percent or less of the principal amount of the reference portfolio of underlying exposures (determined as of the inception of the securitization) is outstanding.

*Eligible credit derivative* means a credit derivative in the form of a credit default swap, nth-to-default swap, or total return swap provided that:

(1) The contract meets the requirements of an eligible guarantee and has been confirmed by the protection purchaser and the protection provider;

(2) Any assignment of the contract has been confirmed by all relevant parties;

(3) If the credit derivative is a credit default swap or nth-to-default swap, the contract includes the following credit events:

(i) Failure to pay any amount due under the terms of the reference exposure (with a grace period that is closely in line with the grace period of the reference exposure); and

(ii) Bankruptcy, insolvency, or inability of the obligor on the reference exposure to pay its debts, or its failure or admission in writing of its inability generally to pay its debts as they become due, and similar events;

(4) The terms and conditions dictating the manner in which the contract is to be settled are incorporated into the contract;

(5) If the contract allows for cash settlement, the contract incorporates a robust valuation process to estimate loss reliably and specifies a reasonable period for obtaining post-credit event valuations of the reference exposure;

(6) If the contract requires the protection purchaser to transfer an exposure to the protection provider at settlement, the terms of the exposure provide that any required consent to transfer may not be unreasonably withheld;

(7) If the credit derivative is a credit default swap or nth-to-default swap, the contract clearly identifies the parties responsible for determining whether a credit event has occurred, specifies that this determination is not the sole responsibility of the protection provider, and gives the protection purchaser the right to notify the protection provider of the occurrence of a credit event; and

(8) If the credit derivative is a total return swap and the [bank] records net payments received on the swap as net income, the [bank] records offsetting deterioration in the value of the hedged exposure (either through reductions in fair value or by an addition to reserves).

*Eligible credit reserves* means all general allowances that have been established through a charge against earnings to absorb credit losses associated with on-or off-balance sheet wholesale and retail exposures, including the allowance for loan and lease losses (ALLL) associated with such exposures but excluding allocated transfer risk reserves established pursuant to 12 U.S.C. 3904 and other specific reserves created against recognized losses.

*Eligible double default guarantor*, with respect to a guarantee or credit derivative obtained by a [bank], means:

(1) *U.S.-based entities.* A depository institution, a bank holding company (as defined in section 2 of the Bank Holding Company Act (12 U.S.C. 1841)), a savings and loan holding company (as defined in 12 U.S.C. 1467a) provided all or substantially all of the holding company's activities are permissible for a financial holding company under 12 U.S.C. 1843(k), a securities broker or dealer registered (under the Securities Exchange Act of 1934) with the SEC, an insurance company in the business of providing credit protection (such as a monoline bond insurer or re-insurer) that is subject to supervision by a State insurance regulator, if:

(i) At the time the guarantor issued the guarantee or credit derivative, the [bank] assigned a PD to the guarantor's rating grade that was equal to or lower than the PD associated with a long-term external rating in the third-highest investment grade rating category; and

(ii) The [bank] currently assigns a PD to the guarantor's rating grade that is equal to or lower than the PD associated with a long-term external rating in the lowest investment grade rating category; or

(2) *Non-U.S.-based entities.* A foreign bank (as defined in section 211.2 of the Federal Reserve Board's Regulation K (12 CFR 211.2)), a non-U.S. securities firm, or a non-U.S. based insurance company in the business of providing credit protection, if:

(i) The [bank] demonstrates that the guarantor is subject to consolidated supervision and regulation comparable to that imposed on U.S. depository institutions, securities broker-dealers, or insurance companies (as the case may be) or has issued and outstanding an unsecured long-term debt security without credit enhancement that has a long-term applicable external rating in one of the three highest investment grade rating categories;

(ii) At the time the guarantor issued the guarantee or credit derivative, the [bank] assigned a PD to the guarantor's rating grade that was equal to or lower than the PD associated with a long-term external rating in the third-highest investment grade rating category; and

(iii) The [bank] currently assigns a PD to the guarantor's rating grade that is equal to or lower than the PD associated with a long-term external rating in the lowest investment grade rating category.

*Eligible guarantee* means a guarantee that:

(1) Is written and unconditional;

(2) Covers all or a pro rata portion of all contractual payments of the obligor on the reference exposure;

(3) Gives the beneficiary a direct claim against the protection provider;

(4) Is non-cancelable by the protection provider for reasons other than the breach of the contract by the beneficiary;

(5) Is legally enforceable against the protection provider in a jurisdiction where the protection provider has sufficient assets against which a judgment may be attached and enforced; and

(6) Requires the protection provider to make payment to the beneficiary on the occurrence of a default (as defined in the guarantee) of the obligor on the reference exposure without first requiring the beneficiary to demand payment from the obligor.

*Eligible margin loan* means an extension of credit where:

(1) The extension of credit is collateralized exclusively by debt or equity securities that are liquid and readily marketable;

(2) The collateral is marked to market daily, and the transaction is subject to daily margin maintenance requirements;

(3) The extension of credit is conducted under an agreement that provides the [bank] the right to accelerate and terminate the extension of credit and to liquidate or set off collateral promptly upon an event of default (including upon an event of bankruptcy, insolvency, or similar proceeding) of the counterparty, provided that, in any such case, any exercise of rights under the agreement will not be stayed or avoided under applicable law in the relevant jurisdictions;[2] and

(4) The [bank] has conducted and documented sufficient legal review to conclude with a well-founded basis that the agreement meets the requirements of paragraph (3) of this definition and is legal, valid, binding, and enforceable under applicable law in the relevant jurisdictions.

*Eligible operational risk offsets* means amounts, not to exceed expected operational loss, that:

(1) Are generated by internal business practices to absorb highly predictable and reasonably stable operational losses, including reserves calculated consistent with GAAP; and

(2) Are available to cover expected operational losses with a high degree of certainty over a one-year horizon.

*Eligible purchased wholesale receivable* means a purchased wholesale receivable that:

(1) The [bank] purchased from an unaffiliated seller and did not directly or indirectly originate;

(2) Was generated on an arm's-length basis between the seller and the obligor;[3]

(3) Provides the [bank] with a claim on all proceeds from the receivable or a pro-rata interest in the proceeds from the receivable; and

(4) Has an M of less than one year.

*Eligible securitization guarantor means:*

(1) A sovereign entity, the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Commission, a Federal Home Loan Bank, Federal Agricultural Mortgage Corporation (Farmer Mac), a multi-lateral development bank, a depository institution, a bank holding company (as defined in section 2 of the Bank Holding Company Act (12 U.S.C. 1841)), a savings and loan holding company (as defined in 12 U.S.C. 1467a) provided all or substantially all of the holding company's activities are permissible for a financial holding company under 12 U.S.C. 1843(k), a foreign bank (as defined in section 211.2 of the Federal Reserve Board's Regulation K (12 CFR 211.2)), or a securities firm;

(2) Any other entity (other than an SPE) that has issued and outstanding an unsecured long-term debt security without credit enhancement that has a long-term applicable external rating in one of the three highest investment grade rating categories; or

(3) Any other entity (other than an SPE) that has a PD assigned by the [bank] that is lower than or equal to the PD associated with a long-term external rating in the third highest investment grade rating category.

*Eligible servicer cash advance facility* means a servicer cash advance facility in which:

(1) The servicer is entitled to full reimbursement of advances, except that a servicer may be obligated to make non-reimbursable advances for a particular underlying exposure if any such advance is contractually limited to an insignificant amount of the outstanding principal balance of that exposure;

(2) The servicer's right to reimbursement is senior in right of payment to all other claims on the cash flows from the underlying exposures of the securitization; and

(3) The servicer has no legal obligation to, and does not, make advances to the securitization if the servicer concludes the advances are unlikely to be repaid.

*Equity derivative contract* means an equity-linked swap, purchased equity-linked option, forward equity-linked contract, or any other instrument linked to equities that gives rise to similar counterparty credit risks.

*Equity exposure* means:

(1) A security or instrument (whether voting or non-voting) that represents a direct or indirect ownership interest in, and a residual claim on, the assets and income of a company, unless:

(i) The issuing company is consolidated with the [bank] under GAAP;

(ii) The [bank] is required to deduct the ownership interest from tier 1 or tier 2 capital under this appendix;

(iii) The ownership interest is redeemable;

(iv) The ownership interest incorporates a payment or other similar obligation on the part of the issuing

[2] This requirement is met where all transactions under the agreement are (i) executed under U.S. law and (ii) constitute ''securities contracts'' or ''repurchase agreements'' under section 555 or 559, respectively, of the Bankruptcy Code (11 U.S.C. 555), qualified financial contracts under section 11(e)(8) of the Federal Deposit Insurance Act (12 U.S.C. 1821(e)(8)), or netting contracts between or among financial institutions under sections 401–407 of the Federal Deposit Insurance Corporation Improvement Act of 1991 (12 U.S.C. 4401–4407) or the Federal Reserve Board's Regulation EE (12 CFR part 231).

[3] Intercompany accounts receivable and receivables subject to contra-accounts between firms that buy and sell to each other do not satisfy this criterion.

company (such as an obligation to pay periodic interest); or

(v) The ownership interest is a securitization exposure;

(2) A security or instrument that is mandatorily convertible into a security or instrument described in paragraph (1) of this definition;

(3) An option or warrant that is exercisable for a security or instrument described in paragraph (1) of this definition; or

(4) Any other security or instrument (other than a securitization exposure) to the extent the return on the security or instrument is based on the performance of a security or instrument described in paragraph (1) of this definition.

*Excess spread* for a period means:

(1) Gross finance charge collections and other income received by a securitization SPE (including market interchange fees) over a period minus interest paid to the holders of the securitization exposures, servicing fees, charge-offs, and other senior trust or similar expenses of the SPE over the period; divided by

(2) The principal balance of the underlying exposures at the end of the period.

*Exchange rate derivative contract* means a cross-currency interest rate swap, forward foreign-exchange contract, currency option purchased, or any other instrument linked to exchange rates that gives rise to similar counterparty credit risks.

*Excluded mortgage exposure* means:

(1) Any one-to-four family residential pre-sold construction loan or multifamily residential loan that would receive a 50 percent risk weight under section 618(a)(1) or (b)(1) of the Resolution Trust Corporation Refinancing, Restructuring, and Improvement Act of 1991 (RTCRRI Act) and under 12 CFR part 3, Appendix A, section 3(a)(3)(iii) (for national banks), 12 CFR part 208, Appendix A, section III.C.3. (for state member banks), 12 CFR part 225, Appendix A, section III.C.3. (for bank holding companies), 12 CFR part 325, Appendix A, section II.C.a. (for state nonmember banks), or 12 CFR 567.6(a)(1)(iii) and (iv) (for savings associations); and

(2) Any one-to-four family residential pre-sold construction loan for a residence for which the purchase contract is cancelled that would receive a 100 percent risk weight under section 618(a)(2) of the RTCRRI Act and under 12 CFR part 3, Appendix A, section 3(a)(3)(iii) (for national banks), 12 CFR part 208, Appendix A, section III.C.3. (for state member banks), 12 CFR part 225, Appendix A, section III.C.3. (for bank holding companies), 12 CFR part 325, Appendix A, section II.C.a. (for state nonmember banks), or 12 CFR 567.6(a)(1)(iii) and (iv) (for savings associations).

*Expected credit loss (ECL)* means, for a wholesale exposure to a non-defaulted obligor or segment of non-defaulted retail exposures, the product of PD times ELGD times EAD for the exposure or segment. ECL for a wholesale exposure to a defaulted obligor or segment of defaulted retail exposures is equal to the [bank]'s impairment estimate for allowance purposes for the exposure or segment. Total ECL is the sum of expected credit losses for all wholesale and retail exposures other than exposures for which the [bank] has applied the double default treatment in section 34.

*Expected exposure (EE)* means the expected value of the probability distribution of credit risk exposures to a counterparty at any specified future date before the maturity date of the longest term transaction in the netting set.

*Expected loss given default (ELGD)* means:

(1) For a wholesale exposure, the [bank]'s empirically based best estimate of the default-weighted average economic loss, per dollar of EAD, the [bank] expects to incur in the event that the obligor of the exposure (or a typical obligor in the loss severity grade assigned by the [bank] to the exposure) defaults within a one-year horizon over a mix of economic conditions, including economic downturn conditions.

(2) For a segment of retail exposures, the [bank]'s empirically based best estimate of the default-weighted average economic loss, per dollar of EAD, the [bank] expects to incur on exposures in the segment that default within a one-year horizon over a mix of economic conditions (including economic downturn conditions).

(3) The economic loss on an exposure in the event of default is all material credit-related losses on the exposure (including accrued but unpaid interest or fees, losses on the sale of collateral, direct workout costs, and an appropriate allocation of indirect workout costs). Where positive or negative cash flows on a wholesale exposure to a defaulted obligor or a defaulted retail exposure (including proceeds from the sale of collateral, workout costs, and draw-downs of unused credit lines) occur after the date of default, the economic loss must reflect the net present value of cash flows as of the default date using a discount rate appropriate to the risk of the defaulted exposure.

*Expected operational loss (EOL)* means the expected value of the distribution of potential aggregate operational losses, as generated by the [bank]'s operational risk quantification system using a one-year horizon.

*Expected positive exposure (EPE)* means the weighted average over time of expected (non-negative) exposures to a counterparty where the weights are the proportion of the time interval that an individual expected exposure represents. When calculating the minimum capital requirement, the average is taken over a one-year horizon.

*Exposure at default (EAD).*

(1) For the on-balance sheet component of a wholesale or retail exposure (other than an OTC derivative contract, repo-style transaction, or eligible margin loan), EAD means:

(i) If the exposure is held-to-maturity or for trading, the [bank]'s carrying value (including net accrued but unpaid interest and fees) for the exposure less any allocated transfer risk reserve for the exposure; or

(ii) If the exposure is available-for-sale, the [bank]'s carrying value (including net accrued but unpaid interest and fees) for the exposure less any allocated transfer risk reserve for the exposure, less any unrealized gains on the exposure, and plus any unrealized losses on the exposure.

(2) For the off-balance sheet component of a wholesale or retail exposure (other than an OTC derivative contract, repo-style transaction, or eligible margin loan) in the form of a loan commitment or line of credit, EAD means the [bank]'s best estimate of net additions to the outstanding amount owed the [bank], including estimated future additional draws of principal and accrued but unpaid interest and fees, that are likely to occur over the remaining life of the exposure assuming the exposure were to go into default. This estimate of net additions must reflect what would be expected during economic downturn conditions.

(3) For the off-balance sheet component of a wholesale or retail exposure (other than an OTC derivative contract, repo-style transaction, or eligible margin loan) in the form of anything other than a loan commitment or line of credit, EAD means the notional amount of the exposure.

(4) EAD for a segment of retail exposures is the sum of the EADs for each individual exposure in the segment.

(5) EAD for OTC derivative contracts, repo-style transactions, and eligible margin loans is calculated as described in section 32.

(6) For wholesale or retail exposures in which only the drawn balance has been securitized, the [bank] must reflect

its share of the exposures' undrawn balances in EAD. Undrawn balances of exposures for which the drawn balances have been securitized must be allocated between the seller's and investors' interests on a pro rata basis, based on the proportions of the seller's and investors' shares of the securitized drawn balances.

*Exposure category* means any of the wholesale, retail, securitization, or equity exposure categories.

*External operational loss event data* means, with respect to a [bank], gross operational loss amounts, dates, recoveries, and relevant causal information for operational loss events occurring at organizations other than the [bank].

*External rating* means a credit rating that is assigned by an NRSRO to an exposure, provided:

(1) The credit rating fully reflects the entire amount of credit risk with regard to all payments owed to the holder of the exposure. If a holder is owed principal and interest on an exposure, the credit rating must fully reflect the credit risk associated with timely repayment of principal and interest. If a holder is owed only principal on an exposure, the credit rating must fully reflect only the credit risk associated with timely repayment of principal; and

(2) The credit rating is published in an accessible form and is or will be included in the transition matrices made publicly available by the NRSRO that summarize the historical performance of positions rated by the NRSRO.

*Financial collateral means collateral:*

(1) In the form of:

(i) Cash on deposit with the [bank] (including cash held for the [bank] by a third-party custodian or trustee);

(ii) Gold bullion;

(iii) Long-term debt securities that have an applicable external rating of one category below investment grade or higher;

(iv) Short-term debt instruments that have an applicable external rating of at least investment grade;

(v) Equity securities that are publicly traded;

(vi) Convertible bonds that are publicly traded; or

(vii) Money market mutual fund shares and other mutual fund shares if a price for the shares is publicly quoted daily; and

(2) In which the [bank] has a perfected, first priority security interest or the legal equivalent thereof.

*GAAP* means U.S. generally accepted accounting principles.

*Gain-on-sale* means an increase in the equity capital (as reported on Schedule RC of the Call Report, schedule HC of the FR Y–9C Report, or Schedule SC of the Thrift Financial Report) of a [bank] that results from a securitization (other than an increase in equity capital that results from the [bank]'s receipt of cash in connection with the securitization).

*Guarantee* means a financial guarantee, letter of credit, insurance, or other similar financial instrument (other than a credit derivative) that allows one party (beneficiary) to transfer the credit risk of one or more specific exposures (reference exposure) to another party (protection provider). See also *eligible guarantee.*

*High volatility commercial real estate (HVCRE) exposure* means a credit facility that finances or has financed the acquisition, development, or construction (ADC) of real property, unless the facility finances:

(1) One-to four-family residential properties; or

(2) Commercial real estate projects in which:

(i) The loan-to-value ratio is less than or equal to the applicable maximum supervisory loan-to-value ratio in the [AGENCY]'s real estate lending standards at 12 CFR part 34, Subpart D (OCC); 12 CFR part 208, Appendix C (Board); 12 CFR part 365, Subpart D (FDIC); and 12 CFR 560.100–560.101 (OTS);

(ii) The borrower has contributed capital to the project in the form of cash or unencumbered readily marketable assets (or has paid development expenses out-of-pocket) of at least 15 percent of the real estate's appraised ''as completed'' value; and

(iii) The borrower contributed the amount of capital required by paragraph (2)(ii) of this definition before the [bank] advances funds under the credit facility, and the capital contributed by the borrower, or internally generated by the project, is contractually required to remain in the project throughout the life [4] of the project.

*Inferred rating.* A securitization exposure has an *inferred rating* equal to the external rating referenced in paragraph (2)(i) of this definition if:

(1) The securitization exposure does not have an external rating; and

(2) Another securitization exposure issued by the same issuer and secured by the same underlying exposures:

(i) Has an external rating;

(ii) Is subordinated in all respects to the unrated securitization exposure;

(iii) Does not benefit from any credit enhancement that is not available to the unrated securitization exposure; and

(iv) Has an effective remaining maturity that is equal to or longer than that of the unrated securitization exposure.

*Interest rate derivative contract* means a single-currency interest rate swap, basis swap, forward rate agreement, purchased interest rate option, when-issued securities, or any other instrument linked to interest rates that gives rise to similar counterparty credit risks.

*Internal operational loss event data* means, with respect to a [bank], gross operational loss amounts, dates, recoveries, and relevant causal information for operational loss events occurring at the [bank].

*Investing [bank]* means, with respect to a securitization, a [bank] that assumes the credit risk of a securitization exposure (other than an originating [bank] of the securitization). In the typical synthetic securitization, the investing [bank] sells credit protection on a pool of underlying exposures to the originating [bank].

*Investment fund* means a company:

(1) All or substantially all of the assets of which are financial assets; and

(2) That has no material liabilities.

*Investors' interest EAD* means, with respect to a securitization, the EAD of the underlying exposures multiplied by the ratio of:

(1) The total amount of securitization exposures issued by the SPE to investors; divided by

(2) The outstanding principal amount of underlying exposures.

*Loss given default (LGD)* means:

(1) For a wholesale exposure:

(i) If the [bank] has received prior written approval from [AGENCY] to use internal estimates of LGD for the exposure's wholesale exposure subcategory, the greater of:

(A) The [bank]'s ELGD for the exposure (or for the typical exposure in the loss severity grade assigned by the [bank] to the exposure); or

(B) The [bank]'s empirically based best estimate of the economic loss, per dollar of EAD, the [bank] would expect to incur if the obligor (or a typical obligor in the loss severity grade assigned by the [bank] to the exposure) were to default within a one-year horizon during economic downturn conditions.

(ii) If the [bank] has not received such prior approval,

(A) For an exposure that is not a repo-style transaction, eligible margin loan, or OTC derivative contract, the sum of:

(*1*) 0.08; and

[4] The life of a project concludes only when the credit facility is converted to permanent financing or is sold or paid in full. Permanent financing may be provided by the [bank] that provided the ADC facility as long as the permanent financing is subject to the [bank]'s underwriting criteria for long-term mortgage loans.

(*2*) 0.92 multiplied by the [bank]'s ELGD for the exposure (or for the typical exposure in the loss severity grade assigned by the [bank] to the exposure); or

(B) For an exposure that is a repo-style transaction, eligible margin loan, or OTC derivative contract, the [bank]'s ELGD for the exposure (or for the typical exposure in the loss severity grade assigned by the [bank] to the exposure).

(2) For a segment of retail exposures:

(i) If the [bank] has received prior written approval from [AGENCY] to use internal estimates of LGD for the segment's retail exposure subcategory, the greater of:

(A) The [bank]'s ELGD for the segment of exposures; or

(B) The [bank]'s empirically based best estimate of the economic loss, per dollar of EAD, the [bank] would expect to incur on exposures in the segment that default within a one-year horizon during economic downturn conditions.

(ii) If the [bank] has not received such prior approval,

(A) For a segment of exposures that are not eligible margin loans, the sum of:

(*1*) 0.08; and

(*2*) 0.92 multiplied by the [bank]'s ELGD for the segment of exposures; or

(B) For a segment of exposures that are eligible margin loans, the [bank]'s ELGD for the segment of exposures.

(3) In approving a [bank]'s use of internal estimates of LGD for a wholesale or retail exposure subcategory, [AGENCY] will consider whether:

(A) The [bank]'s internal estimates of LGD are reliable and sufficiently reflective of economic downturn conditions; and

(B) The [bank] has rigorous and well-documented policies and procedures for identifying economic downturn conditions for the exposure subcategory, identifying material adverse correlations between the relevant drivers of default rates and loss rates given default, and incorporating identified correlations into internal LGD estimates.

(4) The economic loss on an exposure in the event of default is all material credit-related losses on the exposure (including accrued but unpaid interest or fees, losses on the sale of collateral, direct workout costs, and an appropriate allocation of indirect workout costs). Where positive or negative cash flows on a wholesale exposure to a defaulted obligor or a defaulted retail exposure (including proceeds from the sale of collateral, workout costs, and draw-downs of unused credit lines) occur after the date of default, the economic loss must reflect the net present value of cash flows as of the default date using a discount rate appropriate to the risk of the defaulted exposure.

*Main index* means the Standard & Poor's 500 Index, the FTSE All-World Index, and any other index for which the [bank] can demonstrate to the satisfaction of [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.

*Multi-lateral development bank* means any multi-lateral lending institution or regional development bank in which the U.S. government is a shareholder or contributing member.

*Nationally recognized statistical rating organization (NRSRO)* means an entity recognized by the Division of Market Regulation (or any successor division) of the SEC as a nationally recognized statistical rating organization for various purposes, including the SEC's net capital requirements for securities broker-dealers.

*Netting set* means a group of transactions with a single counterparty that are subject to a qualifying master netting agreement or qualifying cross-product master netting agreement. Each transaction that is not subject to such a master netting agreement is its own netting set.

*Nth-to-default credit derivative* means a credit derivative that provides credit protection only for the nth-defaulting reference exposure in a group of reference exposures.

*Operational loss* means a loss (excluding insurance or tax effects) resulting from an operational loss event. Operational loss includes all expenses associated with an operational loss event except for opportunity costs, forgone revenue, and costs related to risk management and control enhancements implemented to prevent future operational losses.

*Operational loss event* means an event that results in loss and is associated with internal fraud; external fraud; [5] employment practices and workplace safety; clients, products, and business practices; damage to physical assets; business disruption and system failures; or execution, delivery, and process management.

*Operational risk* means the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events (including legal risk but excluding strategic and reputational risk).

*Operational risk exposure* means the 99.9th percentile of the distribution of potential aggregate operational losses, as generated by the [bank]'s operational risk quantification system over a one-year horizon (and not incorporating eligible operational risk offsets or qualifying operational risk mitigants).

*Originating [bank]*, with respect to a securitization, means a [bank] that:

(1) Directly or indirectly originated or securitized the underlying exposures included in the securitization; or

(2) Serves as an ABCP program sponsor to the securitization.

*Other retail exposure* means an exposure (other than a securitization exposure, an equity exposure, a residential mortgage exposure, an excluded mortgage exposure, a qualifying revolving exposure, or the residual value portion of a lease exposure) that is managed as part of a segment of exposures with homogeneous risk characteristics, not on an individual-exposure basis, and is either:

(1) An exposure to an individual for non-business purposes; or

(2) An exposure to an individual or company for business purposes if the [bank]'s consolidated business credit exposure to the individual or company is $1 million or less.

*Over-the-counter (OTC) derivative contract* means a derivative contract that is not traded on an exchange that requires the daily receipt and payment of cash-variation margin.

*Parallel run period* means a period of at least four consecutive quarters after adoption of the [bank]'s implementation plan and before the [bank]'s first floor period during which the [bank] complies with all the qualification requirements in section 22 to the satisfaction of the [AGENCY].

*Probability of default* (PD) means:

(1) For a wholesale exposure to a non-defaulted obligor, the [bank]'s empirically based best estimate of the long-run average of one-year default rates for the rating grade assigned by the [bank] to the obligor, capturing the average default experience for obligors in a rating grade over a mix of economic conditions (including economic downturn conditions) sufficient to provide a reasonable estimate of the average one-year default rate over the economic cycle for the rating grade.

(2) For a segment of non-defaulted retail exposures for which seasoning effects are not material, or for a segment of non-defaulted retail exposures in a retail exposure subcategory for which seasoning effects are not material, the

[5] Retail credit card losses arising from non-contractual, third-party initiated fraud (for example, identity theft) are external fraud operational losses. All other third-party initiated credit losses are to be treated as credit risk losses.

[bank]'s empirically based best estimate of the long-run average of one-year default rates for the exposures in the segment, capturing the average default experience for exposures in the segment over a mix of economic conditions (including economic downturn conditions) sufficient to provide a reasonable estimate of the average one-year default rate over the economic cycle for the segment.

(3) For any other segment of non-defaulted retail exposures, the [bank]'s empirically based best estimate of the annualized cumulative default rate over the expected remaining life of exposures in the segment, capturing the average default experience for exposures in the segment over a mix of economic conditions (including economic downturn conditions) sufficient to provide a reasonable estimate of the average performance over the economic cycle for the segment.

(4) For a wholesale exposure to a defaulted obligor or segment of defaulted retail exposures, 100 percent.

*Protection amount (P)* means, with respect to an exposure hedged by an eligible guarantee or eligible credit derivative, the effective notional amount of the guarantee or credit derivative as reduced to reflect any currency mismatch, maturity mismatch, or lack of restructuring coverage (as provided in section 33).

*Publicly traded* means traded on:

(1) Any exchange registered with the SEC as a national securities exchange under section 6 of the Securities Exchange Act of 1934 (15 U.S.C. 78f); or

(2) Any non-U.S.-based securities exchange that:

(i) Is registered with, or approved by, a national securities regulatory authority; and

(ii) Provides a liquid, two-way market for the instrument in question, meaning that there are enough independent bona fide offers to buy and sell so that a sales price reasonably related to the last sales price or current bona fide competitive bid and offer quotations can be determined promptly and a trade can be settled at such a price within five business days.

*Qualifying central counterparty* means a counterparty (for example, a clearing house) that:

(1) Facilitates trades between counterparties in one or more financial markets by either guaranteeing trades or novating contracts;

(2) Requires all participants in its arrangements to be fully collateralized on a daily basis; and

(3) The [bank] demonstrates to the satisfaction of [AGENCY] is in sound financial condition and is subject to effective oversight by a national supervisory authority.

*Qualifying cross-product master netting agreement* means a qualifying master netting agreement that provides for termination and close-out netting across multiple types of financial transactions or qualifying master netting agreements in the event of a counterparty's default, provided that:

(1) The underlying financial transactions are OTC derivative contracts, eligible margin loans, or repo-style transactions; and

(2) The [bank] obtains a written legal opinion verifying the validity and enforceability of the agreement under applicable law of the relevant jurisdictions if the counterparty fails to perform upon an event of default, including upon an event of bankruptcy, insolvency, or similar proceeding.

*Qualifying master netting agreement* means any written, legally enforceable bilateral agreement, provided that:

(1) The agreement creates a single legal obligation for all individual transactions covered by the agreement upon an event of default, including bankruptcy, insolvency, or similar proceeding, of the counterparty;

(2) The agreement provides the [bank] the right to accelerate, terminate, and close-out on a net basis all transactions under the agreement and to liquidate or set off collateral promptly upon an event of default, including upon an event of bankruptcy, insolvency, or similar proceeding, of the counterparty, provided that, in any such case, any exercise of rights under the agreement will not be stayed or avoided under applicable law in the relevant jurisdictions;

(3) The [bank] has conducted and documented sufficient legal review to conclude with a well-founded basis that:

(i) The agreement meets the requirements of paragraph (2) of this definition; and

(ii) In the event of a legal challenge (including one resulting from default or from bankruptcy, insolvency, or similar proceeding) the relevant court and administrative authorities would find the agreement to be legal, valid, binding, and enforceable under the law of the relevant jurisdictions;

(4) The [bank] establishes and maintains procedures to monitor possible changes in relevant law and to ensure that the agreement continues to satisfy the requirements of this definition; and

(5) The agreement does not contain a walkaway clause (that is, a provision that permits a non-defaulting counterparty to make a lower payment than it would make otherwise under the agreement, or no payment at all, to a defaulter or the estate of a defaulter, even if the defaulter or the estate of the defaulter is a net creditor under the agreement).

*Qualifying revolving exposure (QRE)* means an exposure (other than a securitization exposure or equity exposure) to an individual that is managed as part of a segment of exposures with homogeneous risk characteristics, not on an individual-exposure basis, and:

(1) Is revolving (that is, the amount outstanding fluctuates, determined largely by the borrower's decision to borrow and repay, up to a pre-established maximum amount);

(2) Is unsecured and unconditionally cancelable by the [bank] to the fullest extent permitted by Federal law; and

(3) Has a maximum exposure amount (drawn plus undrawn) of up to $100,000.

*Repo-style transaction* means a repurchase or reverse repurchase transaction, or a securities borrowing or securities lending transaction, including a transaction in which the [bank] acts as agent for a customer and indemnifies the customer against loss, provided that:

(1) The transaction is based solely on liquid and readily marketable securities or cash;

(2) The transaction is marked-to-market daily and subject to daily margin maintenance requirements;

(3) The transaction is executed under an agreement that provides the [bank] the right to accelerate, terminate, and close-out the transaction on a net basis and to liquidate or set off collateral promptly upon an event of default (including upon an event of bankruptcy, insolvency, or similar proceeding) of the counterparty, provided that, in any such case, any exercise of rights under the agreement will not be stayed or avoided under applicable law in the relevant jurisdictions;[6] and

(4) The [bank] has conducted and documented sufficient legal review to conclude with a well-founded basis that the agreement meets the requirements of paragraph (3) of this definition and is legal, valid, binding, and enforceable

[6] This requirement is met where all transactions under the agreement are (i) executed under U.S. law and (ii) constitute ''securities contracts'' or ''repurchase agreements'' under section 555 or 559, respectively, of the Bankruptcy Code (11 U.S.C. 555 or 559), qualified financial contracts under section 11(e)(8) of the Federal Deposit Insurance Act (12 U.S.C. 1821(e)(8)), or netting contracts between or among financial institutions under sections 401–407 of the Federal Deposit Insurance Corporation Improvement Act of 1991 (12 U.S.C. 4401–4407) or the Federal Reserve Board's Regulation EE (12 CFR part 231).

under applicable law in the relevant jurisdictions.

*Residential mortgage exposure* means an exposure (other than a securitization exposure, equity exposure, or excluded mortgage exposure) that is managed as part of a segment of exposures with homogeneous risk characteristics, not on an individual-exposure basis, and is:

(1) An exposure that is primarily secured by a first or subsequent lien on one-to four-family residential property; or

(2) An exposure with an original and outstanding amount of $1 million or less that is primarily secured by a first or subsequent lien on residential property that is not one-to four-family.

*Retail exposure* means a residential mortgage exposure, a qualifying revolving exposure, or an other retail exposure.

*Retail exposure subcategory* means the residential mortgage exposure, qualifying revolving exposure, or other retail exposure subcategory.

*Risk parameter* means a variable used in determining risk-based capital requirements for wholesale and retail exposures, specifically probability of default (PD), expected loss given default (ELGD), loss given default (LGD), exposure at default (EAD), or effective maturity (M).

*Scenario analysis* means a systematic process of obtaining expert opinions from business managers and risk management experts to derive reasoned assessments of the likelihood and loss impact of plausible high-severity operational losses.

*SEC* means the U.S. Securities and Exchange Commission.

*Securitization* means a traditional securitization or a synthetic securitization.

*Securitization exposure* means:

(1) An on-balance sheet or off-balance sheet credit exposure that arises from a traditional or synthetic securitization (including credit-enhancing representations and warranties); and

(2) Mortgage-backed pass-through securities guaranteed by Fannie Mae or Freddie Mac.

*Senior securitization exposure* means a securitization exposure that has a first priority claim on the cash flows from the underlying exposures, disregarding the claims of a service provider (such as a swap counterparty or trustee, custodian, or paying agent for the securitization) to fees from the securitization. A liquidity facility that supports an ABCP program is a senior securitization exposure if the liquidity facility provider's right to reimbursement of the drawn amounts is senior to all claims on the cash flows from the underlying exposures except claims of a service provider to fees.

*Servicer cash advance facility* means a facility under which the servicer of the underlying exposures of a securitization may advance cash to ensure an uninterrupted flow of payments to investors in the securitization, including advances made to cover foreclosure costs or other expenses to facilitate the timely collection of the underlying exposures. See also *eligible servicer cash advance facility.*

*Sovereign entity* means a central government (including the U.S. government) or an agency, department, ministry, or central bank of a central government.

*Sovereign exposure means:*

(1) A direct exposure to a sovereign entity; or

(2) An exposure directly and unconditionally backed by the full faith and credit of a sovereign entity.

*Special purpose entity (SPE)* means a corporation, trust, or other entity organized for the specific purpose of holding underlying exposures of a securitization, the activities of which are limited to those appropriate to accomplish this purpose, and the structure of which is intended to isolate the underlying exposures held by the entity from the credit risk of the seller of the underlying exposures to the entity.

*Synthetic securitization* means a transaction in which:

(1) All or a portion of the credit risk of one or more underlying exposures is transferred to one or more third parties through the use of one or more credit derivatives or guarantees (other than a guarantee that transfers only the credit risk of an individual retail exposure);

(2) The credit risk associated with the underlying exposures has been separated into at least two tranches reflecting different levels of seniority;

(3) Performance of the securitization exposures depends upon the performance of the underlying exposures; and

(4) All or substantially all of the underlying exposures are financial exposures (such as loans, commitments, credit derivatives, guarantees, receivables, asset-backed securities, mortgage-backed securities, other debt securities, or equity securities).

*Tier 1 capital* is defined in [the general risk-based capital rules], as modified in part II of this appendix.

*Tier 2 capital* is defined in [the general risk-based capital rules], as modified in part II of this appendix.

*Total qualifying capital* means the sum of tier 1 capital and tier 2 capital, after all deductions required in this appendix.

*Total risk-weighted assets* means:

(1) The sum of:

(i) Credit risk-weighted assets; and

(ii) Risk-weighted assets for operational risk; minus

(2) The sum of:

(i) Excess eligible credit reserves not included in tier 2 capital; and

(ii) Allocated transfer risk reserves.

*Total wholesale and retail risk-weighted assets* means the sum of risk-weighted assets for wholesale exposures to non-defaulted obligors and segments of non-defaulted retail exposures; risk-weighted assets for wholesale exposures to defaulted obligors and segments of defaulted retail exposures; risk-weighted assets for assets not defined by an exposure category; and risk-weighted assets for non-material portfolios of exposures (all as determined in section 31) and risk-weighted assets for unsettled transactions (as determined in section 35) minus the amounts deducted from capital pursuant to [the general risk-based capital rules] (excluding those deductions reversed in section 12).

*Traditional securitization* means a transaction in which:

(1) All or a portion of the credit risk of one or more underlying exposures is transferred to one or more third parties other than through the use of credit derivatives or guarantees;

(2) The credit risk associated with the underlying exposures has been separated into at least two tranches reflecting different levels of seniority;

(3) Performance of the securitization exposures depends upon the performance of the underlying exposures; and

(4) All or substantially all of the underlying exposures are financial exposures (such as loans, commitments, credit derivatives, guarantees, receivables, asset-backed securities, mortgage-backed securities, other debt securities, or equity securities).

*Tranche* means all securitization exposures associated with a securitization that have the same seniority level.

*Underlying exposures* means one or more exposures that have been securitized in a securitization transaction.

*Unexpected operational loss (UOL)* means the difference between the [bank]'s operational risk exposure and the [bank]'s expected operational loss.

*Unit of measure* means the level (for example, organizational unit or operational loss event type) at which the [bank]'s operational risk quantification system generates a separate distribution of potential operational losses.

*Value-at-Risk (VaR)* means the estimate of the maximum amount that the value of one or more exposures could decline due to market price or rate movements during a fixed holding period within a stated confidence interval.

*Wholesale exposure* means a credit exposure to a company, individual, sovereign, or governmental entity (other than a securitization exposure, retail exposure, excluded mortgage exposure, or equity exposure). Examples of a wholesale exposure include:

(1) A non-tranched guarantee issued by a [bank] on behalf of a company;

(2) A repo-style transaction entered into by a [bank] with a company and any other transaction in which a [bank] posts collateral to a company and faces counterparty credit risk;

(3) An exposure that the [bank] treats as a covered position under [the market risk rule] for which there is a counterparty credit risk charge in section 32;

(4) A sale of corporate loans by a [bank] to a third party in which the [bank] retains full recourse;

(5) An OTC derivative contract entered into by a [bank] with a company;

(6) An exposure to an individual that is not managed by the [bank] as part of a segment of exposures with homogeneous risk characteristics; and

(7) A commercial lease.

*Wholesale exposure subcategory* means the HVCRE or non-HVCRE wholesale exposure subcategory.

**Section 3. Minimum Risk-Based Capital Requirements**

(a) Except as modified by paragraph (c) of this section or by section 23, each [bank] must meet a minimum ratio of:

(1) Total qualifying capital to total risk-weighted assets of 8.0 percent; and

(2) Tier 1 capital to total risk-weighted assets of 4.0 percent.

(b) Each [bank] must hold capital commensurate with the level and nature of all risks to which the [bank] is exposed.

(c) When a [bank] subject to [the market risk rule] calculates its risk-based capital requirements under this appendix, the [bank] must also refer to [the market risk rule] for supplemental rules to calculate risk-based capital requirements adjusted for market risk.

**Part II. Qualifying Capital**

**Section 11. Additional Deductions**

(a) *General.* A [bank] that uses this appendix must make the same deductions from its tier 1 capital and tier 2 capital required in [the general risk-based capital rules], except that:

(1) A [bank] is not required to deduct certain equity investments and CEIOs (as explained in more detail in section 12); and

(2) A [bank] also must make the deductions from capital required by paragraphs (b) and (c) of this section.

(b) *Deductions from tier 1 capital.* A [bank] must deduct from tier 1 capital any gain-on-sale associated with a securitization exposure as provided in paragraph (a) of section 41 and paragraphs (a)(1), (c), (g)(1), and (h)(1) of section 42.

(c) *Deductions from tier 1 and tier 2 capital.* A [bank] must deduct the following exposures 50 percent from tier 1 capital and 50 percent from tier 2 capital. If the amount deductible from tier 2 capital exceeds the [bank]'s actual tier 2 capital, however, the [bank] must deduct the shortfall amount from tier 1 capital.

(1) *Credit-enhancing interest-only strips (CEIOs).* In accordance with paragraphs (a)(1) and (c) of section 42, any CEIO that does not constitute gain-on-sale.

(2) *Non-qualifying securitization exposures.* In accordance with paragraphs (a)(4) and (c) of section 42, any securitization exposure that does not qualify for the Ratings-Based Approach, Internal Assessment Approach, or the Supervisory Formula Approach under sections 43, 44, and 45, respectively.

(3) *Securitizations of non-IRB exposures.* In accordance with paragraphs (c) and (g)(3) of section 42, certain exposures to a securitization any underlying exposure of which is not a wholesale exposure, retail exposure, securitization exposure, or equity exposure.

(4) *Low-rated securitization exposures.* In accordance with section 43 and paragraph (c) of section 42, any securitization exposure that qualifies for and must be deducted under the Ratings-Based Approach.

(5) *High-risk securitization exposures subject to the Supervisory Formula Approach.* In accordance with paragraph (b) of section 45 and paragraph (c) of section 42, any securitization exposure that qualifies for the Supervisory Formula Approach and has a risk weight equal to 1,250 percent as calculated under the Supervisory Formula Approach.

(6) *Eligible credit reserves shortfall.* In accordance with paragraph (a)(1) of section 13, any eligible credit reserves shortfall.

(7) *Certain failed capital markets transactions.* In accordance with paragraph (e)(3) of section 35, the [bank]'s exposure on certain failed capital markets transactions.

**Section 12. Deductions and Limitations Not Required**

(a) *Deduction of CEIOs.* A [bank] is not required to make the deductions from capital for CEIOs in 12 CFR part 3, Appendix A, § 2(c) (for national banks), 12 CFR part 208, Appendix A, § II.B.1.e. (for state member banks), 12 CFR part 225, Appendix A, § II.B.1.e. (for bank holding companies), 12 CFR part 325, Appendix A, § II.B.5. (for state nonmember banks), and 12 CFR 567.5(a)(2)(iii) and 567.12(e) (for savings associations).

(b) *Deduction of certain equity investments.* A [bank] is not required to make the deductions from capital for nonfinancial equity investments in 12 CFR part 3, Appendix A, § 2(c) (for national banks), 12 CFR part 208, Appendix A, § II.B.5. (for state member banks), 12 CFR part 225, Appendix A, § II.B.5. (for bank holding companies), and 12 CFR part 325, Appendix A, § II.B. (for state nonmember banks).

**Section 13. Eligible Credit Reserves**

(a) *Comparison of eligible credit reserves to expected credit losses*—(1) *Shortfall of eligible credit reserves.* If a [bank]'s eligible credit reserves are less than the [bank]'s total expected credit losses, the [bank] must deduct the shortfall amount 50 percent from tier 1 capital and 50 percent from tier 2 capital. If the amount deductible from tier 2 capital exceeds the [bank]'s actual tier 2 capital, the [bank] must deduct the excess amount from tier 1 capital.

(2) *Excess eligible credit reserves.* If a [bank]'s eligible credit reserves exceed the [bank]'s total expected credit losses, the [bank] may include the excess amount in tier 2 capital to the extent that the excess amount does not exceed 0.6 percent of the [bank]'s credit-risk-weighted assets.

(b) *Treatment of allowance for loan and lease losses.* Regardless of any provision to the contrary in [general risk-based capital rules], ALLL is included in tier 2 capital only to the extent provided in paragraph (a)(2) of this section and paragraph (b) of section 23.

**Part III. Qualification**

**Section 21. Qualification Process**

(a) *Timing.* (1) A [bank] that is described in paragraph (b)(1) of section 1 must adopt a written implementation plan no later than six months after the later of the effective date of this appendix or the date the [bank] meets a criterion in that section. The plan must incorporate an explicit first floor period

start date no later than 36 months after the later of the effective date of this appendix or the date the [bank] meets at least one criterion under paragraph (b)(1) of section 1. [AGENCY] may extend the first floor period start date.

(2) A [bank] that elects to be subject to this appendix under paragraph (b)(2) of section 1 must adopt a written implementation plan and notify the [AGENCY] in writing of its intent at least 12 months before it proposes to begin its first floor period.

(b) *Implementation plan.* The [bank]'s implementation plan must address in detail how the [bank] complies, or plans to comply, with the qualification requirements in section 22. The [bank] also must maintain a comprehensive and sound planning and governance process to oversee the implementation efforts described in the plan. At a minimum, the plan must:

(1) Comprehensively address the qualification requirements in section 22 for the [bank] and each consolidated subsidiary (U.S. and foreign-based) of the [bank] with respect to all portfolios and exposures of the [bank] and each of its consolidated subsidiaries;

(2) Justify and support any proposed temporary or permanent exclusion of business lines, portfolios, or exposures from application of the advanced approaches in this appendix (which business lines, portfolios, and exposures must be, in the aggregate, immaterial to the [bank]);

(3) Include the [bank]'s self-assessment of:

(i) The [bank]'s current status in meeting the qualification requirements in section 22; and

(ii) The consistency of the [bank]'s current practices with the [AGENCY]'s supervisory guidance on the qualification requirements;

(4) Based on the [bank]'s self-assessment, identify and describe the areas in which the [bank] proposes to undertake additional work to comply with the qualification requirements in section 22 or to improve the consistency of the [bank]'s current practices with the [AGENCY]'s supervisory guidance on the qualification requirements (gap analysis);

(5) Describe what specific actions the [bank] will take to address the areas identified in the gap analysis required by paragraph (b)(4) of this section;

(6) Identify objective, measurable milestones, including delivery dates and a date when the [bank]'s implementation of the methodologies described in this appendix will be fully operational;

(7) Describe resources that have been budgeted and are available to implement the plan; and

(8) Receive board of directors approval.

(c) *Parallel run.* Before determining its risk-based capital requirements under this appendix and following adoption of the implementation plan, the [bank] must conduct a satisfactory parallel run. A satisfactory parallel run is a period of no less than four consecutive calendar quarters during which the [bank] complies with all of the qualification requirements in section 22 to the satisfaction of [AGENCY]. During the parallel run, the [bank] must report to the [AGENCY] on a calendar quarterly basis its risk-based capital ratios using [the general risk-based capital rules] and the risk-based capital requirements described in this appendix. During this period, the [bank] is subject to [the general risk-based capital rules].

(d) *Approval to calculate risk-based capital requirements under this appendix.* The [AGENCY] will notify the [bank] of the date that the [bank] may begin its first floor period following a determination by the [AGENCY] that:

(1) The [bank] fully complies with the qualification requirements in section 22;

(2) The [bank] has conducted a satisfactory parallel run under paragraph (c) of this section; and

(3) The [bank] has an adequate process to ensure ongoing compliance with the qualification requirements in section 22.

(e) *Transitional floor periods.* Following a satisfactory parallel run, a [bank] is subject to three transitional floor periods.

(1) *Risk-based capital ratios during the transitional floor periods*—(i) *Tier 1 risk-based capital ratio.* During a [bank]'s transitional floor periods, a [bank]'s tier 1 risk-based capital ratio is equal to the lower of:

(A) The [bank]'s floor-adjusted tier 1 risk-based capital ratio; or

(B) The [bank]'s advanced approaches tier 1 risk-based capital ratio.

(ii) *Total risk-based capital ratio.* During a [bank]'s transitional floor periods, a [bank]'s total risk-based capital ratio is equal to the lower of:

(A) The [bank]'s floor-adjusted total risk-based capital ratio; or

(B) The [bank]'s advanced approaches total risk-based capital ratio.

(2) *Floor-adjusted risk-based capital ratios.* (i) A [bank]'s floor-adjusted tier 1 risk-based capital ratio during a transitional floor period is equal to the [bank]'s tier 1 capital as calculated under [the general risk-based capital rules], divided by the product of:

(A) The [bank]'s total risk-weighted assets as calculated under [the general risk-based capital rules]; and

(B) The appropriate transitional floor percentage in Table 1.

(ii) A [bank]'s floor-adjusted total risk-based capital ratio during a transitional floor period is equal to the sum of the [bank]'s tier 1 and tier 2 capital as calculated under [the general risk-based capital rules], divided by the product of:

(A) The [bank]'s total risk-weighted assets as calculated under [the general risk-based capital rules]; and

(B) The appropriate transitional floor percentage in Table 1.

(iii) A [bank] that meets the criteria in paragraph (b)(1) or (b)(2) of section 1 as of the effective date of this rule must use [the general risk-based capital rules] effective immediately before this rule became effective during the parallel run and as the basis for its transitional floors.

TABLE 1—TRANSITIONAL FLOORS

| Transitional floor period | Transitional floor percentage |
|---|---|
| First floor period ..... | 95 percent |
| Second floor period ... | 90 percent |
| Third floor period ..... | 85 percent |

(3) *Advanced approaches risk-based capital ratios.* (i) A [bank]'s advanced approaches tier 1 risk-based capital ratio equals the [bank]'s tier 1 risk-based capital ratio as calculated under this appendix (other than this section on transitional floor periods).

(ii) A [bank]'s advanced approaches total risk-based capital ratio equals the [bank]'s total risk-based capital ratio as calculated under this appendix (other than this section on transitional floor periods).

(4) *Reporting.* During the transitional floor periods, a [bank] must report to the [AGENCY] on a calendar quarterly basis both floor-adjusted risk-based capital ratios and both advanced approaches risk-based capital ratios.

(5) *Exiting a transitional floor period.* A [bank] may not exit a transitional floor period until the [bank] has spent a minimum of four consecutive calendar quarters in the period and the [AGENCY] has determined that the [bank] may exit the floor period. The [AGENCY]'s determination will be based on an assessment of the [bank]'s ongoing compliance with the qualification requirements in section 22.

**Section 22. Qualification Requirements**

(a) *Process and systems requirements.* (1) A [bank] must have a rigorous process for assessing its overall capital adequacy in relation to its risk profile

and a comprehensive strategy for maintaining an appropriate level of capital.

(2) The systems and processes used by a [bank] for risk-based capital purposes under this appendix must be consistent with the [bank]'s internal risk management processes and management information reporting systems.

(3) Each [bank] must have an appropriate infrastructure with risk measurement and management processes that meet the qualification requirements of this section and are appropriate given the [bank]'s size and level of complexity. Regardless of whether the systems and models that generate the risk parameters necessary for calculating a [bank]'s risk-based capital requirements are located at any affiliate of the [bank], the [bank] itself must ensure that the risk parameters and reference data used to determine its risk-based capital requirements are representative of its own credit risk and operational risk exposures.

(b) *Risk rating and segmentation systems for wholesale and retail exposures.* (1) A [bank] must have an internal risk rating and segmentation system that accurately and reliably differentiates among degrees of credit risk for the [bank]'s wholesale and retail exposures.

(2) For wholesale exposures, a [bank] must have an internal risk rating system that accurately and reliably assigns each obligor to a single rating grade (reflecting the obligor's likelihood of default). The [bank]'s wholesale obligor rating system must have at least seven discrete rating grades for non-defaulted obligors and at least one rating grade for defaulted obligors. Unless the [bank] has chosen to directly assign ELGD and LGD estimates to each wholesale exposure, the [bank] must have an internal risk rating system that accurately and reliably assigns each wholesale exposure to loss severity rating grades (reflecting the [bank]'s estimate of the ELGD and LGD of the exposure). A [bank] employing loss severity rating grades must have a sufficiently granular loss severity grading system to avoid grouping together exposures with widely ranging ELGDs or LGDs.

(3) For retail exposures, a [bank] must have a system that groups exposures into segments with homogeneous risk characteristics and assigns accurate and reliable PD, ELGD, and LGD estimates for each segment on a consistent basis. The [bank]'s system must group retail exposures into the appropriate retail exposure subcategory and must group the retail exposures in each retail exposure subcategory into separate segments. The [bank]'s system must identify all defaulted retail exposures and group them in segments by subcategories separate from non-defaulted retail exposures.

(4) The [bank]'s internal risk rating policy for wholesale exposures must describe the [bank]'s rating philosophy (that is, must describe how wholesale obligor rating assignments are affected by the [bank]'s choice of the range of economic, business, and industry conditions that are considered in the obligor rating process).

(5) The [bank]'s internal risk rating system for wholesale exposures must provide for the review and update (as appropriate) of each obligor rating and (if applicable) each loss severity rating whenever the [bank] receives new material information, but no less frequently than annually. The [bank]'s retail exposure segmentation system must provide for the review and update (as appropriate) of assignments of retail exposures to segments whenever the [bank] receives new material information, but no less frequently than quarterly.

(c) *Quantification of risk parameters for wholesale and retail exposures.* (1) The [bank] must have a comprehensive risk parameter quantification process that produces accurate, timely, and reliable estimates of the risk parameters for the [bank]'s wholesale and retail exposures.

(2) Data used to estimate the risk parameters must be relevant to the [bank]'s actual wholesale and retail exposures, and of sufficient quality to support the determination of risk-based capital requirements for the exposures.

(3) The [bank]'s risk parameter quantification process must produce conservative risk parameter estimates where the [bank] has limited relevant data, and any adjustments that are part of the quantification process must not result in a pattern of bias toward lower risk parameter estimates.

(4) PD estimates for wholesale and retail exposures must be based on at least 5 years of default data. ELGD and LGD estimates for wholesale exposures must be based on at least 7 years of loss severity data, and ELGD and LGD estimates for retail exposures must be based on at least 5 years of loss severity data. EAD estimates for wholesale exposures must be based on at least 7 years of exposure amount data, and EAD estimates for retail exposures must be based on at least 5 years of exposure amount data.

(5) Default, loss severity, and exposure amount data must include periods of economic downturn conditions, or the [bank] must adjust its estimates of risk parameters to compensate for the lack of data from periods of economic downturn conditions.

(6) The [bank]'s PD, ELGD, LGD, and EAD estimates must be based on the definition of default in this appendix.

(7) The [bank] must review and update (as appropriate) its risk parameters and its risk parameter quantification process at least annually.

(8) The [bank] must at least annually conduct a comprehensive review and analysis of reference data to determine relevance of reference data to [bank] exposures, quality of reference data to support PD, ELGD, LGD, and EAD estimates, and consistency of reference data to the definition of default contained in this appendix.

(d) *Counterparty credit risk model.* A [bank] must obtain the prior written approval of [AGENCY] under section 32 to use the internal models methodology for counterparty credit risk.

(e) *Double default treatment.* A [bank] must obtain the prior written approval of [AGENCY] under section 34 to use the double default treatment.

(f) *Securitization exposures.* A [bank] must obtain the prior written approval of [AGENCY] under section 44 to use the internal assessment approach for securitization exposures to ABCP programs.

(g) *Equity exposures model.* A [bank] must obtain the prior written approval of [AGENCY] under section 53 to use the internal models approach for equity exposures.

(h) *Operational risk*—(1) *Operational risk management processes.* A [bank] must:

(i) Have an operational risk management function that:

(A) Is independent of business line management; and

(B) Is responsible for designing, implementing, and overseeing the [bank]'s operational risk data and assessment systems, operational risk quantification systems, and related processes;

(ii) Have and document a process to identify, measure, monitor, and control operational risk in [bank] products, activities, processes, and systems (which process must capture business environment and internal control factors affecting the [bank]'s operational risk profile); and

(iii) Report operational risk exposures, operational loss events, and other relevant operational risk information to business unit management, senior management, and the board of directors (or a designated committee of the board).

(2) *Operational risk data and assessment systems.* A [bank] must have

operational risk data and assessment systems that capture operational risks to which the [bank] is exposed. The [bank]'s operational risk data and assessment systems must:

(i) Be structured in a manner consistent with the [bank]'s current business activities, risk profile, technological processes, and risk management processes; and

(ii) Include credible, transparent, systematic, and verifiable processes that incorporate the following elements on an ongoing basis:

(A) *Internal operational loss event data.* The [bank] must have a systematic process for capturing and using internal operational loss event data in its operational risk data and assessment systems.

(*1*) The [bank]'s operational risk data and assessment systems must include an historical observation period of at least five years for internal operational loss event data (or such shorter period approved by [AGENCY] to address transitional situations, such as integrating a new business line).

(*2*) The [bank] may refrain from collecting internal operational loss event data for individual operational losses below established dollar threshold amounts if the [bank] can demonstrate to the satisfaction of the [AGENCY] that the thresholds are reasonable, do not exclude important internal operational loss event data, and permit the [bank] to capture substantially all the dollar value of the [bank]'s operational losses.

(B) *External operational loss event data.* The [bank] must have a systematic process for determining its methodologies for incorporating external operational loss data into its operational risk data and assessment systems.

(C) *Scenario analysis.* The [bank] must have a systematic process for determining its methodologies for incorporating scenario analysis into its operational risk data and assessment systems.

(D) *Business environment and internal control factors.* The [bank] must incorporate business environment and internal control factors into its operational risk data and assessment systems. The [bank] must also periodically compare the results of its prior business environment and internal control factor assessments against its actual operational losses incurred in the intervening period.

(3) *Operational risk quantification systems.* (i) The [bank]'s operational risk quantification systems:

(A) Must generate estimates of the [bank]'s operational risk exposure using its operational risk data and assessment systems; and

(B) Must employ a unit of measure that is appropriate for the [bank]'s range of business activities and the variety of operational loss events to which it is exposed, and that does not combine business activities or operational loss events with different risk profiles within the same loss distribution.

(C) May use internal estimates of dependence among operational losses within and across business lines and operational loss events if the [bank] can demonstrate to the satisfaction of [AGENCY] that its process for estimating dependence is sound, robust to a variety of scenarios, and implemented with integrity, and allows for the uncertainty surrounding the estimates. If the [bank] has not made such a demonstration, it must sum operational risk exposure estimates across units of measure to calculate its total operational risk exposure.

(D) Must be reviewed and updated (as appropriate) whenever the [bank] becomes aware of information that may have a material effect on the [bank]'s estimate of operational risk exposure, but no less frequently than annually.

(ii) With the prior written approval of [AGENCY], a [bank] may generate an estimate of its operational risk exposure using an alternative approach to that specified in paragraph (h)(3)(i) of this section. A [bank] proposing to use such an alternative operational risk quantification system must submit a proposal to [AGENCY]. In considering a [bank]'s proposal to use an alternative operational risk quantification system, [AGENCY] will consider the following principles:

(A) Use of the alternative operational risk quantification system will be allowed only on an exception basis, considering the size, complexity, and risk profile of a [bank];

(B) The [bank] must demonstrate that its estimate of its operational risk exposure generated under the alternative operational risk quantification system is appropriate and can be supported empirically; and

(C) A [bank] must not use an allocation of operational risk capital requirements that includes entities other than depository institutions or the benefits of diversification across entities.

(i) *Data management and maintenance.* (1) A [bank] must have data management and maintenance systems that adequately support all aspects of its advanced systems and the timely and accurate reporting of risk-based capital requirements.

(2) A [bank] must retain data using an electronic format that allows timely retrieval of data for analysis, validation, reporting, and disclosure purposes.

(3) A [bank] must retain sufficient data elements related to key risk drivers to permit adequate monitoring, validation, and refinement of its advanced systems.

(j) *Control, oversight, and validation mechanisms.* (1) The [bank]'s senior management must ensure that all components of the [bank]'s advanced systems function effectively and comply with the qualification requirements in this section.

(2) The [bank]'s board of directors (or a designated committee of the board) must at least annually evaluate the effectiveness of, and approve, the [bank]'s advanced systems.

(3) A [bank] must have an effective system of controls and oversight that:

(i) Ensures ongoing compliance with the qualification requirements in this section;

(ii) Maintains the integrity, reliability, and accuracy of the [bank]'s advanced systems; and

(iii) Includes adequate governance and project management processes.

(4) The [bank] must validate, on an ongoing basis, its advanced systems. The [bank]'s validation process must be independent of the advanced systems' development, implementation, and operation, or the validation process must be subjected to an independent review of its adequacy and effectiveness. Validation must include:

(i) The evaluation of the conceptual soundness of (including developmental evidence supporting) the advanced systems;

(ii) An on-going monitoring process that includes verification of processes and benchmarking; and

(iii) An outcomes analysis process that includes back-testing.

(5) The [bank] must have an internal audit function independent of business-line management that at least annually assesses the effectiveness of the controls supporting the [bank]'s advanced systems and reports its findings to the [bank]'s board of directors (or a committee thereof).

(6) The [bank] must periodically stress test its advanced systems. The stress testing must include a consideration of how economic cycles, especially downturns, affect risk-based capital requirements (including migration across rating grades and segments and the credit risk mitigation benefits of double default treatment).

(k) *Documentation.* The [bank] must adequately document all material aspects of its advanced systems.

**Section 23. Ongoing Qualification**

(a) *Changes to advanced systems.* A [bank] must meet all the qualification requirements in section 22 on an ongoing basis. A [bank] must notify the [AGENCY] when the [bank] makes any change to an advanced system that would result in a material change in the [bank]'s risk-weighted asset amount for an exposure type, or when the [bank] makes any significant change to its modeling assumptions.

(b) *Mergers and acquisitions*—(1) *Mergers and acquisitions of companies without advanced systems.* If a [bank] merges with or acquires a company that does not calculate its risk-based capital requirements using advanced systems, the [bank] may use [the general risk-based capital rules] to determine the risk-weighted asset amounts for, and deductions from capital associated with, the merged or acquired company's exposures for up to 24 months after the calendar quarter during which the merger or acquisition consummates. [AGENCY] may extend this transition period for up to an additional 12 months. Within 30 days of consummating the merger or acquisition, the [bank] must submit to [AGENCY] an implementation plan for using its advanced systems for the acquired company. During the period when [the general risk-based capital rules] apply to the merged or acquired company, any ALLL, net of allocated transfer risk reserves established pursuant to 12 U.S.C. 3904, associated with the merged or acquired company's exposures may be included in the [bank]'s tier 2 capital up to 1.25 percent of the acquired company's risk-weighted assets. All general reserves of the merged or acquired company must be excluded from the [bank]'s eligible credit reserves. In addition, the risk-weighted assets of the merged or acquired company are not included in the [bank]'s credit-risk-weighted assets but are included in total risk-weighted assets. If a [bank] relies on this paragraph, the [bank] must disclose publicly the amounts of risk-weighted assets and qualifying capital calculated under this appendix for the acquiring [bank] and under [the general risk-based capital rules] for the acquired company.

(2) *Mergers and acquisitions of companies with advanced systems.* If a [bank] merges with or acquires a company that calculates its risk-based capital requirements using advanced systems, the acquiring [bank] may use the acquired company's advanced systems to determine the risk-weighted asset amounts for, and deductions from capital associated with, the merged or acquired company's exposures for up to 24 months after the calendar quarter during which the acquisition or merger consummates. [AGENCY] may extend this transition period for up to an additional 12 months. Within 30 days of consummating the merger or acquisition, the [bank] must submit to [AGENCY] an implementation plan for using its advanced systems for the merged or acquired company.

(c) *Failure to comply with qualification requirements.* If [AGENCY] determines that a [bank] that is subject to this appendix and has conducted a satisfactory parallel run fails to comply with the qualification requirements in section 22, [AGENCY] will notify the [bank] in writing of the [bank]'s failure to comply. The [bank] must establish a plan satisfactory to the [AGENCY] to return to compliance with the qualification requirements and must disclose to the public its failure to comply with the qualification requirements promptly after receiving notice from the [AGENCY]. In addition, if the [AGENCY] determines that the [bank]'s risk-based capital requirements are not commensurate with the [bank]'s credit, market, operational, or other risks, the [AGENCY] may require such a [bank] to calculate its risk-based capital requirements:

(1) Under [the general risk-based capital rules]; or

(2) Under this appendix with any modifications provided by the [AGENCY].

**Part IV. Risk-Weighted Assets for General Credit Risk**

**Section 31. Mechanics for Calculating Total Wholesale and Retail Risk-Weighted Assets**

(a) *Overview.* A [bank] must calculate its total wholesale and retail risk-weighted asset amount in four distinct phases:

(1) Phase 1—categorization of exposures;

(2) Phase 2—assignment of wholesale obligors and exposures to rating grades and segmentation of retail exposures;

(3) Phase 3—assignment of risk parameters to wholesale exposures and segments of retail exposures; and

(4) Phase 4—calculation of risk-weighted asset amounts.

(b) *Phase 1—Categorization.* The [bank] must determine which of its exposures are wholesale exposures, retail exposures, securitization exposures, or equity exposures. The [bank] must categorize each retail exposure as a residential mortgage exposure, a QRE, or an other retail exposure. The [bank] must identify which wholesale exposures are HVCRE exposures, sovereign exposures, OTC derivative contracts, repo-style transactions, eligible margin loans, eligible purchased wholesale receivables, unsettled transactions to which section 35 applies, and eligible guarantees or eligible credit derivatives that are used as credit risk mitigants. The [bank] must identify any on-balance sheet asset that does not meet the definition of a wholesale, retail, equity, or securitization exposure, as well as any non-material portfolio of exposures described in paragraph (e)(4) of this section.

(c) *Phase 2—Assignment of wholesale obligors and exposures to rating grades and retail exposures to segments*—(1) *Assignment of wholesale obligors and exposures to rating grades.*

(i) The [bank] must assign each obligor of a wholesale exposure to a single obligor rating grade and may assign each wholesale exposure to loss severity rating grades.

(ii) The [bank] must identify which of its wholesale obligors are in default.

(2) *Segmentation of retail exposures.* (i) The [bank] must group the retail exposures in each retail subcategory into segments that have homogeneous risk characteristics.

(ii) The [bank] must identify which of its retail exposures are in default. The [bank] must segment defaulted retail exposures separately from non-defaulted retail exposures.

(iii) If the [bank] determines the EAD for eligible margin loans using the approach in paragraph (a) of section 32, the [bank] must identify which of its retail exposures are eligible margin loans for which the [bank] uses this EAD approach and must segment such eligible margin loans separately from other retail exposures.

(3) *Eligible purchased wholesale receivables.* A [bank] may group its eligible purchased wholesale receivables that, when consolidated by obligor, total less than $1 million into segments that have homogeneous risk characteristics. A [bank] must use the wholesale exposure formula in Table 2 in this section to determine the risk-based capital requirement for each segment of eligible purchased wholesale receivables.

(d) *Phase 3—Assignment of risk parameters to wholesale exposures and segments of retail exposures*—(1) *Quantification process.* Subject to the limitations in this paragraph (d), the [bank] must:

(i) Associate a PD with each wholesale obligor rating grade;

(ii) Associate an ELGD or LGD, as appropriate, with each wholesale loss

severity rating grade or assign an ELGD and LGD to each wholesale exposure;

(iii) Assign an EAD and M to each wholesale exposure; and

(iv) Assign a PD, ELGD, LGD, and EAD to each segment of retail exposures.

(2) *Floor on PD assignment.* The PD for each wholesale exposure or retail segment may not be less than 0.03 percent, except for exposures to or directly and unconditionally guaranteed by a sovereign entity, the Bank for International Settlements, the International Monetary Fund, the European Commission, the European Central Bank, or a multi-lateral development bank, to which the [bank] assigns a rating grade associated with a PD of less than 0.03 percent.

(3) *Floor on LGD estimation.* The LGD for each segment of residential mortgage exposures (other than segments of residential mortgage exposures for which all or substantially all of the principal of each exposure is directly and unconditionally guaranteed by the full faith and credit of a sovereign entity) may not be less than 10 percent.

(4) *Eligible purchased wholesale receivables.* A [bank] must assign a PD, ELGD, LGD, EAD, and M to each segment of eligible purchased wholesale receivables. If the [bank] can estimate ECL (but not PD or LGD) for a segment of eligible purchased wholesale receivables, the [bank] must assume that the ELGD and LGD of the segment equals 100 percent and that the PD of the segment equals ECL divided by EAD. The estimated ECL must be calculated for the receivables without regard to any assumption of recourse or guarantees from the seller or other parties.

(5) *Credit risk mitigation—credit derivatives, guarantees, and collateral.* (i) A [bank] may take into account the risk reducing effects of eligible guarantees and eligible credit derivatives in support of a wholesale exposure by applying the PD substitution or LGD adjustment treatment to the exposure as provided in section 33 or, if applicable, applying double default treatment to the exposure as provided in section 34. A [bank] may decide separately for each wholesale exposure that qualifies for the double default treatment under section 34 whether to apply the double default treatment or to use the PD substitution or LGD adjustment approach without recognizing double default effects.

(ii) A [bank] may take into account the risk reducing effects of guarantees and credit derivatives in support of retail exposures in a segment when quantifying the PD, ELGD, and LGD of the segment.

(iii) Except as provided in paragraph (d)(6) of this section, a [bank] may take into account the risk reducing effects of collateral in support of a wholesale exposure when quantifying the ELGD and LGD of the exposure and may take into account the risk reducing effects of collateral in support of retail exposures when quantifying the PD, ELGD, and LGD of the segment.

(6) *EAD for derivative contracts, repo-style transactions, and eligible margin loans.* (i) A [bank] must calculate its EAD for an OTC derivative contract as provided in paragraphs (b) and (c) of section 32. A [bank] may take into account the risk-reducing effects of financial collateral in support of a repo-style transaction or eligible margin loan through an adjustment to EAD as provided in paragraphs (a) and (c) of section 32. A [bank] that takes financial collateral into account through such an adjustment to EAD under section 32 may not adjust ELGD or LGD to reflect the financial collateral.

(ii) A [bank] may attribute an EAD of zero to:

(A) Derivative contracts that are publicly traded on an exchange that requires the daily receipt and payment of cash-variation margin;

(B) Derivative contracts and repo-style transactions that are outstanding with a qualifying central counterparty (but not for those transactions that a qualifying central counterparty has rejected); and

(C) Credit risk exposures to a qualifying central counterparty in the form of clearing deposits and posted collateral that arise from transactions described in paragraph (d)(6)(ii)(B) of this section.

(7) *Effective maturity.* An exposure's M must be no greater than five years and no less than one year, except that a [bank] may set the M of an exposure equal to the greater of one day or M if the exposure has an original maturity of less than one year and is not part of the [bank]'s ongoing financing of the obligor. An exposure is not part of a [bank]'s ongoing financing of the obligor if the [bank]:

(i) Has a legal and practical ability not to renew or roll over the exposure in the event of credit deterioration of the obligor;

(ii) Makes an independent credit decision at the inception of the exposure and at every renewal or roll over; and

(iii) Has no substantial commercial incentive to continue its credit relationship with the obligor in the event of credit deterioration of the obligor.

(e) *Phase 4—Calculation of risk-weighted assets*—(1) *Non-defaulted exposures.* (i) A [bank] must calculate the dollar risk-based capital requirement for each of its wholesale exposures to a non-defaulted obligor and segments of non-defaulted retail exposures (except eligible guarantees and eligible credit derivatives that hedge another wholesale exposure and exposures to which the [bank] applies the double default treatment in section 34) by inserting the assigned risk parameters for the wholesale obligor and exposure or retail segment into the appropriate risk-based capital formula specified in Table 2 and multiplying the output of the formula (K) by the EAD of the exposure or segment.[7]

[7] A [bank] may instead apply a 300 percent risk weight to the EAD of an eligible margin loan if the [bank] is not able to assign a rating grade to the obligor of the loan.

Table 2 – IRB risk-based capital formulas for wholesale exposures to non-defaulted obligors and segments of non-defaulted retail exposures*

| | | |
|---|---|---|
| Retail | **Capital Requirement (K) Non-Defaulted Exposures** | $K = \left[ LGD \times N\left( \frac{N^{-1}(PD) + \sqrt{R} \times N^{-1}(0.999)}{\sqrt{1-R}} \right) - (ELGD \times PD) \right]$ |
| | **Correlation Factor (R)** | For residential mortgage exposures: $R = 0.15$ |
| | | For qualifying revolving exposures: $R = 0.04$ |
| | | For other retail exposures: $R = 0.03 + 0.13 \times e^{-35 \times PD}$ |
| Wholesale | **Capital Requirement (K) Non-Defaulted Exposures** | $K = \left[ LGD \times N\left( \frac{N^{-1}(PD) + \sqrt{R} \times N^{-1}(0.999)}{\sqrt{1-R}} \right) - (ELGD \times PD) \right] \times \left( \frac{1 + (M - 2.5) \times b}{1 - 1.5 \times b} \right)$ |
| | **Correlation Factor (R)** | For HVCRE exposures: $R = 0.12 + 0.18 \times e^{-50 \times PD}$ |
| | | For wholesale exposures other than HVCRE exposures: $R = 0.12 + 0.12 \times e^{-50 \times PD}$ |
| | **Maturity Adjustment (b)** | $b = (0.11852 - 0.05478 \times \ln(PD))^2$ |

* N(.) means the cumulative distribution function for a standard normal random variable. $N^{-1}$(.) means the inverse cumulative distribution function for a standard normal random variable. The symbol e refers to the base of the natural logarithms, and the function ln(.) refers to the natural logarithm of the expression within parentheses. The formulas apply when PD is greater than zero. If PD equals zero, the capital requirement K is set equal to zero.

(ii) The sum of all of the dollar risk-based capital requirements for each wholesale exposure to a non-defaulted obligor and segment of non-defaulted retail exposures calculated in paragraph (e)(1)(i) of this section and in paragraph (e) of section 34 equals the total dollar risk-based capital requirement for those exposures and segments.

(iii) The aggregate risk-weighted asset amount for wholesale exposures to non-defaulted obligors and segments of non-defaulted retail exposures equals the total dollar risk-based capital requirement calculated in paragraph (e)(1)(ii) of this section multiplied by 12.5.

(2) *Wholesale exposures to defaulted obligors and segments of defaulted retail exposures*—(i) *Wholesale exposures to defaulted obligors.*

(A) For each wholesale exposure to a defaulted obligor, the [bank] must compare:

(*1*) 0.08 multiplied by the EAD of the wholesale exposure, plus the amount of any charge-offs or write-downs on the exposure; and

(*2*) K for the wholesale exposure (as determined in Table 2 immediately before the obligor became defaulted), multiplied by the EAD of the wholesale exposure immediately before the obligor became defaulted.

(B) If the amount calculated in paragraph (e)(2)(i)(A)*1* is equal to or greater than the amount calculated in paragraph (e)(2)(i)(A)*2*, the dollar risk-based capital requirement for the exposure is 0.08 multiplied by the EAD of the wholesale exposure.

(C) If the amount calculated in paragraph (e)(2)(i)(A)*1* is less than the amount calculated in paragraph (e)(2)(i)(A)*2*, the dollar risk-based capital requirement for the exposure is K for the wholesale exposure (as determined in Table 2 immediately before the obligor became defaulted) multiplied by the EAD of the wholesale exposure.

(ii) *Segments of defaulted retail exposures.* The dollar risk-based capital requirement for a segment of defaulted retail exposures equals 0.08 multiplied by the EAD of the segment.

(iii) The sum of all the dollar risk-based capital requirements for each wholesale exposure to a defaulted obligor calculated in paragraphs (e)(2)(i)(B) and (C) of this section plus the dollar risk-based capital requirements for each segment of defaulted retail exposures calculated in paragraph (e)(2)(ii) of this section equals the total dollar risk-based capital requirement for those exposures.

(iv) The aggregate risk-weighted asset amount for wholesale exposures to defaulted obligors and segments of defaulted retail exposures equals the total dollar risk-based capital

requirement calculated in paragraph (e)(2)(iii) of this section multiplied by 12.5.

(3) *Assets not included in a defined exposure category.* A [bank] may assign a risk-weighted asset amount of zero to cash owned and held in all offices of the [bank] or in transit and for gold bullion held in the [bank]'s own vaults, or held in another [bank]'s vaults on an allocated basis, to the extent it is offset by gold bullion liabilities. The risk-weighted asset amount for the residual value of a retail lease exposure equals such residual value. The risk-weighted asset amount for an excluded mortgage exposure is determined under 12 CFR part 3, Appendix A, section 3(a)(3)(iii) (for national banks), 12 CFR part 208, Appendix A, section III.C.3. (for state member banks), 12 CFR part 225, Appendix A, section III.C.3. (for bank holding companies), 12 CFR part 325, Appendix A, section II.C.a. (for state nonmember banks), and 12 CFR 567.6(a)(1)(iii) and (iv) (for savings associations). The risk-weighted asset amount for any other on-balance-sheet asset that does not meet the definition of a wholesale, retail, securitization, or equity exposure equals the carrying value of the asset.

(4) *Non-material portfolios of exposures.* The risk-weighted asset amount of a portfolio of exposures for which the [bank] has demonstrated to [AGENCY]'s satisfaction that the portfolio (when combined with all other portfolios of exposures that the [bank] seeks to treat under this paragraph) is not material to the [bank] is the sum of the carrying values of on-balance sheet exposures plus the notional amounts of off-balance sheet exposures in the portfolio. For purposes of this paragraph (e)(4), the notional amount of an OTC derivative contract that is not a credit derivative is the EAD of the derivative as calculated in section 32.

**Section 32. Counterparty Credit Risk**

This section describes two methodologies—a collateral haircut approach and an internal models methodology—that a [bank] may use instead of an ELGD/LGD estimation methodology to recognize the benefits of financial collateral in mitigating the counterparty credit risk of repo-style transactions, eligible margin loans, and collateralized OTC derivative contracts, and single product netting sets of such transactions. A third methodology, the simple VaR methodology, is available for single product netting sets of repo-style transactions and eligible margin loans. This section also describes the methodology for calculating EAD for an OTC derivative contract or a set of OTC derivative contracts subject to a qualifying master netting agreement. A [bank] also may use the internal models methodology to estimate EAD for qualifying cross-product master netting agreements.

A [bank] may use any combination of the three methodologies for collateral recognition; however, it must use the same methodology for similar exposures. A [bank] may use separate methodologies for agency securities lending transactions—that is, securities lending transactions in which the [bank], acting as agent for a customer, lends the customer's securities and indemnifies the customer against loss—and all other repo-style transactions.

(a) *EAD for eligible margin loans and repo-style transactions*—(1) *General.* A [bank] may recognize the credit risk mitigation benefits of financial collateral that secures an eligible margin loan, repo-style transaction, or single-product group of such transactions with a single counterparty subject to a qualifying master netting agreement (netting set) by factoring the collateral into its ELGD and LGD estimates for the exposure. Alternatively, a [bank] may estimate an unsecured ELGD and LGD for the exposure and determine the EAD of the exposure using:

(i) The collateral haircut approach described in paragraph (a)(2) of this section;

(ii) For netting sets only, the simple VaR methodology described in paragraph (a)(3) of this section; or

(iii) The internal models methodology described in paragraph (c) of this section.

(2) *Collateral haircut approach*—(i) *EAD equation.* A [bank] may determine EAD for an eligible margin loan, repo-style transaction, or netting set by setting $EAD = \max\{0, [(\Sigma E - \Sigma C) + \Sigma(Es \times Hs) + (Efx \times Hfx)]\}$, where:

(A) $\Sigma E$ equals the value of the exposure (that is, the sum of the current market values of all securities and cash the [bank] has lent, sold subject to repurchase, or posted as collateral to the counterparty under the transaction (or netting set));

(B) $\Sigma C$ equals the value of the collateral (that is, the sum of the current market values of all securities and cash the [bank] has borrowed, purchased subject to resale, or taken as collateral from the counterparty under the transaction (or netting set));

(C) Es = absolute value of the net position in a given security (where the net position in a given security equals the sum of the current market values of the particular security the [bank] has lent, sold subject to repurchase, or posted as collateral to the counterparty minus the sum of the current market values of that same security the [bank] has borrowed, purchased subject to resale, or taken as collateral from the counterparty);

(D) Hs = market price volatility haircut appropriate to the security referenced in Es;

(E) Efx = absolute value of the net position of both cash and securities 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 cash or securities in the currency the [bank] has lent, sold subject to repurchase, or posted as collateral to the counterparty minus the sum of the current market values of any cash or securities in the currency the [bank] has borrowed, purchased subject to resale, or taken as collateral from the counterparty); and

(F) Hfx = haircut appropriate to the mismatch between the currency referenced in Efx and the settlement currency.

(ii) *Standard supervisory haircuts.* (A) Under the ''standard supervisory haircuts'' approach:

(*1*) A [bank] must use the haircuts for market price volatility (Hs) in Table 3, as adjusted in certain circumstances as provided in paragraph (a)(2)(ii)(A)(*3*) and (*4*) of this section;

TABLE 3.—STANDARD SUPERVISORY MARKET PRICE VOLATILITY HAIRCUTS*

| Applicable external rating grade category for debt securities | Residual maturity for debt securities | Issuers exempt from the 3 b.p. floor | Other issuers |
|---|---|---|---|
| Two highest investment grade rating categories for long-term ratings/highest investment grade rating category for short-term ratings. | ≤1 year | .005 | .01 |
| | >1 year, ≤5 years | .02 | .04 |
| | >5 years | .04 | .08 |

TABLE 3.—STANDARD SUPERVISORY MARKET PRICE VOLATILITY HAIRCUTS*—Continued

| Applicable external rating grade category for debt securities | Residual maturity for debt securities | Issuers exempt from the 3 b.p. floor | Other issuers |
|---|---|---|---|
| Two lowest investment grade ratiing categories for both short- and long-term ratings. | ≤1 year | .01 | .02 |
| | >1 year, ≤5 years | .03 | .06 |
| | >5 years | .06 | .12 |
| One rating category below investment grade | All | .15 | .25 |
| Main index equities (including convertible bonds) and gold | | .15 | |
| Other publicly traded equities (including convertible bonds) | | .25 | |
| Mutual funds | | Highest haircut applicable to any security in which the fund can invest. | |
| Cash on deposit with the [bank] (including a certificate of deposit issued by the [bank]) | | 0 | |

*The market price volatility haircuts in Table 3 are based on a 10-business-day holding period.

(*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 (a)(2)(ii)(A)(*3*) and (*4*) of this section.

(*3*) For repo-style transactions, a [bank] may multiply the supervisory haircuts provided in paragraphs (a)(2)(ii)(A)(*1*) and (*2*) by the square root of ½ (which equals 0.707107).

(*4*) A [bank] must adjust the supervisory haircuts upward on the basis of a holding period longer than 10 business days (for eligible margin loans) or 5 business days (for repo-style transactions) where and as appropriate to take into account the illiquidity of an instrument.

(iii) *Own estimates for haircuts.* With the prior written approval of [AGENCY], a [bank] may calculate haircuts (Hs and Hfx) using its own internal estimates of the volatilities of market prices and foreign exchange rates.

(A) To receive [AGENCY] approval to use internal estimates, a [bank] must satisfy the following minimum quantitative standards:

(*1*) A [bank] must use a 99th percentile one-tailed confidence interval.

(*2*) The minimum holding period for a repo-style transaction is 5 business days and for an eligible margin loan is 10 business days. When a [bank] calculates an own-estimates haircut on a $T_N$-day holding period, which is different from the minimum holding period for the transaction type, the applicable haircut ($H_M$) is calculated using the following square root of time formula:

$$H_M = H_N \sqrt{\frac{T_M}{T_N}}\text{, where}$$

(*i*) $T_M$ = 5 for repo-style transactions and 10 for eligible margin loans;

(*ii*) $T_N$ = holding period used by the [bank] to derive $H_N$; and

(*iii*) $H_N$ = haircut based on the holding period $T_N$.

(*3*) A [bank] must adjust holding periods upwards where and as appropriate to take into account the illiquidity of an instrument.

(*4*) The historical observation period must be at least one year.

(*5*) A [bank] must update its data sets and recompute haircuts no less frequently than quarterly and must also reassess data sets and haircuts whenever market prices change materially.

(B) With respect to debt securities that have an applicable external rating of investment grade, a [bank] may calculate haircuts for categories of securities. For a category of securities, the [bank] must calculate the haircut on the basis of internal volatility estimates for securities in that category that are representative of the securities in that category that the [bank] has actually lent, sold subject to repurchase, posted as collateral, borrowed, purchased subject to resale, or taken as collateral. In determining relevant categories, the [bank] must take into account:

(*1*) The type of issuer of the security;

(*2*) The applicable external rating of the security;

(*3*) The maturity of the security; and

(*4*) The interest rate sensitivity of the security.

(C) With respect to debt securities that have an applicable external rating of below investment grade and equity securities, a [bank] must calculate a separate haircut for each individual security.

(D) Where an exposure or collateral (whether in the form of cash or securities) is denominated in a currency that differs from the settlement currency, the [bank] must calculate a separate currency mismatch haircut for its net position in each mismatched currency based on estimated volatilities of foreign exchange rates between the mismatched currency and the settlement currency.

(E) A [bank]'s own estimates of market price and foreign exchange rate volatilities may not take into account the correlations among securities and foreign exchanges rates on either the exposure or collateral side of a transaction (or netting set) or the correlations among securities and foreign exchange rates between the exposure and collateral sides of the transaction (or netting set).

(3) *Simple VaR methodology.* With the prior written approval of [AGENCY], a [bank] may estimate EAD for a netting set using a VaR model that meets the requirements in paragraph (a)(3)(iii) of this section. In such event, the [bank] must set EAD = max {0, [(ΣE − ΣC) + PFE]}, where:

(i) ΣE equals the value of the exposure (that is, the sum of the current market values of all securities and cash the [bank] has lent, sold subject to repurchase, or posted as collateral to the counterparty under the netting set);

(ii) ΣC equals the value of the collateral (that is, the sum of the current market values of all securities and cash the [bank] has borrowed, purchased subject to resale, or taken as collateral from the counterparty under the netting set); and

(iii) PFE (potential future exposure) equals the [bank]'s empirically-based best estimate of the 99th percentile, one-tailed confidence interval for an increase in the value of (ΣE − ΣC) over a 5-business-day holding period for repo-style transactions or over a 10-business-day holding period for eligible margin loans using a minimum one-year historical observation period of price data representing the instruments that the [bank] has lent, sold subject to repurchase, posted as collateral, borrowed, purchased subject to resale, or taken as collateral. The [bank] must validate its VaR model, including by establishing and maintaining a rigorous and regular back-testing regime.

(b) *EAD for OTC derivative contracts.* (1) A [bank] must determine the EAD for an OTC derivative contract that is not subject to a qualifying master netting agreement using the current exposure methodology in paragraph (b)(5) of this section or using the internal models methodology described in paragraph (c) of this section.

(2) A [bank] must determine the EAD for multiple OTC derivative contracts that are subject to a qualifying master netting agreement using the current exposure methodology in paragraph (b)(6) of this section or using the internal models methodology described in paragraph (c) of this section.[8]

(3) *Counterparty credit risk for credit derivatives.* Notwithstanding the above,

(i) A [bank] that purchases a credit derivative that is recognized under section 33 or 34 as a credit risk mitigant for an exposure that is not a covered position under [the market risk rule] need not compute a separate counterparty credit risk capital requirement under this section so long as it does so consistently for all such credit derivatives and either includes all or excludes all such credit derivatives that are subject to a master netting contract from any measure used to determine counterparty credit risk exposure to all relevant counterparties for risk-based capital purposes.

(ii) A [bank] that is the protection provider in a credit derivative must treat the credit derivative as a wholesale exposure to the reference obligor and need not compute a counterparty credit risk capital requirement for the credit derivative under this section, so long as it does so consistently for all such credit derivatives and either includes all or excludes all such credit derivatives that are subject to a master netting contract from any measure used to determine counterparty credit risk exposure to all relevant counterparties for risk-based capital purposes (unless the [bank] is treating the credit derivative as a covered position under [the market risk rule], in which case the [bank] must compute a supplemental counterparty credit risk capital requirement under this section).

(4) *Counterparty credit risk for equity derivatives.* A [bank] must treat an equity derivative contract as an equity exposure and compute a risk-weighted asset amount for the equity derivative contract under part VI (unless the [bank] is treating the contract as a covered position under [the market risk rule]). In addition, if the [bank] is treating the contract as a covered position under [the market risk rule] and in certain other cases described in section 55, the [bank] must also calculate a risk-based capital requirement for the counterparty credit risk of an equity derivative contract under this part.

(5) *Single OTC derivative contract.* Except as modified by paragraph (b)(7) of this section, the EAD for a single OTC derivative contract that is not subject to a qualifying master netting agreement is equal to the sum of the [bank]'s current credit exposure and potential future credit exposure on the derivative contract.

(i) *Current credit exposure.* The current credit exposure for a single OTC derivative contract is the greater of the mark-to-market value of the derivative contract or zero.

(ii) *PFE.* The PFE for a single OTC derivative contract, including an OTC derivative contract with a negative mark-to-market value, is calculated by multiplying the notional principal amount of the derivative contract by the appropriate conversion factor in Table 4. For purposes of calculating either the potential future credit exposure under this paragraph or the gross potential future credit exposure under paragraph (b)(6) of this section for exchange rate contracts and other similar contracts in which the notional principal amount is equivalent to the cash flows, notional principal amount is the net receipts to each party falling due on each value date in each currency. For any OTC derivative contract that does not fall within one of the specified categories in Table 4, the potential future credit exposure must be calculated using the ''other commodity'' conversion factors. [Bank]s must use an OTC derivative contract's effective notional principal amount (that is, its apparent or stated notional principal amount multiplied by any multiplier in the OTC derivative contract) rather than its apparent or stated notional principal amount in calculating potential future credit exposure. PFE of the protection provider of a credit derivative is capped at the net present value of the amount of unpaid premiums.

TABLE 4.—CONVERSION FACTOR MATRIX FOR OTC DERIVATIVE CONTRACTS*

| Remaining maturity** | Interest rate | Foreign exchange rate and gold | Credit (investment grade reference obligor)*** | Credit (non-investment grade reference obligor) | Equity | Precious metals (except gold) | Other commodity |
|---|---|---|---|---|---|---|---|
| One year or less | 0.00 | 0.01 | 0.05 | 0.10 | 0.06 | 0.07 | 0.10 |
| Over one to five years | 0.005 | 0.05 | 0.05 | 0.10 | 0.08 | 0.07 | 0.12 |
| Over five years | 0.015 | 0.075 | 0.05 | 0.10 | 0.10 | 0.08 | 0.15 |

* 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.

[8] For purposes of this determination, for OTC derivative contracts, a [bank] must maintain a written and well reasoned legal opinion that this agreement meets the criteria set forth in the definition of qualifying master netting agreement.

** 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.

*** A [bank] must use column 4 of this table—"Credit (investment grade reference obligor)"—for a credit derivative whose reference obligor has an outstanding unsecured long-term debt security without credit enhancement that has a long-term applicable external rating of at least investment grade. A [bank] must use column 5 of the table for all other credit derivatives.

(6) *Multiple OTC derivative contracts subject to a qualifying master netting agreement.* Except as modified by paragraph (b)(7) of this section, the EAD for multiple OTC derivative contracts subject to a qualifying master netting agreement is equal to the sum of the net current credit exposure and the adjusted sum of the PFE exposure for all OTC derivative contracts subject to the qualifying master netting agreement.

(i) *Net current credit exposure.* The net current credit exposure is the greater of:

(A) The net sum of all positive and negative mark-to-market values of the individual OTC derivative contracts subject to the qualifying master netting agreement; or

(B) zero.

(ii) *Adjusted sum of the PFE.* The adjusted sum of the PFE is calculated as Anet = (0.4 × Agross) + (0.6 × NGR × Agross), where:

(A) Anet = the adjusted sum of the PFE;

(B) Agross = the gross PFE (that is, the sum of the PFE amounts (as determined under paragraph (b)(5)(ii) of this section) for each individual OTC derivative contract subject to the qualifying master netting agreement); and

(C) NGR = the net to gross ratio (that 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 (as determined under paragraph (b)(5)(i) of this section) of all individual OTC derivative contracts subject to the qualifying master netting agreement.

(7) *Collateralized OTC derivative contracts.* A [bank] may recognize the credit risk mitigation benefits of financial collateral that secures an OTC derivative contract or single-product set of OTC derivatives subject to a qualifying master netting agreement (netting set) by factoring the collateral into its ELGD and LGD estimates for the contract or netting set. Alternatively, a [bank] may recognize the credit risk mitigation benefits of financial collateral that secures such a contract or netting set that is marked to market on a daily basis and subject to a daily margin maintenance requirement by estimating an unsecured ELGD and LGD for the contract or netting set and adjusting the EAD calculated under paragraph (b)(5) or (b)(6) of this section using the collateral haircut approach in paragraph (a)(2) of this section. The [bank] must substitute the EAD calculated under paragraph (b)(5) or (b)(6) of this section for ΣE in the equation in paragraph (a)(2)(i) of this section and must use a 10-business-day minimum holding period ($T_M = 10$).

(c) *Internal models methodology.* (1) With prior written approval from [AGENCY], a [bank] may use the internal models methodology in this paragraph (c) to determine EAD for counterparty credit risk for OTC derivative contracts (collateralized or uncollateralized) and single-product netting sets thereof, for eligible margin loans and single-product netting sets thereof, and for repo-style transactions and single-product netting sets thereof. A [bank] that uses the internal models methodology for a particular transaction type (OTC derivative contracts, eligible margin loans, or repo-style transactions) must use the internal models methodology for all transactions of that transaction type. A [bank] may choose to use the internal models methodology for one or two of these three types of exposures and not the other types. A [bank] may also use the internal models methodology for OTC derivative contracts, eligible margin loans, and repo-style transactions subject to a qualifying cross-product netting agreement if:

(i) The [bank] effectively integrates the risk mitigating effects of cross-product netting into its risk management and other information technology systems; and

(ii) The [bank] obtains the prior written approval of the [AGENCY].

A [bank] that uses the internal models methodology for a type of exposures must receive approval from the [AGENCY] to cease using the methodology for that type of exposures or to make a material change to its internal model.

(2) Under the internal models methodology, a [bank] uses an internal model to estimate the expected exposure (EE) for a netting set and then calculates EAD based on that EE.

(i) The [bank] must use its internal model's probability distribution for changes in the market value of an exposure or netting set that are attributable to changes in market variables to determine EE. The [bank] may include financial collateral currently posted by the counterparty as collateral when calculating EE.

(ii) Under the internal models methodology, EAD = α × effective EPE, or, subject to [AGENCY] approval as provided in paragraph (c)(7), a more conservative measure of EAD.

$$\text{(A) EffectiveEPE}_{t_k} = \sum_{k=1}^{n} \text{EffectiveEE}_{t_k} * \Delta t_k$$

(that is, effective EPE is the time-weighted average of effective EE where the weights are the proportion that an individual effective EE represents in a one year time interval) where:

(*1*) Effective $EE_{tk}$ = max ($\text{EffectiveEE}_{tk-1}$, $EE_{tk}$ (that is, for a specific date $t_k$, effective EE is the greater of EE at that date or the effective EE at the previous date); and

(2) $t_k$ represents the $k^{th}$ future time period in the model and there are n time periods represented in the model over the first year; and

(B) α = 1.4 except as provided in paragraph (c)(6), or when [AGENCY] has determined that the [bank] must set α higher based on the [bank]'s specific characteristics of counterparty credit risk.

(3) To obtain [AGENCY] approval to calculate the distributions of exposures upon which the EAD calculation is based, the [bank] must demonstrate to the satisfaction of [AGENCY] that it has been using for at least one year an internal model that broadly meets the following minimum standards, with which the [bank] must maintain compliance:

(i) The model must have the systems capability to estimate the expected exposure to the counterparty on a daily basis (but is not expected to estimate or report expected exposure on a daily basis).

(ii) The model must estimate expected exposure at enough future dates to accurately reflect all the future cash flows of contracts in the netting set.

(iii) The model must account for the possible non-normality of the exposure distribution, where appropriate.

(iv) The [bank] must measure, monitor, and control current counterparty exposure and the exposure to the counterparty over the whole life of all contracts in the netting set.

(v) The [bank] must measure and manage current exposures gross and net of collateral held, where appropriate. The [bank] must estimate expected exposures for OTC derivative contracts both with and without the effect of collateral agreements.

(vi) The [bank] must have procedures to identify, monitor, and control specific wrong-way risk throughout the life of an exposure. Wrong-way risk in this context is the risk that future exposure to a counterparty will be high when the counterparty's probability of default is also high.

(vii) The model must use current market data to compute current exposures. When estimating model parameters based on historical data, at least three years of historical data that cover a wide range of economic conditions must be used and must be updated quarterly or more frequently if market conditions warrant. The [bank] should consider using model parameters based on forward-looking measures such as implied volatilities, where appropriate.

(viii) A [bank] must subject its internal model to an initial validation and annual model review process. The model review should consider whether the inputs and risk factors, as well as the model outputs, are appropriate.

(4) *Maturity.* (i) If the remaining maturity of the exposure or the longest-dated contract in the netting set is greater than one year, the [bank] must set M for the exposure or netting set equal to the lower of 5 years or M(EPE), where:

$$\text{(A) } M(EPE) = 1 + \frac{\sum_{t_k > 1\text{ year}}^{\text{maturity}} EE_k \times \Delta t_k \times df_k}{\sum_{k=1}^{t_k \le 1\text{ year}} \text{effective } EE_k \times \Delta t_k \times df_k};$$

(B) $df_k$ is the risk-free discount factor for future time period $t_k$; and

(C) $\Delta t_k = t_k - t_{k-1}$.

(ii) If the remaining maturity of the exposure or the longest-dated contract in the netting set is one year or less, the [bank] must set M for the exposure or netting set equal to 1 year, except as provided in paragraph (d)(7) of section 31.

(5) *Collateral agreements.* A [bank] may capture the effect on EAD of a collateral agreement that requires receipt of collateral when exposure to the counterparty increases but may not capture the effect on EAD of a collateral agreement that requires receipt of collateral when counterparty credit quality deteriorates. For this purpose, a collateral agreement means a legal contract that specifies the time when, and circumstances under which, the counterparty is required to exchange collateral with the [bank] for a single financial contract or for all financial contracts covered under a qualifying master netting agreement and confers upon the [bank] a perfected, first priority security interest, or the legal equivalent thereof, in the collateral posted by the counterparty under the agreement. This security interest must provide the [bank] with a right to close out the financial positions and the collateral upon an event of default of, or failure to perform by, the counterparty under the collateral agreement. A contract would not satisfy this requirement if the [bank]'s exercise of rights under the agreement may be stayed or avoided under applicable law in the relevant jurisdictions. Two methods are available to capture the effect of a collateral agreement:

(i) With prior written approval from [AGENCY], a [bank] may include the effect of a collateral agreement within its internal model used to calculate EAD. The [bank] may set EAD equal to the expected exposure at the end of the margin period of risk. The margin period of risk means, with respect to a netting set subject to a collateral agreement, the time period from the most recent exchange of collateral with a counterparty until the next required exchange of collateral plus the period of time required to sell and realize the proceeds of the least liquid collateral that can be delivered under the terms of the collateral agreement, and, where applicable, the period of time required to re-hedge the resulting market risk, upon the default of the counterparty. The minimum margin period of risk is 5 business days for repo-style transactions and 10 business days for other transactions when liquid financial collateral is posted under a daily margin maintenance requirement. This period should be extended to cover any additional time between margin calls; any potential closeout difficulties; any delays in selling collateral, particularly if the collateral is illiquid; and any impediments to prompt re-hedging of any market risk.

(ii) A [bank] that can model EPE without collateral agreements but cannot achieve the higher level of modeling sophistication to model EPE with collateral agreements can set effective EPE for a collateralized counterparty equal to the lesser of:

(A) The threshold, defined as the exposure amount at which the counterparty is required to post collateral under the collateral agreement, if the threshold is positive, plus an add-on that reflects the potential increase in exposure over the margin period of risk. The add-on is computed as the expected increase in the netting set's exposure beginning from current exposure of zero over the margin period of risk. The margin period of risk must be at least five business days for exposures or netting sets consisting only of repo-style transactions subject to daily re-margining and daily marking-to-market, and 10 business days for all other exposures or netting sets; or

(B) Effective EPE without a collateral agreement.

(6) *Own estimate of alpha.* With prior written approval of [AGENCY], a [bank] may calculate alpha as the ratio of economic capital from a full simulation of counterparty exposure across counterparties that incorporates a joint simulation of market and credit risk factors (numerator) and economic capital based on EPE (denominator), subject to a floor of 1.2. For purposes of this calculation, economic capital is the unexpected losses for all counterparty

credit risks measured at a 99.9 percent confidence level over a one-year horizon. To receive approval, the [bank] must meet the following minimum standards to the satisfaction of [AGENCY]:

(i) The [bank]'s own estimate of alpha must capture in the numerator the effects of:

(A) The material sources of stochastic dependency of distributions of market values of transactions or portfolios of transactions across counterparties;

(B) Volatilities and correlations of market risk factors used in the joint simulation, which must be related to the credit risk factor used in the simulation to reflect potential increases in volatility or correlation in an economic downturn, where appropriate; and

(C) The granularity of exposures, that is, the effect of a concentration in the proportion of each counterparty's exposure that is driven by a particular risk factor.

(ii) The [bank] must assess the potential model risk in its estimates of alpha.

(iii) The [bank] must calculate the numerator and denominator of alpha in a consistent fashion with respect to modeling methodology, parameter specifications, and portfolio composition.

(iv) The [bank] must review and adjust as appropriate its estimates of the numerator and denominator on at least a quarterly basis and more frequently when the composition of the portfolio varies over time.

(7) *Other measures of counterparty exposure.* With prior written approval of [AGENCY], a [bank] may set EAD equal to a measure of counterparty credit risk exposure, such as peak EAD, that is more conservative than an alpha of 1.4 (or higher under the terms of paragraph (c)(2)(ii)(B)) times EPE for every counterparty whose EAD will be measured under the alternative measure of counterparty exposure. The [bank] must demonstrate the conservatism of the measure of counterparty credit risk exposure used for EAD.

**Section 33. Guarantees and Credit Derivatives: PD Substitution and LGD Adjustment Treatments**

(a) *Scope.* (1) This section applies to wholesale exposures for which:

(i) Credit risk is fully covered by an eligible guarantee or eligible credit derivative; and

(ii) Credit risk is covered on a pro rata basis (that is, on a basis in which the [bank] and the protection provider share losses proportionately) by an eligible guarantee or eligible credit derivative.

(2) Wholesale exposures on which there is a tranching of credit risk (reflecting at least two different levels of seniority) are securitization exposures subject to the securitization framework in part V.

(3) A [bank] may elect to recognize the credit risk mitigation benefits of an eligible guarantee or eligible credit derivative covering an exposure described in paragraph (a)(1) of this section by using the PD substitution approach or the LGD adjustment approach in paragraph (c) of this section or using the double default treatment in section 34 (if the transaction qualifies for the double default treatment in section 34). A [bank]'s PD and LGD for the hedged exposure may not be lower than the PD and LGD floors described in paragraphs (d)(2) and (d)(3) of section 31.

(4) A [bank] must use the same risk parameters for calculating ECL as it uses for calculating the risk-based capital requirement for the exposure.

(b) *Rules of recognition.* (1) A [bank] may only recognize the credit risk mitigation benefits of eligible guarantees and eligible credit derivatives.

(2) A [bank] may only recognize the credit risk mitigation benefits of an eligible credit derivative to hedge an exposure that is different from the credit derivative's reference exposure used for determining the derivative's cash settlement value, deliverable obligation, or occurrence of a credit event if:

(i) The reference exposure ranks pari passu (that is, equally) with or is junior to the hedged exposure; and

(ii) The reference exposure and the hedged exposure share the same obligor (that is, the same legal entity), and legally enforceable cross-default or cross-acceleration clauses are in place.

(c) *Risk parameters for hedged exposures*—(1) *PD substitution approach*—(i) *Full coverage.* If an eligible guarantee or eligible credit derivative meets the conditions in paragraphs (a) and (b) of this section and the protection amount (P) of the guarantee or credit derivative is greater than or equal to the EAD of the hedged exposure, a [bank] may recognize the guarantee or credit derivative in determining the [bank]'s risk-based capital requirement for the hedged exposure by substituting the PD associated with the rating grade of the protection provider for the PD associated with the rating grade of the obligor in the risk-based capital formula in Table 2 and using the appropriate ELGD and LGD as described in paragraphs (c)(1)(iii) and (iv) of this section. If the [bank] determines that full substitution of the protection provider's PD leads to an inappropriate degree of risk mitigation, the [bank] may substitute a higher PD than that of the protection provider.

(ii) *Partial coverage.* If an eligible guarantee or eligible credit derivative meets the conditions in paragraphs (a) and (b) of this section and the protection amount (P) of the guarantee or credit derivative is less than the EAD of the hedged exposure, the [bank] must treat the hedged exposure as two separate exposures (protected and unprotected) in order to recognize the credit risk mitigation benefit of the guarantee or credit derivative.

(A) The [bank] must calculate its risk-based capital requirement for the protected exposure under section 31, where PD is the protection provider's PD, ELGD and LGD are determined under paragraphs (c)(1)(iii) and (iv) of this section, and EAD is P. If the [bank] determines that full substitution leads to an inappropriate degree of risk mitigation, the [bank] may use a higher PD than that of the protection provider.

(B) The [bank] must calculate its risk-based capital requirement for the unprotected exposure under section 31, where PD is the obligor's PD, ELGD is the hedged exposure's ELGD (not adjusted to reflect the guarantee or credit derivative), LGD is the hedged exposure's LGD (not adjusted to reflect the guarantee or credit derivative), and EAD is the EAD of the original hedged exposure minus P.

(C) The treatment in this paragraph (c)(1)(ii) is applicable when the credit risk of a wholesale exposure is covered on a pro rata basis or when an adjustment is made to the effective notional amount of the guarantee or credit derivative under paragraphs (d), (e), or (f) of this section.

(iii) *LGD of hedged exposures.* The LGD of a hedged exposure under the PD substitution approach is equal to:

(A) The lower of the LGD of the hedged exposure (not adjusted to reflect the guarantee or credit derivative) and the LGD of the guarantee or credit derivative, if the guarantee or credit derivative provides the [bank] with the option to receive immediate payout upon triggering the protection; or

(B) The LGD of the guarantee or credit derivative, if the guarantee or credit derivative does not provide the [bank] with the option to receive immediate payout upon triggering the protection.

(iv) *ELGD of hedged exposures.* The ELGD of a hedged exposure under the PD substitution approach is equal to the ELGD associated with the LGD determined under paragraph (c)(1)(iii) of this section.

(2) *LGD adjustment approach*—(i) *Full coverage.* If an eligible guarantee or eligible credit derivative meets the conditions in paragraphs (a) and (b) of this section and the protection amount (P) of the guarantee or credit derivative is greater than or equal to the EAD of the hedged exposure, the [bank]'s risk-based capital requirement for the hedged exposure would be the greater of:

(A) The risk-based capital requirement for the exposure as calculated under section 31, with the ELGD and LGD of the exposure adjusted to reflect the guarantee or credit derivative; or

(B) The risk-based capital requirement for a direct exposure to the protection provider as calculated under section 31, using the PD for the protection provider, the ELGD and LGD for the guarantee or credit derivative, and an EAD equal to the EAD of the hedged exposure.

(ii) *Partial coverage.* If an eligible guarantee or eligible credit derivative meets the conditions in paragraphs (a) and (b) of this section and the protection amount (P) of the guarantee or credit derivative is less than the EAD of the hedged exposure, the [bank] must treat the hedged exposure as two separate exposures (protected and unprotected) in order to recognize the credit risk mitigation benefit of the guarantee or credit derivative.

(A) The [bank]'s risk-based capital requirement for the protected exposure would be the greater of:

(*1*) The risk-based capital requirement for the protected exposure as calculated under section 31, with the ELGD and LGD of the exposure adjusted to reflect the guarantee or credit derivative and EAD set equal to P; or

(*2*) The risk-based capital requirement for a direct exposure to the guarantor as calculated under section 31, using the PD for the protection provider, the ELGD and LGD for the guarantee or credit derivative, and an EAD set equal to P.

(B) The [bank] must calculate its risk-based capital requirement for the unprotected exposure under section 31, where PD is the obligor's PD, ELGD is the hedged exposure's ELGD (not adjusted to reflect the guarantee or credit derivative), LGD is the hedged exposure's LGD (not adjusted to reflect the guarantee or credit derivative), and EAD is the EAD of the original hedged exposure minus P.

(3) *M of hedged exposures.* The M of the hedged exposure is the same as the M of the exposure if it were unhedged.

(d) *Maturity mismatch.* (1) A [bank] that recognizes an eligible guarantee or eligible credit derivative in determining its risk-based capital requirement for a hedged exposure must adjust the protection amount of the credit risk mitigant to reflect any maturity mismatch between the hedged exposure and the credit risk mitigant.

(2) A maturity mismatch occurs when the residual maturity of a credit risk mitigant is less than that of the hedged exposure(s). When a credit risk mitigant covers multiple hedged exposures that have different residual maturities, the longest residual maturity of any of the hedged exposures must be taken as the residual maturity of the hedged exposures.

(3) The residual maturity of a hedged exposure is the longest possible remaining time before the obligor is scheduled to fulfill its obligation on the exposure. If a credit risk mitigant has embedded options that may reduce its term, the [bank] (protection purchaser) must use the shortest possible residual maturity for the credit risk mitigant. If a call is at the discretion of the protection provider, the residual maturity of the credit risk mitigant is at the first call date. If the call is at the discretion of the [bank] (protection purchaser), but the terms of the arrangement at origination of the credit risk mitigant contain a positive incentive for the [bank] to call the transaction before contractual maturity, the remaining time to the first call date is the residual maturity of the credit risk mitigant. For example, where there is a step-up in cost in conjunction with a call feature or where the effective cost of protection increases over time even if credit quality remains the same or improves, the residual maturity of the credit risk mitigant will be the remaining time to the first call.

(4) A credit risk mitigant with a maturity mismatch may be recognized only if its original maturity is greater than or equal to one year and its residual maturity is greater than three months.

(5) When a maturity mismatch exists, the [bank] must apply the following adjustment to reduce the protection amount of the credit risk mitigant: $Pm = E \times (t - 0.25)/(T - 0.25)$, where:

(i) Pm = protection amount of the credit risk mitigant, adjusted for maturity mismatch;

(ii) E = effective notional amount of the credit risk mitigant;

(iii) t = the lesser of T or the residual maturity of the credit risk mitigant, expressed in years; and

(iv) T = the lesser of 5 or the residual maturity of the hedged exposure, expressed in years.

(e) *Credit derivatives without restructuring as a credit event.* If a [bank] recognizes an eligible credit derivative that does not include as a credit event a restructuring of the hedged exposure involving forgiveness or postponement of principal, interest, or fees that results in a credit loss event (that is, a charge-off, specific provision, or other similar debit to the profit and loss account), the [bank] must apply the following adjustment to reduce the protection amount of the credit derivative: $Pr = Pm \times 0.60$, where:

(1) Pr = protection amount of the credit derivative, adjusted for lack of restructuring event (and maturity mismatch, if applicable); and

(2) Pm = effective notional amount of the credit derivative (adjusted for maturity mismatch, if applicable).

(f) *Currency mismatch.* (1) If a [bank] recognizes an eligible guarantee or eligible credit derivative that is denominated in a currency different from that in which the hedged exposure is denominated, the protection amount of the guarantee or credit derivative is reduced by application of the following formula: $Pc = Pr \times (1 \times H_{FX})$, where:

(i) Pc = protection amount of the guarantee or credit derivative, adjusted for currency mismatch (and maturity mismatch and lack of restructuring event, if applicable);

(ii) Pr = effective notional amount of the guarantee or credit derivative (adjusted for maturity mismatch and lack of restructuring event, if applicable); and

(iii) $H_{FX}$ = haircut appropriate for the currency mismatch between the guarantee or credit derivative and the hedged exposure.

(2) A [bank] must set $H_{FX}$ equal to 8 percent unless it qualifies for the use of and uses its own internal estimates of foreign exchange volatility based on a 10-business day holding period and daily marking-to-market and remargining. A [bank] qualifies for the use of its own internal estimates of foreign exchange volatility if it qualifies for:

(i) The own-estimates haircuts in paragraph (a)(2)(iii) of section 32;

(ii) The simple VaR methodology in paragraph (a)(3) of section 32; or

(iii) The internal models methodology in paragraph (c) of section 32.

(3) A [bank] must adjust $H_{FX}$ calculated in paragraph (f)(2) of this section upward if the [bank] revalues the guarantee or credit derivative less frequently than once every 10 business days using the square root of time formula provided in paragraph (a)(2)(iii)(A)(*2*) of section 32.

**Section 34. Guarantees and Credit Derivatives: Double Default Treatment**

(a) *Eligibility and operational criteria for double default treatment.* A [bank] may recognize the credit risk mitigation benefits of a guarantee or credit derivative covering an exposure described in paragraph (a)(1) of section 33 by applying the double default treatment in this section if all the following criteria are satisfied.

(1) The hedged exposure is fully covered or covered on a pro rata basis by:

(i) An eligible guarantee issued by an eligible double default guarantor; or

(ii) An eligible credit derivative that meets the requirements of paragraph (b)(2) of section 33 and is issued by an eligible double default guarantor.

(2) The guarantee or credit derivative is:

(i) An uncollateralized guarantee or uncollateralized credit derivative (for example, a credit default swap) that provides protection with respect to a single reference obligor; or

(ii) An nth-to-default credit derivative (subject to the requirements of paragraph (m) of section 42).

(3) The hedged exposure is a wholesale exposure (other than a sovereign exposure).

(4) The obligor of the hedged exposure is not:

(i) An eligible double default guarantor or an affiliate of an eligible double default guarantor; or

(ii) An affiliate of the guarantor.

(5) The [bank] does not recognize any credit risk mitigation benefits of the guarantee or credit derivative for the hedged exposure other than through application of the double default treatment as provided in this section.

(6) The [bank] has implemented a process (which has received the prior, written approval of the [AGENCY]) to detect excessive correlation between the creditworthiness of the obligor of the hedged exposure and the protection provider. If excessive correlation is present, the [bank] may not use the double default treatment for the hedged exposure.

(b) *Full coverage.* If the transaction meets the criteria in paragraph (a) of this section and the protection amount (P) of the guarantee or credit derivative is at least equal to the EAD of the hedged exposure, the [bank] may determine its risk-weighted asset amount for the hedged exposure under paragraph (e) of this section.

(c) *Partial coverage.* If the transaction meets the criteria in paragraph (a) of this section and the protection amount (P) of the guarantee or credit derivative is less than the EAD of the hedged exposure, the [bank] must treat the hedged exposure as two separate exposures (protected and unprotected) in order to recognize double default treatment on the protected portion of the exposure.

(1) For the protected exposure, the [bank] must set EAD equal to P and calculate its risk-weighted asset amount as provided in paragraph (e) of this section.

(2) For the unprotected exposure, the [bank] must set EAD equal to the EAD of the original exposure minus P and then calculate its risk-weighted asset amount as provided in section 31.

(d) *Mismatches.* For any hedged exposure to which a [bank] applies double default treatment, the [bank] must make applicable adjustments to the protection amount as required in paragraphs (d), (e), and (f) of section 33.

(e) *The double default dollar risk-based capital requirement.* The dollar risk-based capital requirement for a hedged exposure to which a [bank] has applied double default treatment is $K_{DD}$ multiplied by the EAD of the exposure. $K_{DD}$ is calculated according to the following formula: $K_{DD} = K_o \times (0.15 + 160 \times PD_g)$, where:

$$(1)\ K_o = \left[ LGD_g \times N\left( \frac{N^{-1}\left(PD_o\right) + N^{-1}\left(0.999\right)\sqrt{\rho_{os}}}{\sqrt{1-\rho_{os}}} \right) - \left(ELGD_g \times PD_o\right) \right] \times \left[ \frac{1+\left(M-2.5\right)\times b}{1-1.5\times b} \right]$$

(2) $PD_g$ = PD of the protection provider.

(3) $PD_o$ = PD of the obligor of the hedged exposure.

(4) $LGD_g$ = (i) The lower of the LGD of the unhedged exposure and the LGD of the guarantee or credit derivative, if the guarantee or credit derivative provides the [bank] with the option to receive immediate payout on triggering the protection; or

(ii) The LGD of the guarantee or credit derivative, if the guarantee or credit derivative does not provide the [bank] with the option to receive immediate payout on triggering the protection.

(5) $ELGD_g$ = The ELGD associated with $LGD_g$.

(6) $\rho_{os}$ (asset value correlation of the obligor) is calculated according to the appropriate formula for (R) provided in Table 2 in section 31, with PD equal to $PD_o$.

(7) b (maturity adjustment coefficient) is calculated according to the formula for b provided in Table 2 in section 31, with PD equal to the lesser of $PD_o$ and $PD_g$.

(8) M (maturity) is the effective maturity of the guarantee or credit derivative, which may not be less than one year or greater than five years.

**Section 35. Risk-Based Capital Requirement for Unsettled Transactions**

(a) *Definitions.* For purposes of this section:

(1) *Delivery-versus-payment (DvP) transaction* means a securities or commodities transaction in which the buyer is obligated to make payment only if the seller has made delivery of the securities or commodities and the seller is obligated to deliver the securities or commodities only if the buyer has made payment.

(2) *Payment-versus-payment (PvP) transaction* means a foreign exchange transaction in which each counterparty is obligated to make a final transfer of one or more currencies only if the other counterparty has made a final transfer of one or more currencies.

(3) *Normal settlement period.* A transaction has a *normal settlement period* if the contractual settlement period for the transaction is equal to or less than the market standard for the instrument underlying the transaction and equal to or less than 5 business days.

(4) *Positive current exposure.* The positive current exposure of a [bank] for a transaction is the difference between the transaction value at the agreed settlement price and the current market price of the transaction, if the difference results in a credit exposure of the [bank] to the counterparty.

(b) *Scope.* This section applies to all transactions involving securities, foreign exchange instruments, and commodities that have a risk of delayed settlement or delivery. This section does not apply to:

(1) Transactions accepted by a qualifying central counterparty that are subject to daily marking-to-market and daily receipt and payment of variation margin;

(2) Repo-style transactions (which are addressed in sections 31 and 32);[9]

(3) One-way cash payments on OTC derivative contracts (which are addressed in sections 31 and 32); or

(4) Transactions with a contractual settlement period that is longer than the normal settlement period (which are treated as OTC derivative contracts and addressed in sections 31 and 32).

(c) *System-wide failures.* In the case of a system-wide failure of a settlement or clearing system, the [AGENCY] may waive risk-based capital requirements for unsettled and failed transactions until the situation is rectified.

(d) *Delivery-versus-payment (DvP) and payment-versus-payment (PvP) transactions.* A [bank] must hold risk-based capital against any DvP or PvP transaction with a normal settlement period if the [bank]'s counterparty has not made delivery or payment within five business days after the settlement date. The [bank] must determine its risk-weighted asset amount for such a transaction by multiplying the positive current exposure of the transaction for the [bank] by the appropriate risk weight in Table 5.

TABLE 5.—RISK WEIGHTS FOR UNSETTLED DVP AND PVP TRANSACTIONS

| Number of business days after contractual settlement date | Risk weight to be applied to positive current exposure (percent) |
|---|---|
| From 5 to 15 | 100 |
| From 16 to 30 | 625 |
| From 31 to 45 | 937.5 |
| 46 or more | 1,250 |

(e) *Non-DvP/non-PvP (non-delivery-versus-payment/non-payment-versus-payment) transactions.* (1) A [bank] must hold risk-based capital against any non-DvP/non-PvP transaction with a normal settlement period if the [bank] has delivered cash, securities, commodities, or currencies to its counterparty but has not received its corresponding deliverables by the end of the same business day. The [bank] must continue to hold risk-based capital against the transaction until the [bank] has received its corresponding deliverables.

(2) From the business day after the [bank] has made its delivery until five business days after the counterparty delivery is due, the [bank] must calculate its risk-based capital requirement for the transaction by treating the current market value of the deliverables owed to the [bank] as a wholesale exposure.

(i) A [bank] may assign an obligor rating to a counterparty for which it is not otherwise required under this rule to assign an obligor rating on the basis of the applicable external rating of any outstanding unsecured long-term debt security without credit enhancement issued by the counterparty.

(ii) A [bank] may use a 45 percent ELGD and LGD for the transaction rather than estimating ELGD and LGD for the transaction provided the [bank] uses the 45 percent ELGD and LGD for all transactions described in paragraphs (e)(1) and (e)(2) of this section.

(iii) A [bank] may use a 100 percent risk weight for the transaction provided the [bank] uses this risk weight for all transactions described in paragraphs (e)(1) and (e)(2) of this section.

(3) If the [bank] has not received its deliverables by the fifth business day after counterparty delivery was due, the [bank] must deduct the current market value of the deliverables owed to the [bank] 50 percent from tier 1 capital and 50 percent from tier 2 capital.

(f) *Total risk-weighted assets for unsettled transactions.* Total risk-weighted assets for unsettled transactions is the sum of the risk-weighted asset amounts of all DvP, PvP, and non-DvP/non-PvP transactions.

## Part V. Risk-Weighted Assets for Securitization Exposures

### Section 41. Operational Criteria for Recognizing the Transfer of Risk

(a) *Operational criteria for traditional securitizations.* A [bank] that transfers exposures it has originated or purchased to an SPE or other third party in connection with a traditional securitization may exclude the exposures from the calculation of its risk-weighted assets only if each of the conditions in this paragraph (a) is satisfied. A [bank] that meets these conditions must hold risk-based capital against any securitization exposures it retains in connection with the securitization. A [bank] that fails to meet these conditions must hold risk-based capital against the transferred exposures as if they had not been securitized and must deduct from tier 1 capital any after-tax gain-on-sale resulting from the transaction. The conditions are:

(1) The transfer is considered a sale under GAAP;

(2) The [bank] has transferred to third parties credit risk associated with the underlying exposures; and

(3) Any clean-up calls relating to the securitization are eligible clean-up calls.

(b) *Operational criteria for synthetic securitizations.* For synthetic securitizations, a [bank] may recognize for risk-based capital purposes the use of a credit risk mitigant to hedge underlying exposures only if each of the conditions in this paragraph (b) is satisfied. A [bank] that fails to meet these conditions must hold risk-based capital against the underlying exposures as if they had not been synthetically securitized. The conditions are:

(1) The credit risk mitigant is financial collateral, an eligible credit derivative from an eligible securitization guarantor, or an eligible guarantee from an eligible securitization guarantor;

(2) The [bank] transfers credit risk associated with the underlying exposures to third parties, and the terms and conditions in the credit risk mitigants employed do not include provisions that:

(i) Allow for the termination of the credit protection due to deterioration in the credit quality of the underlying exposures;

(ii) Require the [bank] to alter or replace the underlying exposures to improve the credit quality of the pool of underlying exposures;

(iii) Increase the [bank]'s cost of credit protection in response to deterioration in the credit quality of the underlying exposures;

(iv) Increase the yield payable to parties other than the [bank] in response to a deterioration in the credit quality of the underlying exposures; or

(v) Provide for increases in a retained first loss position or credit enhancement provided by the [bank] after the inception of the securitization;

(3) The [bank] obtains a well-reasoned opinion from legal counsel that confirms the enforceability of the credit risk mitigant in all relevant jurisdictions; and

(4) Any clean-up calls relating to the securitization are eligible clean-up calls.

### Section 42. Risk-Based Capital Requirement for Securitization Exposures

(a) *Hierarchy of approaches.* Except as provided elsewhere in this section:

(1) A [bank] must deduct from tier 1 capital any after-tax gain-on-sale resulting from a securitization and must deduct from total capital in accordance with paragraph (c) of this section the portion of any CEIO that does not constitute gain-on-sale.

(2) If a securitization exposure does not require deduction under paragraph (a)(1) of this section and qualifies for the Ratings-Based Approach in section 43, a [bank] must apply the Ratings-Based Approach to the exposure.

[9] Unsettled repo-style transactions are treated as repo-style transactions under sections 31 and 32.

(3) If a securitization exposure does not require deduction under paragraph (a)(1) of this section and does not qualify for the Ratings-Based Approach, the [bank] may either apply the Internal Assessment Approach in section 44 to the exposure (if the [bank] and the relevant ABCP program qualify for the Internal Assessment Approach) or the Supervisory Formula Approach in section 45 to the exposure (if the [bank] and the exposure qualify for the Supervisory Formula Approach).

(4) If a securitization exposure does not require deduction under paragraph (a)(1) of this section and does not qualify for the Ratings-Based Approach, the Internal Assessment Approach, or the Supervisory Formula Approach, the [bank] must deduct the exposure from total capital in accordance with paragraph (c) of this section.

(b) *Total risk-weighted assets for securitization exposures.* A [bank]'s total risk-weighted assets for securitization exposures is equal to the sum of its risk-weighted assets calculated using the Ratings-Based Approach in section 43, the Internal Assessment Approach in section 44, and the Supervisory Formula Approach in section 45, and its risk-weighted assets amount for early amortization provisions calculated in section 47.

(c) *Deductions.* (1) If a [bank] must deduct a securitization exposure from total capital, the [bank] must take the deduction 50 percent from tier 1 capital and 50 percent from tier 2 capital. If the amount deductible from tier 2 capital exceeds the [bank]'s tier 2 capital, the [bank] must deduct the excess from tier 1 capital.

(2) A [bank] may calculate any deduction from regulatory capital for a securitization exposure net of any deferred tax liabilities associated with the securitization exposure.

(d) *Maximum risk-based capital requirement.* Regardless of any other provisions of this part, unless one or more underlying exposures does not meet the definition of a wholesale, retail, securitization, or equity exposure, the total risk-based capital requirement for all securitization exposures held by a single [bank] associated with a single securitization (including any risk-based capital requirements that relate to an early amortization provision of the securitization but excluding any risk-based capital requirements that relate to the [bank]'s gain-on-sale or CEIOs associated with the securitization) may not exceed the sum of:

(1) The [bank]'s total risk-based capital requirement for the underlying exposures as if the [bank] directly held the underlying exposures; plus

(2) The total ECL of the underlying exposures.

(e) *Amount of a securitization exposure.* (1) The amount of an on-balance sheet securitization exposure is:

(i) The [bank]'s carrying value, if the exposure is held-to-maturity or for trading; or

(ii) The [bank]'s carrying value minus any unrealized gains and plus any unrealized losses on the exposure, if the exposure is available-for-sale.

(2) The amount of an off-balance sheet securitization exposure is the notional amount of the exposure. For a commitment, such as a liquidity facility extended to an ABCP program, the notional amount may be reduced to the maximum potential amount that the [bank] currently would be required to fund under the arrangement's documentation. For an OTC derivative contract that is not a credit derivative, the notional amount is the EAD of the derivative contract (as calculated in section 32).

(f) *Overlapping exposures*—(1) *ABCP programs.* If a [bank] has multiple securitization exposures to an ABCP program that provide duplicative coverage of the underlying exposures of a securitization (such as when a [bank] provides a program-wide credit enhancement and multiple pool-specific liquidity facilities to an ABCP program), the [bank] is not required to hold duplicative risk-based capital against the overlapping position. Instead, the [bank] may apply to the overlapping position the applicable risk-based capital treatment that results in the highest risk-based capital requirement.

(2) *Mortgage loan swaps.* If a [bank] holds a mortgage-backed security or participation certificate as a result of a mortgage loan swap with recourse, and the transaction is a securitization exposure, the [bank] must determine a risk-weighted asset amount for the recourse obligation plus the percentage of the mortgage-backed security or participation certificate that is not covered by the recourse obligation. The total risk-weighted asset amount for the transaction is capped at the risk-weighted asset amount for the underlying exposures as if they were held directly on the [bank]'s balance sheet.

(g) *Securitizations of non-IRB exposures.* Regardless of paragraph (a) of this section, if a [bank] has a securitization exposure where any underlying exposure is not a wholesale exposure, retail exposure, securitization exposure, or equity exposure, the [bank] must:

(1) If the [bank] is an originating [bank], deduct from tier 1 capital any after-tax gain-on-sale resulting from the securitization and deduct from total capital in accordance with paragraph (c) of this section the portion of any CEIO that does not constitute gain-on-sale;

(2) If the securitization exposure does not require deduction under paragraph (g)(1), apply the RBA in section 43 to the securitization exposure if the exposure qualifies for the RBA; and

(3) If the securitization exposure does not require deduction under paragraph (g)(1) and does not qualify for the RBA, deduct the exposure from total capital in accordance with paragraph (c) of this section.

(h) *Implicit support.* If a [bank] provides support to a securitization in excess of the [bank]'s contractual obligation to provide credit support to the securitization (implicit support):

(1) The [bank] must hold regulatory capital against all of the underlying exposures associated with the securitization as if the exposures had not been securitized and must deduct from tier 1 capital any after-tax gain-on-sale resulting from the securitization; and

(2) The [bank] must disclose publicly:

(i) That it has provided implicit support to the securitization; and

(ii) The regulatory capital impact to the [bank] of providing such implicit support.

(i) *Eligible servicer cash advance facilities.* Regardless of any other provisions of this part, a [bank] is not required to hold risk-based capital against the undrawn portion of an eligible servicer cash advance facility.

(j) *Interest-only mortgage-backed securities.* Regardless of any other provisions of this part, the risk weight for a non-credit enhancing interest-only mortgage-backed security may not be less than 100 percent.

(k) *Small-business loans and leases on personal property transferred with recourse.* (1) Regardless of any other provisions of this appendix, a [bank] that has transferred small-business loans and leases of personal property (small-business obligations) with recourse must include in risk-weighted assets only the contractual amount of retained recourse if all the following conditions are met:

(i) The transaction is a sale under GAAP.

(ii) The [bank] establishes and maintains, pursuant to GAAP, a non-capital reserve sufficient to meet the [bank]'s reasonably estimated liability under the recourse arrangement.

(iii) The loans and leases are to businesses that meet the criteria for a small-business concern established by the Small Business Administration

under section 3(a) of the Small Business Act.

(iv) The [bank] is well capitalized, as defined in the [AGENCY]'s prompt corrective action regulation—12 CFR part 6 (for national banks), 12 CFR part 208, subpart D (for state member banks or bank holding companies), 12 CFR part 325, subpart B (for state nonmember banks), and 12 CFR part 565 (for savings associations). For purposes of determining whether a [bank] is well capitalized for purposes of paragraph (k) of this section, the [bank]'s capital ratios must be calculated without regard to the preferential capital treatment for transfers of small-business obligations with recourse specified in paragraph (k)(1) of this section.

(2) The total outstanding amount of recourse retained by a [bank] on transfers of small-business obligations receiving the preferential capital treatment specified in paragraph (k)(1) of this section cannot exceed 15 percent of the [bank]'s total qualifying capital.

(3) If a [bank] ceases to be well capitalized or exceeds the 15 percent capital limitation, the preferential capital treatment specified in paragraph (k)(1) of this section will continue to apply to any transfers of small-business obligations with recourse that occurred during the time that the [bank] was well capitalized and did not exceed the capital limit.

(4) The risk-based capital ratios of the [bank] must be calculated without regard to the preferential capital treatment for transfers of small-business obligations with recourse specified in paragraph (k)(1) of this section as provided in 12 CFR part 3, Appendix A (for national banks), 12 CFR part 208, Appendix A (for state member banks), 12 CFR part 225, Appendix A (for bank holding companies), 12 CFR part 325, Appendix A (for state nonmember banks), and 12 CFR 567.6(b)(5)(v) (for savings associations).

(l) *Consolidated ABCP programs*—(1) A [bank] that qualifies as a primary beneficiary and must consolidate an ABCP program as a variable interest entity under GAAP may exclude the consolidated ABCP program assets from risk-weighted assets if the [bank] is the sponsor of the ABCP program. If a [bank] excludes such consolidated ABCP program assets from risk-weighted assets, the [bank] must hold risk-based capital against any securitization exposures of the [bank] to the ABCP program in accordance with this part.

(2) If a [bank] either is not permitted, or elects not, to exclude consolidated ABCP program assets from its risk-weighted assets, the [bank] must hold risk-based capital against the consolidated ABCP program assets in accordance with this appendix but is not required to hold risk-based capital against any securitization exposures of the [bank] to the ABCP program.

(m) *Nth-to-default credit derivatives*—(1) *First-to-default credit derivatives*—(i) *Protection purchaser.* A [bank] that obtains credit protection on a group of underlying exposures through a first-to-default credit derivative must determine its risk-based capital requirement for the underlying exposures as if the [bank] synthetically securitized the underlying exposure with the lowest risk-based capital requirement (K) (as calculated under Table 2) and had obtained no credit risk mitigant on the other underlying exposures.

(ii) *Protection provider.* A [bank] that provides credit protection on a group of underlying exposures through a first-to-default credit derivative must determine its risk-weighted asset amount for the derivative by applying the RBA in section 43 (if the derivative qualifies for the RBA) or, if the derivative does not qualify for the RBA, by setting its risk-weighted asset amount for the derivative equal to the product of:

(A) The protection amount of the derivative;

(B) 12.5; and

(C) The sum of the risk-based capital requirements (K) of the individual underlying exposures (as calculated under Table 2), up to a maximum of 100 percent.

(2) *Second-or-subsequent-to-default credit derivatives*—(i) *Protection purchaser.* (A) A [bank] that obtains credit protection on a group of underlying exposures through a nth-to-default credit derivative (other than a first-to-default credit derivative) may recognize the credit risk mitigation benefits of the derivative only if:

(*1*) The [bank] also has obtained credit protection on the same underlying exposures in the form of first-through-(n–1)-to-default credit derivatives; or

(*2*) If n–1 of the underlying exposures have already defaulted.

(B) If a [bank] satisfies the requirements of paragraph (m)(2)(i)(A) of this section, the [bank] must determine its risk-based capital requirement for the underlying exposures as if the [bank] had only synthetically securitized the underlying exposure with the nth lowest risk-based capital requirement (K) (as calculated under Table 2) and had obtained no credit risk mitigant on the other underlying exposures.

(ii) *Protection provider.* A [bank] that provides credit protection on a group of underlying exposures through a nth-to-default credit derivative (other than a first-to-default credit derivative) must determine its risk-weighted asset amount for the derivative by applying the RBA in section 43 (if the derivative qualifies for the RBA) or, if the derivative does not qualify for the RBA, by setting its risk-weighted asset amount for the derivative equal to the product of:

(A) The protection amount of the derivative;

(B) 12.5; and

(C) The sum of the risk-based capital requirements (K) of the individual underlying exposures (as calculated under Table 2 and excluding the n–1 underlying exposures with the lowest Ks), up to a maximum of 100 percent.

**Section 43. Ratings-Based Approach (RBA)**

(a) *Eligibility requirements for use of the RBA*—(1) *Originating [bank].* An originating [bank] must use the RBA to calculate its risk-based capital requirement for a securitization exposure if the exposure has two or more external ratings or an inferred rating based on two or more external ratings (and may not use the RBA if the exposure has fewer than two external ratings or an inferred rating based on fewer than two external ratings).

(2) *Investing [bank].* An investing [bank] must use the RBA to calculate its risk-based capital requirement for a securitization exposure if the exposure has one or more external or inferred ratings (and may not use the RBA if the exposure has no external or inferred rating).

(b) *Ratings-based approach.* (1) A [bank] must determine the risk-weighted asset amount for a securitization exposure by multiplying the amount of the exposure (as defined in paragraph (e) of section 42) by the appropriate risk weight provided in the tables in this section.

(2) The applicable rating of a securitization exposure that has more than one external or inferred rating is the lowest rating.

(3) A [bank] must apply the risk weights in Table 6 when the securitization exposure's external or inferred rating represents a long-term credit rating, and must apply the risk weights in Table 7 when the securitization exposure's external or inferred rating represents a short-term credit rating.

(i) A [bank] must apply the risk weights in column 1 of Table 6 or 7 to the securitization exposure if:

(A) N (as calculated under paragraph (e)(6) of section 45) is 6 or more (for

purposes of this section 43 only, if the notional number of underlying exposures is 25 or more or if all of the underlying exposures are retail exposures, a [bank] may assume that N is 6 or more unless the [bank] knows or has reason to know that N is less than 6); and

(B) The securitization exposure is a senior securitization exposure.

(ii) A [bank] must apply the risk weights in column 3 of Table 6 or 7 to the securitization exposure if N is less than 6, regardless of the seniority of the securitization exposure.

(iii) Otherwise, a [bank] must apply the risk weights in column 2 of Table 6 or 7.

TABLE 6.—LONG-TERM CREDIT RATING RISK WEIGHTS UNDER RBA AND IAA

| Applicable rating (illustrative rating example) | Column 1 | Column 2 | Column 3 |
|---|---|---|---|
| | Risk weights for senior securitization exposures backed by granular pools (percent) | Risk weights for non-senior securitization exposures backed by granular pools (percent) | Risk weights for securitization exposures backed by non-granular pools (percent) |
| Highest investment grade (for example, AAA) | 7 | 12 | 20 |
| Second highest investment grade (for example, AA) | 8 | 15 | 25 |
| Third-highest investment grade—positive designation (for example, A+) | 10 | 18 | 35 |
| Third-highest investment grade—(for example, A) | 12 | 20 | ..... |
| Third-highest investment grade— negative designation (for example, A−) | 20 | 35 | ..... |
| Lowest investment grade—positive designation (for example, BBB+) | 35 | 50 | |
| Lowest investment grade (for example, BBB) | 60 | 75 | |
| Lowest investment grade—negative designation (for example, BBB−) | 100 | | |
| One category below investment grade—positive designation (for example, BB+) | 250 | | |
| One category below investment grade (for example, BB) | 425 | | |
| One category below investment grade—negative designation (for example, BB−) | 650 | | |
| More than one category below investment grade | Deduction from tier 1 and tier 2 capital. | | |

TABLE 7.—SHORT-TERM CREDIT RATING RISK WEIGHTS UNDER RBA AND IAA

| Applicable Rating (illustrative rating example) | Column 1 | Column 2 | Column 3 |
|---|---|---|---|
| | Risk weights for senior securitization exposures backed by granular pools (percent) | Risk weights for non-senior securitization exposures backed by granular pools (percent) | Risk weights for securitization exposures backed by non-granular pools (percent) |
| Highest investment grade (for example, A1) | 7 | 12 | 20 |
| Second highest investment grade (for example, A2) | 12 | 20 | 35 |
| Third highest investment grade (for example, A3) | 60 | 75 | 75 |
| All other ratings | Deduction from tier 1 and tier 2 capital. | | |

**Section 44. Internal Assessment Approach (IAA)**

(a) *Eligibility requirements.* A [bank] may apply the IAA to calculate the risk-weighted asset amount for a securitization exposure that the [bank] has to an ABCP program (such as a liquidity facility or credit enhancement) if the [bank], the ABCP program, and the exposure qualify for use of the IAA.

(1) *[Bank] qualification criteria.* A [bank] qualifies for use of the IAA if the [bank] has received the prior written approval of the [AGENCY]. To receive such approval, the [bank] must demonstrate to the [AGENCY]'s satisfaction that the [bank]'s internal assessment process meets the following criteria:

(i) The [bank]'s internal credit assessments of securitization exposures must be based on publicly available rating criteria used by an NRSRO.

(ii) The [bank]'s internal credit assessments of securitization exposures used for risk-based capital purposes must be consistent with those used in the [bank]'s internal risk management process, management information reporting systems, and capital adequacy assessment process.

(iii) The [bank]'s internal credit assessment process must have sufficient granularity to identify gradations of risk. Each of the [bank]'s internal credit assessment categories must correspond to an external rating of an NRSRO.

(iv) The [bank]'s internal credit assessment process, particularly the stress test factors for determining credit enhancement requirements, must be at least as conservative as the most conservative of the publicly available rating criteria of the NRSROs that have provided external ratings to the commercial paper issued by the ABCP program.

(A) Where the commercial paper issued by an ABCP program has an external rating from two or more NRSROs and the different NRSROs' benchmark stress factors require different levels of credit enhancement to achieve the same external rating equivalent, the [bank] must apply the NRSRO stress factor that requires the highest level of credit enhancement.

(B) If one of the NRSROs that provides an external rating to the ABCP program's commercial paper changes its methodology (including stress factors), the [bank] must consider the NRSRO's revised rating methodology in evaluating whether the internal credit assessments assigned by the [bank] to

securitization exposures must be revised.

(v) The [bank] must have an effective system of controls and oversight that ensures compliance with these operational requirements and maintains the integrity and accuracy of the internal credit assessments. The [bank] must have an internal audit function independent from the ABCP program business line and internal credit assessment process that assesses at least annually whether the controls over the internal credit assessment process function as intended.

(vi) The [bank] must review and update each internal credit assessment whenever new material information is available, but no less frequently than annually.

(vii) The [bank] must validate its internal credit assessment process on an ongoing basis and at least annually.

(2) *ABCP-program qualification criteria.* An ABCP program qualifies for use of the IAA if the ABCP program meets the following criteria:

(i) All commercial paper issued by the ABCP program must have an external rating.

(ii) The ABCP program must have robust credit and investment guidelines (that is, underwriting standards).

(iii) The ABCP program must perform a detailed credit analysis of the asset sellers' risk profiles.

(iv) The ABCP program's underwriting policy must establish minimum asset eligibility criteria that include the prohibition of the purchase of assets that are significantly past due or defaulted, as well as limitations on concentration to individual obligor or geographic area and the tenor of the assets to be purchased.

(v) The aggregate estimate of loss on an asset pool that the ABCP program is considering purchasing must consider all sources of potential risk, such as credit and dilution risk.

(vi) The ABCP program must incorporate structural features into each purchase of assets to mitigate potential credit deterioration of the underlying exposures. Such features may include wind-down triggers specific to a pool of underlying exposures.

(3) *Exposure qualification criteria.* A securitization exposure qualifies for use of the IAA if the [bank] initially rated the exposure at least the equivalent of investment grade.

(b) *Mechanics.* A [bank] that elects to use the IAA to calculate the risk-based capital requirement for any securitization exposure must use the IAA to calculate the risk-based capital requirements for all securitization exposures that qualify for the IAA approach. Under the IAA, a [bank] must map its internal assessment of such a securitization exposure to an equivalent external rating from an NRSRO. Under the IAA, a [bank] must determine the risk-weighted asset amount for such a securitization exposure by multiplying the amount of the exposure (as defined in paragraph (e) of section 42) by the appropriate risk weight in the RBA tables in paragraph (b) of section 43.

**Section 45. Supervisory Formula Approach (SFA)**

(a) *Eligibility requirements.* A [bank] may use the SFA to determine its risk-based capital requirement for a securitization exposure only if the [bank] can calculate on an ongoing basis each of the SFA parameters in paragraph (e) of this section.

(b) *Mechanics.* Under the SFA, a [bank] must determine the risk-weighted asset amount for a securitization exposure by multiplying the SFA risk-based capital requirement for the exposure (as determined in paragraph (c) of this section) by 12.5. If the SFA risk weight for a securitization exposure is 1,250 percent or greater, however, the [bank] must deduct the exposure from total capital under paragraph (c) of section 42 rather than risk weight the exposure. The SFA risk weight for a securitization exposure is equal to 1,250 percent multiplied by the ratio of the securitization exposure's SFA risk-based capital requirement to the amount of the securitization exposure (as defined in paragraph (e) of section 42).

(c) *The SFA risk-based capital requirement.* The SFA risk-based capital requirement for a securitization exposure is UE multiplied by TP multiplied by the greater of:

(1) 0.0056 * T; or

(2) S[L+T] − S[L].

(d) *The supervisory formula:*

$$(1)\ S[Y] = \begin{cases} Y & \text{when } Y \le K_{IRB} \\ K_{IRB} + K[Y] - K[K_{IRB}] + \dfrac{d \cdot K_{IRB}}{20}\left(1 - e^{\frac{20 \cdot (K_{IRB} - Y)}{K_{IRB}}}\right) & \text{when } Y > K_{IRB} \end{cases}$$

$$(2)\ K[Y] = (1-h) \cdot [(1-\beta[Y;a,b]) \cdot Y + \beta[Y;a+1,b] \cdot c]$$

$$(3)\ h = \left(1 - \frac{K_{IRB}}{EWALGD}\right)^N$$

$$(4)\ a = g \cdot c$$

$$(5)\ b = g \cdot (1-c)$$

$$(6)\ c = \frac{K_{IRB}}{1-h}$$

$$(7)\ g = \frac{(1-c)\cdot c}{f} - 1$$

$$(8)\ f = \frac{v + K_{IRB}^2}{1-h} - c^2 + \frac{(1-K_{IRB})\cdot K_{IRB} - v}{(1-h)\cdot 1000}$$

$$(9)\ v = K_{IRB} \cdot \frac{(EWALGD - K_{IRB}) + .25\cdot(1-EWALGD)}{N}$$

$$(10)\ d = 1-(1-h)\cdot(1-\beta[K_{IRB}; a, b])$$

(11) In these expressions, β[Y; a, b] refers to the cumulative beta distribution with parameters a and b evaluated at Y. In the case where N = 1 and EWALGD = 100 percent, S[Y] in formula (1) must be calculated with K[Y] set equal to the product of $K_{IRB}$ and Y, and d set equal to $1 - K_{IRB}$.

(e) *SFA Parameters*—(1) *Amount of the underlying exposures (UE).* UE is the EAD of any underlying wholesale and retail exposures (including the amount of any funded spread accounts, cash collateral accounts, and other similar funded credit enhancements) plus the amount of any underlying exposures that are securitization exposures (as defined in paragraph (e) of section 42) plus the adjusted carrying value of any underlying equity exposures (as defined in paragraph (b) of section 51).

(2) *Tranche percentage (TP).* TP is the ratio of the amount of the [bank]'s securitization exposure to the amount of the tranche that contains the securitization exposure.

(3) *Capital requirement on underlying exposures* ($K_{IRB}$). (i) $K_{IRB}$ is the ratio of:

(A) The sum of the risk-based capital requirements for the underlying exposures plus the expected credit losses of the underlying exposures (as determined under this appendix as if the underlying exposures were directly held by the [bank]); to

(B) UE.

(ii) The calculation of $K_{IRB}$ must reflect the effects of any credit risk mitigant applied to the underlying exposures (either to an individual underlying exposure, a group of underlying exposures, or to the entire pool of underlying exposures).

(iii) All assets related to the securitization are treated as underlying exposures, including assets in a reserve account (such as a cash collateral account).

(4) *Credit enhancement level (L).* (i) L is the ratio of:

(A) The amount of all securitization exposures subordinated to the tranche that contains the [bank]'s securitization exposure; to (B) UE.

(ii) [Bank]s must determine L before considering the effects of any tranche-specific credit enhancements.

(iii) Any gain-on-sale or CEIO associated with the securitization may not be included in L.

(iv) Any reserve account funded by accumulated cash flows from the underlying exposures that is subordinated to the tranche in question may be included in the numerator and denominator of L to the extent cash has accumulated in the account. Unfunded reserve accounts (that is, reserve accounts that are to be funded from future cash flows from the underlying exposures) may not be included in the calculation of L.

(v) In some cases, the purchase price of receivables will reflect a discount that provides credit enhancement (for example, first loss protection) for all or certain tranches of the securitization. When this arises, L should be calculated inclusive of this discount if the discount provides credit enhancement for the securitization exposure.

(5) *Thickness of tranche (T).* T is the ratio of:

(i) The amount of the tranche that contains the [bank]'s securitization exposure; to

(ii) UE.

(6) *Effective number of exposures (N).* (i) Unless the [bank] elects to use the formula provided in paragraph (f),

$$N = \frac{\left(\sum_i EAD_i\right)^2}{\sum_i EAD_i^2}$$

where $EAD_i$ represents the EAD associated with the ith instrument in the pool of underlying exposures.

(ii) Multiple exposures to one obligor must be treated as a single underlying exposure.

(iii) In the case of a re-securitization (that is, a securitization in which some or all of the underlying exposures are themselves securitization exposures), the [bank] must treat each underlying exposure as a single underlying exposure and must not look through to the originally securitized underlying exposures.

(7) *Exposure-weighted average loss given default (EWALGD).* EWALGD is calculated as:

$$EWALGD = \frac{\sum_i LGD_i \cdot EAD_i}{\sum_i EAD_i}$$

where $LGD_i$ represents the average LGD associated with all exposures to the $i^{th}$ obligor. In the case of a re-securitization, an LGD of 100 percent must be assumed for the underlying exposures that are themselves securitization exposures.

(f) *Simplified method for computing N and EWALGD.* (1) If all underlying exposures of a securitization are retail exposures, a [bank] may apply the SFA using the following simplifications:

(i) h = 0; and

(ii) v = 0.

(2) Under the conditions in paragraphs (f)(3) and (f)(4), a [bank] may employ a simplified method for calculating N and EWALGD.

(3) If $C_1$ is no more than 0.03, a [bank] may set EWALGD = 0.50 and N equal to the following amount:

$$N = \frac{1}{C_1 C_m + \left(\frac{C_m - C_1}{m-1}\right) \max(1 - mC_1, 0)}$$

Where:

(i) $C_m$ is the ratio of the sum of the amounts of the 'm' largest underlying exposures to UE; and

(ii) The level of m is to be selected by the [bank].

(4) Alternatively, if only $C_1$ is available and $C_1$ is no more than 0.03, the [bank] may set EWALGD = 0.50 and $N = 1/C_1$.

**Section 46. Recognition of Credit Risk Mitigants for Securitization Exposures**

(a) *General.* An originating [bank] that has obtained a credit risk mitigant to hedge its securitization exposure to a synthetic or traditional securitization that satisfies the operational criteria in section 41 may recognize the credit risk mitigant, but only as provided in this section. An investing [bank] that has obtained a credit risk mitigant to hedge a securitization exposure may recognize the credit risk mitigant, but only as provided in this section. A [bank] that has used the RBA in section 43 or the IAA in section 44 to calculate its risk-based capital requirement for a securitization exposure whose external or inferred rating (or equivalent internal rating under the IAA) reflects the benefits of a particular credit risk mitigant provided to the associated securitization or that supports some or all of the underlying exposures may not use the credit risk mitigation rules in this section to further reduce its risk-based capital requirement for the exposure to reflect that credit risk mitigant.

(b) *Collateral*—(1) *Rules of recognition.* A [bank] may recognize financial collateral in determining the [bank]'s risk-based capital requirement for a securitization exposure as follows. The [bank]'s risk-based capital requirement for the collateralized securitization exposure is equal to the risk-based capital requirement for the securitization exposure as calculated under the RBA in section 43 or the SFA in section 45 multiplied by the ratio of adjusted exposure amount (E*) to original exposure amount (E), where:

(i) $E^* = \max\{0, [E - C \times (1 - Hs - Hfx)]\}$;

(ii) E = the amount of the securitization exposure calculated under paragraph (e) of section 42;

(iii) C = the current market value of the collateral;

(iv) Hs = the haircut appropriate to the collateral type; and

(v) Hfx = the haircut appropriate for any currency mismatch between the collateral and the exposure.

(2) *Mixed collateral.* Where the collateral is a basket of different asset types or a basket of assets denominated in different currencies, the haircut on the basket will be

$$\text{(A) EffectiveEPE}_{t_k} = \sum_{k=1}^{n} \text{EffectiveEE}_{t_k} * \Delta t_k$$

where $a_i$ is the current market value of the asset in the basket divided by the current market value of all assets in the basket and $H_i$ is the haircut applicable to that asset.

(3) *Standard supervisory haircuts.* Unless a [bank] qualifies for use of and uses own-estimates haircuts in paragraph (b)(4) of this section:

(i) A [bank] must use the collateral type haircuts (Hs) in Table 3;

(ii) A [bank] must use a currency mismatch haircut (Hfx) of 8 percent if the exposure and the collateral are denominated in different currencies;

(iii) A [bank] must multiply the supervisory haircuts obtained in paragraphs (b)(3)(i) and (ii) by the square root of 6.5 (which equals 2.549510); and

(iv) A [bank] must adjust the supervisory haircuts upward on the basis of a holding period longer than 65 business days where and as appropriate to take into account the illiquidity of the collateral.

(4) *Own estimates for haircuts.* With the prior written approval of the [AGENCY], a [bank] may calculate haircuts using its own internal estimates of market price volatility and foreign exchange volatility, subject to the provisions of paragraph (a)(2)(iii) of section 32. The minimum holding period ($T_M$) for securitization exposures is 65 business days.

(c) *Guarantees and credit derivatives*—(1) *Limitations on recognition.* A [bank] may only recognize an eligible guarantee or eligible credit derivative provided by an eligible securitization guarantor in determining the [bank]'s risk-based capital requirement for a securitization exposure.

(2) *ECL for securitization exposures.* When a [bank] recognizes an eligible guarantee or eligible credit derivative provided by an eligible securitization guarantor in determining the [bank]'s risk-based capital requirement for a securitization exposure, the [bank] must also:

(i) Calculate ECL for the exposure using the same risk parameters that it uses for calculating the risk-weighted asset amount of the exposure as described in paragraph (c)(3) of this section; and

(ii) Add the exposure's ECL to the [bank]'s total ECL.

(3) *Rules of recognition.* A [bank] may recognize an eligible guarantee or eligible credit derivative provided by an eligible securitization guarantor in determining the [bank]'s risk-based capital requirement for the securitization exposure as follows:

(i) *Full coverage.* If the protection amount of the eligible guarantee or eligible credit derivative equals or exceeds the amount of the securitization exposure, then the [bank] may set the risk-weighted asset amount for the securitization exposure equal to the risk-weighted asset amount for a direct exposure to the eligible securitization guarantor (as determined in the wholesale risk weight function described in section 31), using the [bank]'s PD for the guarantor, the [bank]'s ELGD and LGD for the guarantee or credit derivative, and an EAD equal to the amount of the securitization exposure (as determined in paragraph (e) of section 42).

(ii) *Partial coverage.* If the protection amount of the eligible guarantee or eligible credit derivative is less than the amount of the securitization exposure, then the [bank] may set the risk-weighted asset amount for the securitization exposure equal to the sum of:

(A) *Covered portion.* The risk-weighted asset amount for a direct exposure to the eligible securitization guarantor (as determined in the wholesale risk weight function described in section 31), using the [bank]'s PD for the guarantor, the [bank]'s ELGD and LGD for the guarantee or credit derivative, and an EAD equal to the protection amount of the credit risk mitigant; and

(B) *Uncovered portion.* (*1*) 1.0 minus (the protection amount of the eligible guarantee or eligible credit derivative divided by the amount of the securitization exposure); multiplied by

(*2*) The risk-weighted asset amount for the securitization exposure without the credit risk mitigant (as determined in sections 42–45).

(4) *Mismatches.* For any hedged securitization exposure, the [bank] must make applicable adjustments to the protection amount as required in paragraphs (d), (e), and (f) of section 33.

**Section 47. Risk-Based Capital Requirement for Early Amortization Provisions**

(a) *General.* (1) An originating [bank] must hold risk-based capital against the sum of the originating [bank]'s interest and the investors' interest in a securitization that:

(i) Includes one or more underlying exposures in which the borrower is permitted to vary the drawn amount within an agreed limit under a line of credit; and

(ii) Contains an early amortization provision.

(2) For securitizations described in paragraph (a)(1) of this section, an originating [bank] must calculate the risk-based capital requirement for the originating [bank]'s interest under sections 42–45, and the risk-based capital requirement for the investors' interest under paragraph (b) of this section.

(b) *Risk-weighted asset amount for investors' interest.* The originating [bank]'s risk-weighted asset amount for the investors' interest in the securitization is equal to the product of the following four quantities:

(1) The investors' interest EAD;

(2) The appropriate conversion factor in paragraph (c) of this section;

(3) $K_{irb}$ (as defined in paragraph (e)(3) of section 45); and

(4) 12.5.

(c) *Conversion factor.* To calculate the appropriate conversion factor discussed in paragraph (b)(2) of this section, a [bank] must use Table 8 for a securitization that contains a controlled early amortization provision and must use Table 9 for a securitization that contains a non-controlled early amortization provision. A [bank] must use the ''uncommitted'' column of Tables 8 and 9 if all or substantially all of the underlying exposures of the securitization are unconditionally cancelable by the [bank] to the fullest extent permitted by Federal law. Otherwise, a [bank] must use the ''committed'' column of the tables. To calculate the trapping point described in the tables, a [bank] must divide the three-month excess spread level of the securitization by the excess spread trapping point in the securitization structure.[10]

TABLE 8.—CONTROLLED EARLY AMORTIZATION PROVISIONS

| | Uncommitted | Committed |
|---|---|---|
| Retail Credit Lines | 3-month average excess spread Conversion Factor (CF)<br>133.33% of trapping point or more 0% CF.<br>less than 133.33% to 100% of trapping point 1% CF.<br>less than 100% to 75% of trapping point 2% CF.<br>less than 75% to 50% of trapping point 10% CF.<br>less than 50% to 25% of trapping point 20% CF.<br>less than 25% of trapping point 40% CF. | 90% CF. |
| Non-retail Credit Lines | 90% CF | 90% CF |

TABLE 9.—NON-CONTROLLED EARLY AMORTIZATION PROVISIONS

| | Uncommitted | Committed |
|---|---|---|
| Retail Credit Lines | 3-month average excess spread Conversion Factor (CF)<br>133.33% of trapping point or more 0% CF.<br>less than 133.33% to 100% of trapping point 5% CF.<br>less than 100% to 75% of trapping point 15% CF.<br>less than 75% to 50% of trapping point 50% CF.<br>less than 50% of trapping point 100% CF. | 100% CF. |
| Non-retail Credit Lines | 100% CF | 100% CF |

**Part VI. Risk-Weighted Assets for Equity Exposures**

**Section 51. Introduction and Exposure Measurement**

(a) *General.* To calculate its risk-weighted asset amounts for equity exposures that are not equity exposures to investment funds, a [bank] may apply either the Simple Risk Weight Approach (SRWA) in section 52 or, if it qualifies to do so, the Internal Models Approach (IMA) in section 53. A [bank] must use the look-through approaches in section 54 to calculate its risk-weighted asset amounts for equity exposures to investment funds.

(b) *Adjusted carrying value.* For purposes of this part, the ''adjusted carrying value'' of an equity exposure is:

(1) For the on-balance sheet component of an equity exposure, the [bank]'s carrying value of the exposure reduced by any unrealized gains on the exposure that are reflected in such carrying value but excluded from the [bank]'s tier 1 and tier 2 capital; and

(2) For the off-balance sheet component of an equity exposure, the effective notional principal amount of the exposure, the size of which is equivalent to a hypothetical on-balance sheet position in the underlying equity instrument that would evidence the same change in fair value (measured in dollars) for a given small change in the price of the underlying equity instrument, minus the adjusted carrying value of the on-balance sheet component of the exposure as calculated in paragraph (b)(1) of this section.

[10] In securitizations that do not require excess spread to be trapped, or that specify trapping points based primarily on performance measures other than the three-month average excess spread, the excess spread trapping point is 4.5 percent.

**Section 52. Simple Risk Weight Approach (SRWA)**

(a) *In general.* Under the SRWA, a [bank]'s aggregate risk-weighted asset amount for its equity exposures is equal to the sum of the risk-weighted asset amounts for each of the [bank]'s individual equity exposures (other than equity exposures to an investment fund) as determined in this section and the risk-weighted asset amounts for each of the [bank]'s individual equity exposures to an investment fund as determined in section 54.

(b) *SRWA computation for individual equity exposures.* A [bank] must determine the risk-weighted asset amount for an individual equity exposure (other than an equity exposure to an investment fund) by multiplying the adjusted carrying value of the equity exposure or the effective portion and ineffective portion of a hedge pair (as defined in paragraph (c) of this section) by the lowest applicable risk weight in this paragraph (b).

(1) *0 percent risk weight equity exposures.* An equity exposure to an entity whose credit exposures are exempt from the 0.03 percent PD floor in paragraph (d)(2) of section 31 is assigned a 0 percent risk weight.

(2) *20 percent risk weight equity exposures.* An equity exposure to a Federal Home Loan Bank or Farmer Mac that is not publicly traded and is held as a condition of membership in that entity is assigned a 20 percent risk weight.

(3) *100 percent risk weight equity exposures.* The following equity exposures are assigned a 100 percent risk weight:

(i) *Community development equity exposures.* An equity exposure that qualifies as a community development investment under 12 U.S.C. 24(Eleventh), excluding equity exposures to an unconsolidated small business investment company and equity exposures held through a consolidated small business investment company described in section 302 of the Small Business Investment Act of 1958 (15 U.S.C. 682).

(ii) *Certain equity exposures to a Federal Home Loan Bank and Farmer Mac.* An equity exposure to a Federal Home Loan Bank or Farmer Mac that is not assigned a 20 percent risk weight.

(iii) *Effective portion of hedge pairs.* The effective portion of a hedge pair.

(iv) *Non-significant equity exposures.* Equity exposures to the extent that the aggregate adjusted carrying value of the exposures does not exceed 10 percent of the [bank]'s tier 1 capital plus tier 2 capital.

(A) To compute the aggregate adjusted carrying value of a [bank]'s equity exposures for purposes of this paragraph (b)(3)(iv), the [bank] may exclude equity exposures described in paragraphs (b)(1), (b)(2), and (b)(3)(i), (ii), and (iii) of this section, the equity exposure in a hedge pair with the smaller adjusted carrying value, and a proportion of each equity exposure to an investment fund equal to the proportion of the assets of the investment fund that are not equity exposures. If a [bank] does not know the actual holdings of the investment fund, the [bank] may calculate the proportion of the assets of the fund that are not equity exposures based on the terms of the prospectus, partnership agreement, or similar contract that defines the fund's permissible investments. If the sum of the investment limits for all exposure classes within the fund exceeds 100 percent, the [bank] must assume for purposes of this paragraph (b)(3)(iv) that the investment fund invests to the maximum extent possible in equity exposures.

(B) When determining which of a [bank]'s equity exposures qualify for a 100 percent risk weight under this paragraph, a [bank] must first include equity exposures to unconsolidated small business investment companies or held through consolidated small business investment companies described in section 302 of the Small Business Investment Act of 1958 (15 U.S.C. 682) and then must include publicly traded equity exposures (including those held indirectly through investment funds) and then must include non-publicly traded equity exposures (including those held indirectly through investment funds).

(4) *300 percent risk weight equity exposures.* A publicly traded equity exposure (including the ineffective portion of a hedge pair) is assigned a 300 percent risk weight.

(5) *400 percent risk weight equity exposures.* An equity exposure that is not publicly traded is assigned a 400 percent risk weight.

(c) *Hedge transactions*—(1) *Hedge pair.* A hedge pair is two equity exposures that form an effective hedge so long as each equity exposure is publicly traded or has a return that is primarily based on a publicly traded equity exposure.

(2) *Effective hedge.* Two equity exposures form an effective hedge if the exposures either have the same remaining maturity or each have a remaining maturity of at least three months; the hedge relationship is formally documented in a prospective manner (that is, before the [bank] acquires at least one of the equity exposures); the documentation specifies the measure of effectiveness (E) the [bank] will use for the hedge relationship throughout the life of the transaction; and the hedge relationship has an E greater than or equal to 0.8. A [bank] must measure E at least quarterly and must use one of three alternative measures of E:

(i) Under the dollar-offset method of measuring effectiveness, the [bank] must determine the ratio of value change (RVC), that is, the ratio of the cumulative sum of the periodic changes in value of one equity exposure to the cumulative sum of the periodic changes in the value of the other equity exposure. If RVC is positive, the hedge is not effective and E = 0. If RVC is negative and greater than or equal to $-1$ (that is, between zero and $-1$), then E equals the absolute value of RVC. If RVC is negative and less than $-1$, then E equals 2 plus RVC.

(ii) Under the variability-reduction method of measuring effectiveness:

$$E = 1 - \frac{\sum_{t=1}^{T} \left(X_t - X_{t-1}\right)^2}{\sum_{t=1}^{T} \left(A_t - A_{t-1}\right)^2}, \text{ where}$$

(A) $X_t = A_t - Bt$;

(B) $A_t$ the value at time t of one exposure in a hedge pair; and

(C) $B_t$ the value at time t of the other exposure in a hedge pair.

(iii) Under the regression method of measuring effectiveness, E equals the coefficient of determination of a regression in which the change in value of one exposure in a hedge pair is the dependent variable and the change in value of the other exposure in a hedge pair is the independent variable.

(3) The effective portion of a hedge pair is E multiplied by the greater of the adjusted carrying values of the equity exposures forming a hedge pair.

(4) The ineffective portion of a hedge pair is $(1-E)$ multiplied by the greater of the adjusted carrying values of the equity exposures forming a hedge pair.

**Section 53. Internal Models Approach (IMA)**

This section describes the two ways that a [bank] may calculate its risk-weighted asset amount for equity exposures using the IMA. A [bank] may model publicly traded and non-publicly traded equity exposures (in accordance with paragraph (b) of this section) or model only publicly traded equity exposure (in accordance with paragraph (c) of this section).

(a) *Qualifying criteria.* To qualify to use the IMA to calculate risk-based

capital requirements for equity exposures, a [bank] must receive prior written approval from the [AGENCY]. To receive such approval, the [bank] must demonstrate to the [AGENCY]'s satisfaction that the [bank] meets the following criteria:

(1) The [bank] must have a model that:

(i) Assesses the potential decline in value of its modeled equity exposures;

(ii) Is commensurate with the size, complexity, and composition of the [bank]'s modeled equity exposures; and

(iii) Adequately captures both general market risk and idiosyncratic risk.

(2) The [bank]'s model must produce an estimate of potential losses for its modeled equity exposures that is no less than the estimate of potential losses produced by a VaR methodology employing a 99.0 percent, one-tailed confidence interval of the distribution of quarterly returns for a benchmark portfolio of equity exposures comparable to the [bank]'s modeled equity exposures using a long-term sample period.

(3) The number of risk factors and exposures in the sample and the data period used for quantification in the [bank]'s model and benchmarking exercise must be sufficient to provide confidence in the accuracy and robustness of the [bank]'s estimates.

(4) The [bank]'s model and benchmarking process must incorporate data that are relevant in representing the risk profile of the [bank]'s modeled equity exposures, and must include data from at least one equity market cycle containing adverse market movements relevant to the risk profile of the [bank]'s modeled equity exposures. If the [bank]'s model uses a scenario methodology, the [bank] must demonstrate that the model produces a conservative estimate of potential losses on the [bank]'s modeled equity exposures over a relevant long-term market cycle. If the [bank] employs risk factor models, the [bank] must demonstrate through empirical analysis the appropriateness of the risk factors used.

(5) Daily market prices must be available for all modeled equity exposures, either direct holdings or proxies.

(6) The [bank] must be able to demonstrate, using theoretical arguments and empirical evidence, that any proxies used in the modeling process are comparable to the [bank]'s modeled equity exposures and that the [bank] has made appropriate adjustments for differences. The [bank] must derive any proxies for its modeled equity exposures and benchmark portfolio using historical market data that are relevant to the [bank]'s modeled equity exposures and benchmark portfolio (or, where not, must use appropriately adjusted data), and such proxies must be robust estimates of the risk of the [bank]'s modeled equity exposures.

(b) *Risk-weighted assets calculation for a [bank] modeling publicly traded and non-publicly traded equity exposures.* If a [bank] models publicly traded and non-publicly traded equity exposures, the [bank]'s aggregate risk-weighted asset amount for its equity exposures is equal to the sum of:

(1) The risk-weighted asset amount of each equity exposure that qualifies for a 0–100 percent risk weight under paragraphs (b)(1) through (b)(3)(ii) of section 52 (as determined under section 52) and each equity exposure to an investment fund (as determined under section 54); and

(2) The greater of:

(i) The estimate of potential losses on the [bank]'s equity exposures (other than equity exposures referenced in paragraph (b)(1) of this section) generated by the [bank]'s internal equity exposure model multiplied by 12.5; or

(ii) The sum of:

(A) 200 percent multiplied by the aggregate adjusted carrying value of the [bank]'s publicly traded equity exposures that do not belong to a hedge pair, do not qualify for a 0–100 percent risk weight under paragraphs (b)(1) through (b)(3)(ii) of section 52, and are not equity exposures to an investment fund;

(B) 200 percent multiplied by the aggregate ineffective portion of all hedge pairs; and

(C) 300 percent multiplied by the aggregate adjusted carrying value of the [bank]'s equity exposures that are not publicly traded, do not qualify for a 0–100 percent risk weight under paragraphs (b)(1) through (b)(3)(ii) of section 52, and are not equity exposures to an investment fund.

(c) *Risk-weighted assets calculation for a [bank] using the IMA only for publicly traded equity exposures.* If a [bank] models only publicly traded equity exposures, the [bank]'s aggregate risk-weighted asset amount for its equity exposures is equal to the sum of:

(1) The risk-weighted asset amount of each equity exposure that qualifies for a 0–100 percent risk weight under paragraphs (b)(1) through (b)(3)(ii) of section 52 (as determined under section 52), each equity exposure that qualifies for a 400 percent risk weight under paragraph (b)(5) of section 52 (as determined under section 52), and each equity exposure to an investment fund (as determined under section 54); and

(2) The greater of:

(i) The estimate of potential losses on the [bank]'s equity exposures (other than equity exposures referenced in paragraph (c)(1) of this section) generated by the [bank]'s internal equity exposure model multiplied by 12.5; or

(ii) The sum of:

(A) 200 percent multiplied by the aggregate adjusted carrying value of the [bank]'s publicly traded equity exposures that do not belong to a hedge pair, do not qualify for a 0–100 percent risk weight under paragraphs (b)(1) through (b)(3)(ii) of section 52, and are not equity exposures to an investment fund; and

(B) 200 percent multiplied by the aggregate ineffective portion of all hedge pairs.

**Section 54. Equity Exposures to Investment Funds**

(a) *Available approaches.* A [bank] must determine the risk-weighted asset amount of an equity exposure to an investment fund under the Full Look-Through Approach in paragraph (b) of this section, the Simple Modified Look-Through Approach in paragraph (c) of this section, or the Alternative Modified Look-Through Approach in paragraph (d) of this section unless the exposure would meet the requirements for a community development equity exposure in paragraph (b)(3)(i) of section 52. The risk-weighted asset amount of such an equity exposure to an investment fund would be its adjusted carrying value. If an equity exposure to an investment fund is part of a hedge pair, a [bank] may use the ineffective portion of the hedge pair as determined under paragraph (c) of section 52 as the adjusted carrying value for the equity exposure to the investment fund.

(b) *Full look-through approach.* A [bank] that is able to calculate a risk-weighted asset amount for each exposure held by the investment fund (as calculated under this appendix as if the exposures were held directly by the [bank]) may set the risk-weighted asset amount of the [bank]'s exposure to the fund equal to the greater of:

(1) The product of:

(i) The aggregate risk-weighted asset amounts of the exposures held by the fund (as calculated under this appendix) as if the exposures were held directly by the [bank]; and

(ii) The [bank]'s proportional ownership share of the fund; or

(2) 7 percent of the adjusted carrying value of the [bank]'s equity exposure to the fund.

(c) *Simple modified look-through approach.* Under this approach, the risk-weighted asset amount for a [bank]'s equity exposure to an investment fund equals the adjusted carrying value of the equity exposure multiplied by the greater of:

(1) The highest risk weight in Table 10 that applies to any exposure the fund is permitted to hold under its prospectus, partnership agreement, or similar contract that defines the fund's permissible investments (excluding derivative contracts that are used for hedging rather than speculative purposes and do not constitute a material portion of the fund's exposures); or

(2) 7 percent.

TABLE 10.—MODIFIED LOOK-THROUGH APPROACHES FOR EQUITY EXPOSURES TO INVESTMENT FUNDS

| Risk weight | Exposure class |
|---|---|
| 0 percent | Sovereign exposures with a long-term applicable external rating in the highest investment grade rating category and sovereign exposures of the United States. |
| 20 percent | Exposures with a long-term applicable external rating in the highest or second-highest investment grade rating category; exposures with a short-term applicable external rating in the highest investment grade rating category; and exposures to, or guaranteed by, depository institutions, foreign banks (as defined in 12 CFR 211.2), or securities firms subject to consolidated supervision and regulation comparable to that imposed on U.S. securities broker-dealers that are repo-style transactions or bankers' acceptances. |
| 50 percent | Exposures with a long-term applicable external rating in the third-highest investment grade rating category or a short-term applicable external rating in the second-highest investment grade rating category. |
| 100 percent | Exposures with a long-term or short-term applicable external rating in the lowest investment grade rating category. |
| 200 percent | Exposures with a long-term applicable external rating one rating category below investment grade. |
| 300 percent | Publicly traded equity exposures. |
| 400 percent | Non-publicly traded equity exposures; exposures with a long-term applicable external rating two rating categories or more below investment grade; and exposures without an external rating (excluding publicly traded equity exposures). |
| 1,250 percent | OTC derivative contracts and exposures that must be deducted from regulatory capital or receive a risk weight greater than 400 percent under this appendix. |

(d) *Alternative Modified Look-Through Approach.* Under this approach, a [bank] may assign the adjusted carrying value of an equity exposure to an investment fund on a pro rata basis to different risk weight categories in Table 10 according to the investment limits in the fund's prospectus, partnership agreement, or similar contract that defines the fund's permissible investments. If the sum of the investment limits for exposure classes within the fund exceeds 100 percent, the [bank] must assume that the fund invests to the maximum extent permitted under its investment limits in the exposure class with the highest risk weight under Table 10, and continues to make investments in order of the exposure class with the next highest risk weight under Table 10 until the maximum total investment level is reached. If more than one exposure class applies to an exposure, the [bank] must use the highest applicable risk weight. A [bank] may not assign an equity exposure to an investment fund to an aggregate risk weight of less than 7 percent. A [bank] may exclude derivative contracts held by the fund that are used for hedging rather than speculative purposes and do not constitute a material portion of the fund's exposures.

**Section 55. Equity Derivative Contracts**

Under the IMA, in addition to holding risk-based capital against an equity derivative contract under this part, a [bank] must hold risk-based capital against the counterparty credit risk in the equity derivative contract by also treating the equity derivative contract as a wholesale exposure and computing a supplemental risk-weighted asset amount for the contract under part IV. Under the SRWA, a [bank] may choose not to hold risk-based capital against the counterparty credit risk of equity derivative contracts, as long as it does so for all such contracts. Where the equity derivative contracts are subject to a qualified master netting agreement, a [bank] using the SRWA must either include all or exclude all of the contracts from any measure used to determine counterparty credit risk exposure.

**Part VII. Risk-Weighted Assets for Operational Risk**

**Section 61. Qualification Requirements for Incorporation of Operational Risk Mitigants**

(a) *Qualification to use operational risk mitigants.* A [bank] may adjust its estimate of operational risk exposure to reflect qualifying operational risk mitigants if:

(1) The [bank]'s operational risk quantification system is able to generate an estimate of the [bank]'s operational risk exposure (which does not incorporate qualifying operational risk mitigants) and an estimate of the [bank]'s operational risk exposure adjusted to incorporate qualifying operational risk mitigants; and

(2) The [bank]'s methodology for incorporating the effects of insurance, if the [bank] uses insurance as an operational risk mitigant, captures through appropriate discounts to the amount of risk mitigation:

(i) The residual term of the policy, where less than one year;

(ii) The cancellation terms of the policy, where less than one year;

(iii) The policy's timeliness of payment;

(iv) The uncertainty of payment by the provider of the policy; and

(v) Mismatches in coverage between the policy and the hedged operational loss event.

(b) *Qualifying operational risk mitigants.* Qualifying operational risk mitigants are:

(1) Insurance that:

(i) Is provided by an unaffiliated company that has a claims payment ability that is rated in one of the three highest rating categories by a NRSRO;

(ii) Has an initial term of at least one year and a residual term of more than 90 days;

(iii) Has a minimum notice period for cancellation by the provider of 90 days;

(iv) Has no exclusions or limitations based upon regulatory action or for the receiver or liquidator of a failed depository institution; and

(v) Is explicitly mapped to a potential operational loss event; and

(2) Operational risk mitigants other than insurance for which the [AGENCY] has given prior written approval. In evaluating an operational risk mitigant other than insurance, [AGENCY] will consider whether the operational risk mitigant covers potential operational losses in a manner equivalent to holding regulatory capital.

**Section 62. Mechanics of Risk-Weighted Asset Calculation**

(a) If a [bank] does not qualify to use or does not have qualifying operational risk mitigants, the [bank]'s dollar risk-based capital requirement for operational risk is its operational risk exposure minus eligible operational risk offsets (if any).

(b) If a [bank] qualifies to use operational risk mitigants and has qualifying operational risk mitigants, the [bank]'s dollar risk-based capital requirement for operational risk is the greater of:

(1) The [bank]'s operational risk exposure adjusted for qualifying operational risk mitigants minus eligible operational risk offsets (if any); or

(2) 0.8 multiplied by the difference between:

(i) The [bank]'s operational risk exposure; and

(ii) Eligible operational risk offsets (if any).

(c) The [bank]'s risk-weighted asset amount for operational risk equals the [bank]'s dollar risk-based capital requirement for operational risk determined under paragraph (a) or (b) of this section multiplied by 12.5.

**Part VIII. Disclosure**

**Section 71. Disclosure Requirements**

(a) Each [bank] must publicly disclose each quarter its total and tier 1 risk-based capital ratios and their components (that is, tier 1 capital, tier 2 capital, total qualifying capital, and total risk-weighted assets).[11]

[Disclosure paragraph (b)]

[Disclosure paragraph (c)]

End of common rule.

[End of common text]

**List of Subjects**

*12 CFR Part 3*

Administrative practices and procedure, Capital, National banks, Reporting and recordkeeping requirements, Risk.

*12 CFR Part 208*

Confidential business information, Crime, Currency, Federal Reserve System, Mortgages, reporting and recordkeeping requirements, Securities.

*12 CFR Part 225*

Administrative practice and procedure, Banks, banking, Federal Reserve System, Holding companies, Reporting and recordkeeping requirements, Securities.

*12 CFR Part 325*

Administrative practice and procedure, Banks, banking, Capital Adequacy, Reporting and recordkeeping requirements, Savings associations, State nonmember banks.

*12 CFR Part 566*

Capital, reporting and recordkeeping requirements, Savings associations.

**Authority and Issuance**

**Adoption of Common Appendix**

The adoption of the proposed common rules by the agencies, as modified by agency-specific text, is set forth below:

**Department of the Treasury**

**Office of the Comptroller of the Currency**

**12 CFR Chapter I**

**Authority and Issuance**

For the reasons stated in the common preamble, the Office of the Comptroller of the Currency proposes to amend Part 3 of chapter I of Title 12, Code of Federal Regulations as follows:

## PART 3—MINIMUM CAPITAL RATIOS; ISSUANCE OF DIRECTIVES

1. The authority citation for part 3 continues to read as follows:

**Authority:** 12 U.S.C. 93a, 161, 1818, 1828(n), 1828 note, 1831n note, 1835, 3907, and 3909.

2. New Appendix C to part 3 is added as set forth at the end of the common preamble.

3. Appendix C to part 3 is amended as set forth below:

a. Remove ''[AGENCY]'' and add ''OCC'' in its place wherever it appears.

b. Remove ''[bank]'' and add ''bank'' in its place wherever it appears, and remove ''[Bank]'' and add ''Bank'' in its place wherever it appears.

c. Remove ''[Appendix __ to Part __ ]'' and add ''Appendix C to Part 3'' in its place wherever it appears.

d. Remove ''[the general risk-based capital rules]'' and add ''12 CFR part 3, Appendix A'' in its place wherever it appears.

e. Remove ''[the market risk rule]'' and add ''12 CFR part 3, Appendix B'' in its place wherever it appears.

f. Remove ''[Disclosure paragraph (b)]'' and add in its place ''(b) A bank must comply with paragraph (c) of section 71 of appendix F to the Federal Reserve Board's Regulation Y (12 CFR part 225, appendix F) unless it is a consolidated subsidiary of a bank holding company or depository institution that is subject to these requirements.''

g. Remove ''[Disclosure paragraph (c)].''

**Board of Governors of the Federal Reserve System**

**12 CFR Chapter II**

**Authority and Issuance**

For the reasons stated in the common preamble, the Board of Governors of the Federal Reserve System proposes to amend parts 208 and 225 of chapter II of title 12 of the Code of Federal Regulations as follows:

## PART 208—MEMBERSHIP OF STATE BANKING INSTITUTIONS IN THE FEDERAL RESERVE SYSTEM (REGULATION H)

1. The authority citation for part 208 continues to read as follows:

**Authority:** 12 U.S.C. 24, 36, 92a, 93a, 248(a), 248(c), 321–338a, 371d, 461, 481–486, 601, 611, 1814, 1816, 1818, 1820(d)(9), 1823(j), 1828(o), 1831, 1831o, 1831p–1, 1831r–1, 1835a, 1882, 2901–2907, 3105, 3310, 3331–3351, and 3906–3909; 15 U.S.C. 78b, 78l(b), 78l(g), 78l(i), 78o–4(c)(5), 78q, 78q–1, and 78w, 6801, and 6805; 31 U.S.C. 5318; 42 U.S.C. 4012a, 4104a, 4104b, 4106, and 4128.

2. New Appendix F to part 208 is added as set forth at the end of the common preamble.

3. Appendix F to part 208 is amended as set forth below:

a. Remove ''[AGENCY]'' and add ''Board'' in its place wherever it appears.

b. Remove ''[bank]'' and add ''bank'' in its place wherever it appears, and remove ''[Bank]'' and add ''Bank'' in its place wherever it appears.

c. Remove ''[Appendix __ to Part __]'' and add ''Appendix F to Part 208'' in its place wherever it appears.

d. Remove ''[the general risk-based capital rules]'' and add ''12 CFR part 208, Appendix A'' in its place wherever it appears.

e. Remove ''[the market risk rule]'' and add ''12 CFR part 208, Appendix E'' in its place wherever it appears.

f. Remove ''[Disclosure paragraph (b)]'' and add in its place ''(b) A bank must comply with paragraph (c) of section 71 of appendix F to the Federal Reserve Board's Regulation Y (12 CFR part 225, appendix F) unless it is a

[11] Other public disclosure requirements continue to apply—for example, Federal securities law and regulatory reporting requirements.

consolidated subsidiary of a bank holding company or depository institution that is subject to these requirements.''

g. Remove ''[Disclosure paragraph (c)].''

## PART 225—BANK HOLDING COMPANIES AND CHANGE IN BANK CONTROL (REGULATION Y)

1. The authority citation for part 225 continues to read as follows:

**Authority:** 12 U.S.C. 1817(j)(13), 1818, 1828(o), 1831i, 1831p–1, 1843(c)(8), 1844(b), 1972(1), 3106, 3108, 3310, 3331–3351, 3907, and 3909; 15 U.S.C. 6801 and 6805.

2. New Appendix G to part 225 is added as set forth at the end of the common preamble.

3. Appendix G to part 225 is amended as set forth below:

a. Remove ''[AGENCY]'' and add ''Board'' in its place wherever it appears.

b. Remove ''[bank]'' and add in its place ''bank holding company'' wherever it appears, and remove ''[Bank]'' and add ''Bank holding company'' in its place wherever it appears.

c. Remove ''[Appendix __ to Part __]'' and add ''Appendix G to Part 225'' in its place wherever it appears.

d. Remove ''[the general risk-based capital rules]'' and add ''12 CFR part 225, Appendix A'' in its place wherever it appears.

e. Remove ''[the market risk rule]'' and add ''12 CFR part 225, Appendix E'' in its place wherever it appears.

f. Remove the text of section 1(b)(1)(i) and add in its place: ''Is a U.S.-based bank holding company that has total consolidated assets (excluding assets held by an insurance underwriting subsidiary), as reported on the most recent year-end FR Y–9C, equal to $250 billion or more;''.

g. Remove the text of section 1(b)(1)(iii) and add in its place: ''Has a subsidiary depository institution (as defined in 12 U.S.C. 1813) that is required, or has elected, to use 12 CFR part 3, Appendix C, 12 CFR part 208, Appendix F, 12 CFR part 325, Appendix F, or 12 CFR 556 to calculate its risk-based capital requirements;''.

h. At the end of section 11(b)(1) add the following sentence: ''A bank holding company also must deduct an amount equal to the minimum regulatory capital requirement established by the regulator of any insurance underwriting subsidiary of the holding company. For U.S.-based insurance underwriting subsidiaries, this amount generally would be 200 percent of the subsidiary's Authorized Control Level as established by the appropriate state regulator of the insurance company.''

i. Remove section 22(h)(3)(ii).

j. In section 31(e)(3), remove ''A bank may assign a risk-weighted asset amount of zero to cash owned and held in all offices of the bank or in transit and for gold bullion held in the bank's own vaults, or held in another bank's vaults on an allocated basis, to the extent it is offset by gold bullion liabilities'' and add in its place ''A bank holding company may assign a risk-weighted asset amount of zero to cash owned and held in all offices of subsidiary depository institutions or in transit and for gold bullion held in either a subsidiary depository institution's own vaults, or held in another's vaults on an allocated basis, to the extent it is offset by gold bullion liabilities.''

k. Remove ''[Disclosure paragraph (b)].''

l. Remove ''[Disclosure paragraph (c)].''

m. In section 71, add new paragraph (b) to read as follows:

Section 71. * * *

* * * * *

(b)(1) Each consolidated bank holding company that has successfully completed its parallel run must provide timely public disclosures each calendar quarter of the information in tables 11.1–11.11 below. If a significant change occurs, such that the most recent reported amounts are no longer reflective of the bank holding company's capital adequacy and risk profile, then a brief discussion of this change and its likely impact must be provided as soon as practicable thereafter. Qualitative disclosures that typically do not change each quarter (for example, a general summary of the bank holding company's risk management objectives and policies, reporting system, and definitions) may be disclosed annually, provided any significant changes to these are disclosed in the interim. Management is encouraged to provide all of the disclosures required by this appendix in one place on the bank holding company's public Web site.[12] The bank holding company must make these disclosures publicly available for each of the last three years (that is, twelve quarters) or such shorter period since it began its first floor period.

(2) Each bank holding company is required to have a formal disclosure policy approved by the board of directors that addresses its approach for determining the disclosures it makes. The policy must address the associated internal controls and disclosure controls and procedures. The board of directors and senior management must ensure that appropriate verification of the disclosures takes place and that effective internal controls and disclosure controls and procedures are maintained. The chief financial officer of the bank holding company must certify that the disclosures required by this appendix are appropriate, and the board of directors and senior management are responsible for establishing and maintaining an effective internal control structure over financial reporting, including the disclosures required by this appendix.

TABLE 11.1.—SCOPE OF APPLICATION

| | |
|---|---|
| Qualitative Disclosures | (a) The name of the top corporate entity in the group to which the appendix applies. |
| | (b) An outline of differences in the basis of consolidation for accounting and regulatory purposes, with a brief description of the entities[13] within the group (a) that are fully consolidated; (b) that are deconsolidated and deducted; (c) for which the regulatory capital requirement is deducted; and (d) that are neither consolidated nor deducted (for example, where the investment is risk-weighted). |
| | (c) Any restrictions, or other major impediments, on transfer of funds or regulatory capital within the group. |
| Quantitative Disclosures | (d) The aggregate amount of surplus capital of insurance subsidiaries (whether deducted or subjected to an alternative method) included in the regulatory capital of the consolidated group. |
| | (e) The aggregate amount of capital deficiencies[14] in all subsidiaries and the name(s) of such subsidiaries. |

[12] Alternatively, a bank holding company may provide the disclosures in more than one place, as some of them may be included in public financial reports (for example, in Management's Discussion and Analysis included in SEC filings) or other regulatory reports. The bank holding company must provide a summary table on its public Web site that specifically indicates where all the disclosures may be found (for example, regulatory report schedules, page numbers in annual reports).

[13] Entities include securities, insurance and other financial subsidiaries, commercial subsidiaries (where permitted), significant minority equity investments in insurance, financial and commercial entities.

[14] A capital deficiency is the amount by which actual regulatory capital is less than the minimum regulatory capital requirement.

TABLE 11.2.—CAPITAL STRUCTURE

| | |
|---|---|
| Qualitative Disclosures | (a) Summary information on the terms and conditions of the main features of all capital instruments, especially in the case of innovative, complex or hybrid capital instruments. |
| Quantitative Disclosures | (b) The amount of tier 1 capital, with separate disclosure of:<br>• Common stock/surplus;<br>• Retained earnings;<br>• Minority interests in the equity of subsidiaries;<br>• Restricted core capital elements as defined in 12 CFR part 225, Appendix A;<br>• Regulatory calculation differences deducted from tier 1 capital; [15] and<br>• Other amounts deducted from tier 1 capital, including goodwill and certain intangibles.<br>(c) The total amount of tier 2 capital.<br>(d) Other deductions from capital.[16]<br>(e) Total eligible capital. |

TABLE 11.3.—CAPITAL ADEQUACY

| | |
|---|---|
| Qualitative Disclosures | (a) A summary discussion of the bank holding company's approach to assessing the adequacy of its capital to support current and future activities. |
| Quantitative Disclosures | (b) Risk-weighted assets for credit risk from:<br>• Wholesale exposures;<br>• Residential mortgage exposures;<br>• Qualifying revolving exposures;<br>• Other retail exposures;<br>• Securitization exposures;<br>• Equity exposures:<br>• Equity exposures subject to simple risk weight approach; and<br>• Equity exposures subject to internal models approach.<br>(c) Risk-weighted assets for market risk as calculated under [the market risk rule]: [17]<br>• Standardized approach for specific risk; and<br>• Internal models approach for specific risk.<br>(d) Risk-weighted assets for operational risk.<br>(e) Total and tier 1 risk-based capital ratios: [18]<br>• For the top consolidated group; and<br>• For each DI subsidiary. |

General Qualitative Disclosure Requirement

For each separate risk area described in tables 11.4 through 11.11, the bank holding company must describe its risk management objectives and policies, including:

- Strategies and processes;
- The structure and organization of the relevant risk management function;
- The scope and nature of risk reporting and/or measurement systems;
- Policies for hedging and/or mitigating risk and strategies and processes for monitoring the continuing effectiveness of hedges/mitigants.

TABLE 11.4.[19]—CREDIT RISK: GENERAL DISCLOSURES

| | |
|---|---|
| Qualitative Disclosures | (a) The general qualitative disclosure requirement with respect to credit risk (excluding counterparty credit risk disclosed in accordance with Table 11.6), including:<br>• Definitions of past due and impaired (for accounting purposes);<br>• Description of approaches followed for allowances, including statistical methods used where applicable;<br>• Discussion of the bank holding company's credit risk management policy. |
| Quantitative Disclosures | (b) Total gross credit risk exposures,[20] and average gross credit risk exposures, over the period broken down by major types of credit exposure.[21]<br>(c) Geographic [22] distribution of exposures, broken down in significant areas by major types of credit exposure.<br>(d) Industry or counterparty type distribution of exposures, broken down by major types of credit exposure.<br>(e) Remaining contractual maturity breakdown (for example, one year or less) of the whole portfolio, broken down by major types of credit exposure.<br>(f) By major industry or counterparty type:<br>• Amount of impaired loans;<br>• Amount of past due loans; [23] • Allowances; and,<br>• Charge-offs during the period.<br>(g) Amount of impaired loans and, if available, the amount of past due loans broken down by significant geographic areas including, if practical, the amounts of allowances related to each geographical area.[24]<br>(h) Reconciliation of changes in the allowance for loan and lease losses.[25] |

[15] Representing 50% of the amount, if any, by which total expected credit losses as calculated within the IRB framework exceed eligible credit reserves, which must be deducted from Tier 1 capital.

[16] Including 50% of the amount, if any, by which total expected credit losses as calculated within the IRB framework exceed eligible credit reserves, which must be deducted from Tier 2 capital.

[17] Risk-weighted assets determined under [the market risk rule] are to be disclosed only for the approaches used.

[18] Total risk-weighted assets should also be disclosed.

TABLE 11.5.—CREDIT RISK: DISCLOSURES FOR PORTFOLIOS SUBJECT TO IRB RISK-BASED CAPITAL FORMULAS

| | |
|---|---|
| Qualitative disclosures | (a) Explanation and review of the:<br>• Structure of internal rating systems and relation between internal and external ratings;<br>• Use of risk parameter estimates other than for regulatory capital purposes;<br>• Process for managing and recognizing credit risk mitigation; and<br>• Control mechanisms for the rating system, including discussion of independence, accountability, and rating systems review.<br>(b) Description of the internal ratings process, provided separately for the following:<br>• Wholesale category;<br>• Retail subcategories:<br>• Residential mortgage exposures;<br>• Qualifying revolving exposures; and<br>• Other retail exposures.<br>For each category and subcategory the description should include:<br>• The types of exposure included in the category subcategories;<br>• The definitions, methods and data for estimation and validation of PD, ELGD, LGD, and EAD, including assumptions employed in the derivation of these variables.[26] |
| Quantitative disclosures: Risk assessment. | (c) For wholesale exposures, present the following information across a sufficient number of PD grades (including default) to allow for a meaningful differentiation of credit risk:[27]<br>• Total EAD;[28]<br>• Exposure-weighted average ELGD and LGD (percentage);<br>• Exposure weighted-average capital requirement (K); and<br>• Amount of undrawn commitments and exposure-weighted average EAD for wholesale exposures.<br>For each retail subcategory, present the disclosures outlined above across a sufficient number of segments to allow for a meaningful differentiation of credit risk. |
| Quantitative disclosures: historical results. | (d) Actual losses in the preceding period for each category and subcategory and how this differs from past experience. A discussion of the factors that impacted the loss experience in the preceding period—for example, has the bank holding company experienced higher than average default rates, loss rates or EADs.<br>(e) Comparison of risk parameter estimates against actual outcomes over a longer period.[29] At a minimum, this should include information on estimates of losses against actual losses in the wholesale category and each retail subcategory over a period sufficient to allow for a meaningful assessment of the performance of the internal rating processes for each category/subcategory.[30] Where appropriate, the bank holding company should further decompose this to provide analysis of PD, ELGD, LGD, and EAD outcomes against estimates provided in the quantitative risk assessment disclosures above.[31] |

[19] Table 4 does not include equity exposures.

[20] That is, after accounting offsets in accordance with U.S. GAAP (for example, FASB Interpretations 39 and 41) and without taking into account the effects of credit risk mitigation techniques, for example collateral and netting.

[21] For example, banks could apply a breakdown similar to that used for accounting purposes. Such a breakdown might, for instance, be (a) loans, off-balance sheet commitments, and other non-derivative off-balance sheet exposures, (b) debt securities, and (c) OTC derivatives.

[22] Geographical areas may comprise individual countries, groups of countries or regions within countries. A bank holding company might choose to define the geographical areas based on the way the company's portfolio is geographically managed. The criteria used to allocate the loans to geographical areas must be specified.

[23] A bank holding company is encouraged also to provide an analysis of the aging of past-due loans.

[24] The portion of general allowance that is not allocated to a geographical area should be disclosed separately.

[25] The reconciliation should include the following: A description of the allowance; the opening balance of the allowance; charge-offs taken against the allowance during the period; amounts provided (or reversed) for estimated probable loan losses during the period; any other adjustments (for example, exchange rate differences, business combinations, acquisitions and disposals of subsidiaries), including transfers between allowances; and the closing balance of the allowance. Charge-offs and recoveries that have been recorded directly to the income statement should be disclosed separately.

[26] This disclosure does not require a detailed description of the model in full—it should provide the reader with a broad overview of the model approach, describing definitions of the variables, and methods for estimating and validating those variables set out in the quantitative risk disclosures below. This should be done for each of the four category/subcategories. The bank holding company should disclose any significant differences in approach to estimating these variables within each category/subcategories.

[27] The PD, ELGD, LGD and EAD disclosures in Table 11.5(c) should reflect the effects of collateral, qualifying master netting agreements, eligible guarantees and eligible credit derivatives as defined in Part 1. Disclosure of each PD grade should include the exposure weighted-average PD for each grade. Where a bank holding company aggregates PD grades for the purposes of disclosure, this should be a representative breakdown of the distribution of PD grades used for regulatory capital purposes.

[28] Outstanding loans and EAD on undrawn commitments can be presented on a combined basis for these disclosures.

[29] These disclosures are a way of further informing the reader about the reliability of the information provided in the ''quantitative disclosures: Risk assessment'' over the long run. The disclosures are requirements from year-end 2010; in the meantime, early adoption is encouraged. The phased implementation is to allow a bank holding company sufficient time to build up a longer run of data that will make these disclosures meaningful.

[30] This regulation is not prescriptive about the period used for this assessment. Upon implementation, it might be expected that a bank holding company would provide these disclosures for as long run of data as possible—for example, if a bank holding company has 10 years of data, it might choose to disclose the average default rates for each PD grade over that 10-year period. Annual amounts need not be disclosed.

[31] A bank holding company should provide this further decomposition where it will allow users greater insight into the reliability of the estimates provided in the ''quantitative disclosures: Risk assessment.'' In particular, it should provide this information where there are material differences between is estimates of PD, ELGD, LGD or EAD compared to actual outcomes over the long run. The bank holding company should also provide explanations for such differences.

TABLE 11.6.—GENERAL DISCLOSURE FOR COUNTERPARTY CREDIT RISK-RELATED EXPOSURES

| | |
|---|---|
| Qualitative Disclosures | (a) The general qualitative processes for disclosure requirement with respect to OTC derivatives, eligible margin loans, and repo-style transactions, including:<br>• Discussion of methodology used to assign economic capital and credit limits for counterparty credit exposures;<br>• Discussion of policies and securing collateral, valuing and managing collateral, and establishing credit reserves;<br>• Discussion of the primary types of collateral taken;<br>• Discussion of policies with respect to wrong-way risk exposures; and<br>• Discussion of the impact of the amount of collateral the bank would have to provide given a credit rating downgrade. |
| Quantitative Disclosures | (b) Gross positive fair value of contracts, netting benefits, netted current credit exposure, collateral held (including type, for example, cash, government securities), and net unsecured credit exposure.[32] Also report measures for EAD used for regulatory capital for these transactions, the notional value of credit derivative hedges purchased for counterparty credit risk protection, and the distribution of current credit exposure by types of credit exposure.[33]<br>(c) Notional amount of purchased and sold credit derivatives, segregated between use for the institution's own credit portfolio, as well as in its intermediation activities, including the distribution of the credit derivative products used, broken down further by protection bought and sold within each product group.<br>(d) The estimate of alpha if the bank holding company has received supervisory approval to estimate alpha. |

TABLE 11.7.—CREDIT RISK MITIGATION [34, 35, 36]

| | |
|---|---|
| Qualitative Disclosure | (a) The general qualitative disclosure requirement with respect to credit risk mitigation including:<br>• Policies and processes for, and an indication of the extent to which the bank holding company uses, on- and off-balance sheet netting;<br>• Policies and processes for collateral valuation and management;<br>• A description of the main types of collateral taken by the bank holding company;<br>• The main type of guarantors/credit derivative counterparties and their creditworthiness; and<br>• Information about (market or credit) risk concentrations within the mitigation taken. |
| Quantitative Disclosure | (b) For each separately disclosed portfolio, the total exposure (after, where applicable, on- or off-balance sheet netting) that is covered by guarantees/credit derivatives and the risk-weighted asset amount associated with that exposure. |

TABLE 11.8.—SECURITIZATION

| | |
|---|---|
| Qualitative disclosures | (a) The general qualitative disclosure requirement disclosures with respect to securitization (including synthetics), including a discussion of:<br>• The bank holding company's objectives relating to securitization activity, including the extent to which these activities transfer credit risk of the underlying exposures away from the bank holding company to other entities;<br>• The roles played by the bank holding company in the securitization process [37] and an indication of the extent of the bank holding company's involvement in each of them; and<br>• The regulatory capital approaches (for example, RBA, IAA and SFA) that the bank holding company follows for its securitization activities.<br>(b) Summary of the bank holding company's accounting policies for securitization activities, including:<br>• Whether the transactions are treated as sales or financings;<br>• Recognition of gain-on-sale;<br>• Key assumptions for valuing retained interests, including any significant changes since the last reporting period and the impact of such changes; and<br>• Treatment of synthetic securitizations.<br>(c) Names of NRSROs used for securitizations and the types of securitization exposure for which each agency is used. |

[32] Net unsecured credit exposure is the credit exposure after considering both the benefits from legally enforceable netting agreements and collateral arrangements without taking into account haircuts for price volatility, liquidity, etc.

[33] This may include interest rate derivative contracts, foreign exchange derivative contracts, equity derivative contracts, credit derivatives, commodity or other derivative contracts, repo-style transactions, and eligible margin loans.

[34] At a minimum, a bank holding company must give the disclosures in Table 11.7 in relation to credit risk mitigation that has been recognized for the purposes of reducing capital requirements under this Appendix. Where relevant, bank holding companies are encouraged to give further information about mitigants that have not been recognized for that purpose.

[35] Credit derivatives that are treated, for the purposes of this Appendix, as synthetic securitization exposures should be excluded from the credit risk mitigation disclosures and included within those relating to securitization.

[36] Counterparty credit risk-related exposures disclosed pursuant to Table 11.6 should be excluded from the credit risk mitigation disclosures in Table 11.7.

TABLE 11.8.—SECURITIZATION—Continued

| | |
|---|---|
| Quantitative disclosures | (d) The total outstanding exposures securitized by the bank holding company in securitizations that meet the operation criteria in Section 41 (broken down into traditional/synthetic), by underlying exposure type.[38, 39, 40]<br>(e) For exposures securitized by the bank holding company in securitizations that meet the operational criteria in Section 41:<br>• Amount of securitized assets that are impaired/past due; and<br>• Losses recognized by the bank holding company during the current period[41] broken down by exposure type.<br>(f) Aggregate amount of securitization exposures broken down by underlying exposure type.<br>(g) Aggregate amount of securitization exposures and the associated IRB capital charges for these exposures broken down into a meaningful number of risk weight bands. Exposures that have been deducted from capital should be disclosed separately by type of underlying asset.<br>(h) For securitizations subject to the early amortisation treatment, the following items by underlying asset type for securitized facilities:<br>• The aggregate drawn exposures attributed to the seller's and investors' interests; and<br>• The aggregate IRB capital charges incurred by the bank holding company against the investor's shares of drawn balances and undrawn lines.<br>(i) Summary of current year's securitization activity, including the amount of exposures securitized (by exposure type), and recognised gain or loss on sale by asset type. |

TABLE 11.9.—OPERATIONAL RISK

| | |
|---|---|
| Qualitative disclosures | (a) The general qualitative disclosure requirement for operational risk.<br>(b) Description of the AMA, including a discussion of relevant internal and external factors considered in the bank holding company's measurement approach.<br>(c) A description of the use of insurance for the purpose of mitigating operational risk. |

TABLE 11.10.—EQUITIES NOT SUBJECT TO MARKET RISK RULE

| | |
|---|---|
| Qualitative Disclosures | (a) The general qualitative disclosure requirement with respect to equity risk, including:<br>• Differentiation between holdings on which capital gains are expected and those taken under other objectives including for relationship and strategic reasons; and<br>• Discussion of important policies covering the valuation of and accounting for equity holdings in the banking book. This includes the accounting techniques and valuation methodologies used, including key assumptions and practices affecting valuation as well as significant changes in these practices. |
| Quantitative Disclosures | (b) Value disclosed in the balance sheet of investments, as well as the fair value of those investments; for quoted securities, a comparison to publicly-quoted share values where the share price is materially different from fair value.<br>(c) The types and nature of investments, including the amount that is:<br>• Publicly traded; and<br>• Non-publicly traded.<br>(d) The cumulative realized gains (losses) arising from sales and liquidations in the reporting period.<br>(e) Total unrealized gains (losses);[42]<br>• Total latent revaluation gains (losses);[43] and<br>• Any amounts of the above included in tier 1 and/or tier 2 capital.<br>(f) Capital requirements broken down by appropriate equity groupings, consistent with the bank holding company's methodology, as well as the aggregate amounts and the type of equity investments subject to any supervisory transition regarding regulatory capital requirements.[44] |

TABLE 11.11.—INTEREST RATE RISK FOR NON-TRADING ACTIVITIES

| | |
|---|---|
| Qualitative disclosures | (a) The general qualitative disclosure requirement, including the nature of interest rate risk for non-trading activities and key assumptions, including assumptions regarding loan prepayments and behavior of non-maturity deposits, and frequency of measurement of interest rate risk for non-trading activities. |

[37] For example: originator, investor, servicer, provider of credit enhancement, sponsor of asset backed commercial paper facility, liquidity provider, swap provider.

[38] Underlying exposure types may include, for example, 1–4 family residential loans, home equity lines, credit card receivables, and auto loans.

[39] Securitization transactions in which the originating bank holding company does not retain any securitization exposure should be shown separately but need only be reported for the year of inception.

[40] Where relevant, a bank holding company is encouraged to differentiate between exposures resulting from activities in which they act only as sponsors, and exposures that result from all other bank holding company securitization activities.

[41] For example, charge-offs/allowances (if the assets remain on the bank holding company's balance sheet) or write-downs of I/O strips and other residual interests.

[42] Unrealized gains (losses) recognized in the balance sheet but not through earnings.

[43] Unrealized gains (losses) not recognized either in the balance sheet or through earnings.

[44] This disclosure should include a breakdown of equities that are subject to the 0%, 20%, 100%, 300%, and 400% risk weights, as applicable.

TABLE 11.11.—INTEREST RATE RISK FOR NON-TRADING ACTIVITIES—Continued

| | |
|---|---|
| Quantitative disclosures ..... | (b) The increase (decline) in earnings or economic value (or relevant measure used by management) for upward and downward rate shocks according to management's method for measuring interest rate risk for non-trading activities, broken down by currency (as appropriate). |

* * * * *

**Federal Deposit Insurance Corporation**

**12 CFR Chapter III**

**Authority and Issuance**

For the reasons stated in the common preamble, the Federal Deposit Insurance Corporation proposes to amend part 325 of chapter III of title 12 of the Code of Federal Regulations as follows:

## PART 325—CAPITAL MAINTENANCE

1. The authority citation for part 325 continues to read as follows:

**Authority:** 12 U.S.C. 1815(a), 1815(b), 1816, 1818(a), 1818(b), 1818(c), 1818(t), 1819(Tenth), 1828(c), 1828(d), 1828(i), 1828(n), 1828(o), 1831o, 1835, 3907, 3909, 4808; Pub. L. 102–233, 105 Stat. 1761, 1789, 1790 (12 U.S.C. 1831n note); Pub. L. 102–242, 105 Stat. 2236, 2355, 2386 (12 U.S.C. 1828 note).

2. New Appendix D to part 325 is added as set forth at the end of the common preamble.

3. Appendix D to part 325 is amended as set forth below:

a. Remove ''[AGENCY]'' and add ''FDIC'' in its place wherever it appears.

b. Remove ''[bank]'' and add ''bank'' in its place wherever it appears, and remove ''[Bank]'' and add ''Bank'' in its place wherever it appears.

c. Remove ''[Appendix ____ to Part ____]'' and add ''Appendix D to Part 325'' in its place wherever it appears.

d. Remove ''[the general risk-based capital rules]'' and add ''12 CFR part 325, Appendix A'' in its place wherever it appears.

e. Remove ''[the market risk rule]'' and add ''12 CFR part 325, Appendix C'' in its place wherever it appears.

f. Remove ''[Disclosure paragraph (b)]'' and add in its place ''(b) A bank must comply with paragraph (c) of section 71 of appendix F to the Federal Reserve Board's Regulation Y (12 CFR part 225, appendix F) unless it is a consolidated subsidiary of a bank holding company or depository institution that is subject to these requirements.''

g. Remove ''Disclosure paragraph (c)].''

**Department of the Treasury**

**Office of Thrift Supervision**

**12 CFR Chapter V**

**Authority and Issuance**

For the reasons stated in the common preamble, the Office of Thrift Supervision proposes to amend part 566 of chapter V of title 12 of the Code of Federal Regulations as follows:

1. Add a new part 566 to read as follows:

## PART 566—ADVANCED CAPITAL ADEQUACY FRAMEWORK AND MARKET RISK ADJUSTMENT

Sec.
566.1 Purpose

**Authority:** 12 U.S.C. 1462, 1462a, 1463, 1464, 1467a, 1828(note).

### § 566.1 Purpose.

(a) *Advanced Capital Framework.* Appendix A of this part establishes: minimum qualifying criteria for savings associations using internal risk measurement and management processes for calculating risk based capital requirements, methodologies for these savings associations to calculate their risk-based capital requirement, and public disclosure requirements for these savings associations.

(b) [Reserved]

2. Appendix A to part 566 is added to read as set forth at the end of the common preamble.

3. Appendix A to part 566 is amended as set forth below:

a. Remove ''[AGENCY]'' and add ''OTS'' in its place wherever it appears.

b. Remove ''[bank]'' and add ''savings association'' in its place wherever it appears, and remove ''[Bank]'' and add ''Savings association'' in its place wherever it appears.

c. Remove ''[Appendix____to Part____]'' and add ''Appendix A to Part 566'' in its place wherever it appears.

d. Remove ''[the general risk-based capital rules]'' and add ''12 CFR part 567'' in its place wherever it appears.

e. Remove ''[the market risk rule]'' and add ''12 CFR part 566, Subpart B'' in its place wherever it appears.

f. Remove the text of section 12(b) and add in its place: ''A savings association is not required to deduct equity securities from capital under 12 CFR 567.5(c)(2)(ii). However, it must continue to deduct equity investments in real estate under that section. *See* 12 CFR 567.1, which defines equity investments, including equity securities and equity investments in real estate.''

g. Remove the text of section 52(b)(3)(i) and add in its place: ''An equity exposure that is designed primarily to promote community welfare, including the welfare of low- and moderate-income communities or families, such as by providing services or jobs, excluding equity exposures to an unconsolidated small business investment company and equity exposures held through a consolidated small business investment company described in section 302 of the Small Business Investment Act of 1958 (15 U.S.C. 682).''

h. Remove ''[Disclosure paragraph (b)]'' and add in its place ''(b) A savings association must comply with paragraph (c) of section 71 unless it is a consolidated subsidiary of a depository institution or bank holding company that is subject to these requirements.''

i. Remove ''[Disclosure paragraph (c)].''

j. In section 71, add new paragraph (c) to read as follows:

Section 71 * * *

* * * * *

(c)(1) Each consolidated savings association described in paragraph (b) of this section that has successfully completed its parallel run must provide timely public disclosures each calendar quarter of the information in tables 11.1–11.11 below. If a significant change occurs, such that the most recent reported amounts are no longer reflective of the savings association's capital adequacy and risk profile, then a brief discussion of this change and its likely impact must be provided as soon as practicable thereafter. Qualitative disclosures that typically do not change each quarter (for example, a general summary of the savings association's risk management objectives and policies, reporting system, and definitions) may be disclosed annually, provided any significant changes to these are disclosed in the interim. Management is encouraged to provide all of the disclosures required by this appendix in one place on the savings association's public Web site.[45] The

[45] Alternatively, a savings association may provide the disclosures in more than one place, as

Continued

savings association must make these disclosures publicly available for each of the last three years (that is, twelve quarters) or such shorter period since it began its first floor period.

(2) Each savings association is required to have a formal disclosure policy approved by the board of directors that addresses its approach for determining the disclosures it makes. The policy must address the associated internal controls and disclosure controls and procedures. The board of directors and senior management must ensure that appropriate verification of the disclosures takes place and that effective internal controls and disclosure controls and procedures are maintained. The chief financial officer of the savings association must certify that the disclosures required by this appendix are appropriate, and the board of directors and senior management are responsible for establishing and maintaining an effective internal control structure over financial reporting, including the disclosures required by this appendix.

TABLE 11.1.—SCOPE OF APPLICATION

| | |
|---|---|
| Qualitative Disclosures | (a) The name of the top corporate entity in the group to which the appendix applies. |
| | (b) An outline of differences in the basis of consolidation for accounting and regulatory purposes, with a brief description of the entities[46] within the group (a) that are fully consolidated; (b) that are deconsolidated and deducted; (c) for which the regulatory capital requirement is deducted; and (d) that are neither consolidated nor deducted (for example, where the investment is risk-weighted). |
| | (c) Any restrictions, or other major impediments, on transfer of funds or regulatory capital within the group. |
| Quantitative Disclosures | (d) The aggregate amount of surplus capital of insurance subsidiaries (whether deducted or subjected to an alternative method) included in the regulatory capital of the consolidated group. |
| | (e) The aggregate amount of capital deficiencies[47] in all subsidiaries and the name(s) of such subsidiaries. |

TABLE 11.2.—CAPITAL STRUCTURE

| | |
|---|---|
| Qualitative disclosures | (a) Summary information on the terms and conditions of the main features of all capital instruments, especially in the case of innovative, complex or hybrid capital instruments. |
| Quantitative disclosures | (b) The amount of tier 1 capital, with separate disclosure of:<br>• Common stock/surplus;<br>• Retained earnings;<br>• Minority interests in the equity of subsidiaries; regulatory calculation differences deducted from tier 1 capital;[48] and<br>• Other amounts deducted from tier 1 capital, including goodwill and certain intangibles. |
| | (c) The total amount of tier 2 capital. |
| | (d) Other deductions from capital.[49] |
| | (e) Total eligible capital. |

TABLE 11.3.—CAPITAL ADEQUACY

| | |
|---|---|
| Qualitative disclosures | (a) A summary discussion of the savings association's approach to assessing the adequacy of its capital to support current and future activities. |
| Quantitative disclosures | (b) Risk-weighted assets for credit risk from:<br>• Wholesale exposures;<br>• Residential mortgage exposures;<br>• Qualifying revolving exposures;<br>• Other retail exposures;<br>• Securitization exposures; and<br>• Equity exposures:<br>• Equity exposures subject to simple risk weight approach; and<br>• Equity exposures subject to internal models approach. |
| | (c) Risk-weighted assets for market risk as calculated under [the market risk rule]:[50]<br>• Standardized approach for specific risk; and<br>• Internal models approach for specific risk. |
| | (d) Risk-weighted assets for operational risk. |
| | (e) Total and tier 1 risk-based capital ratios:[51] |

some of them may be included in public financial reports (for example, in Management's Discussion and Analysis included in SEC filings) or other regulatory reports. The savings association must provide a summary table on its public Website that specifically indicates where all the disclosures may be found (for example, regulatory report schedules, page numbers in annual reports).

[46] Entities include securities, insurance and other financial subsidiaries, commercial subsidiaries (where permitted), significant minority equity investments in insurance, financial and commercial entities.

[47] A capital deficiency is the amount by which actual regulatory capital is less than the minimum regulatory capital requirements.

[48] Representing 50% of the amount, if any, by which total expected credit losses as calculated within the IRB framework exceed eligible credit reserves, which must be deducted from Tier 1 capital.

[49] Including 50% of the amount, if any, by which total expected credit losses as calculated within the IRB framework exceed eligible credit reserves, which must be deducted from Tier 2 capital.

TABLE 11.3.—CAPITAL ADEQUACY—Continued

| | |
|---|---|
| | • For the top consolidated group; and<br>• For each DI subsidiary. |

General Qualitative Disclosure Requirement

For each separate risk area described in tables 11.4 through 11.11, the savings association must describe its risk management objectives and policies, including:

• Strategies and processes;

• The structure and organization of the relevant risk management function;

• The scope and nature of risk reporting and/or measurement systems;

• Policies for hedging and/or mitigating risk and strategies and processes for monitoring the continuing effectiveness of hedges/mitigants.

TABLE 11.4.[52]—CREDIT RISK: GENERAL DISCLOSURES

| | |
|---|---|
| Qualitative Disclosures | (a) The general qualitative disclosure requirement with respect to credit risk (excluding counterparty credit risk disclosed in accordance with Table 11.6), including:<br>• Definitions of past due and impaired (for accounting purposes);<br>• Description of approaches followed for allowances, including statistical methods used where applicable;<br>• Discussion of the savings association's credit risk management policy. |
| Quantitative Disclosures | (b) Total gross credit risk exposures,[53] and average gross credit risk exposures, over the period broken down by major types of credit exposure.[54]<br>(c) Geographic[55] distribution of exposures, broken down in significant areas by major types of credit exposure.<br>(d) Industry or counterparty type distribution of exposures, broken down by major types of credit exposure.<br>(e) Remaining contractual maturity breakdown (for example, one year or less) of the whole portfolio, broken down by major types of credit exposure.<br>(f) By major industry or counterparty type:<br>• Amount of impaired loans;<br>• Amount of past due loans;[56] • Allowances; and<br>• Charge-offs during the period.<br>(g) Amount of impaired loans and, if available, the amount of past due loans broken down by significant geographic areas including, if practical, the amounts of allowances related to each geographical area.[57]<br>(h) Reconciliation of changes in the allowance for loan and lease losses.[58] |

TABLE 11.5.—CREDIT RISK: DISCLOSURES FOR PORTFOLIOS SUBJECT TO IRB RISK-BASED CAPITAL FORMULAS

| | |
|---|---|
| Qualitative disclosures | (a) Explanation and review of the:<br>• Structure of internal rating systems and relation between internal and external ratings;<br>• Use of risk parameter estimates other than for regulatory capital purposes;<br>• Process for managing and recognizing credit risk mitigation; and<br>• Control mechanisms for the rating system, including discussion of independence, accountability, and rating systems review.<br>(b) Description of the internal ratings process, provided separately for the following:<br>• Wholesale category; and<br>• Retail subcategories: residential mortgage exposures;<br>• Qualifying revolving exposures; and<br>• Other retail exposures.<br>For each category and subcategory the description should include:<br>• The types of exposure included in the category/subcategories;<br>• The definitions, methods and data for estimation and validation of PD, ELGD, LGD, and EAD, including assumptions employed in the derivation of these variables.[59] |
| Quantitative Disclosures: Risk Assessment. | (c) For wholesale exposures, present the following information across a sufficient number of PD grades (including default) to allow for a meaningful differentiation of credit risk:[60]<br>• Total EAD;[61] • Exposure-weighted average ELGD and LGD (percentage);<br>• Exposure weighted-average capital requirement (K); and |

[50] Risk-weighted assets determined under [the market risk rule] are to be disclosed only for the approaches used.

[51] Total risk-weighted assets should also be disclosed.

[52] Table 4 does not include equity exposures.

[53] That is, after accounting offsets in accordance with US GAAP (for example, FASB Interpretations 39 and 41) and without taking into account the effects of credit risk mitigation techniques, for example collateral and netting.

[54] For example, banks could apply a breakdown similar to that used for accounting purposes. Such a breakdown might, for instance, be (a) loans, off-balance sheet commitments, and other non-derivative off-balance sheet exposures, (b) debt securities, and (c) OTC derivatives.

[55] Geographical areas may comprise individual countries, groups of countries or regions within countries. A savings association might choose to define the geographical areas based on the way the company's portfolio is geographically managed. The criteria used to allocate the loans to geographical areas must be specified.

[56] A savings association is encouraged also to provide an analysis of the aging of past-due loans.

[57] The portion of general allowance that is not allocated to a geographical area should be disclosed separately.

[58] The reconciliation should include the following: A description of the allowance; the opening balance of the allowance; charge-offs taken against the allowance during the period; amounts provided (or reversed) for estimated probable loan losses during the period; any other adjustments (for example, exchange rate differences, business combinations, acquisitions and disposals of subsidiaries), including transfers between allowances; and the closing balance of the allowance. Charge-offs and recoveries that have been recorded directly to the income statement should be disclosed separately.

TABLE 11.5.—CREDIT RISK: DISCLOSURES FOR PORTFOLIOS SUBJECT TO IRB RISK-BASED CAPITAL FORMULAS—Continued

| | |
|---|---|
| | • Amount of undrawn commitments and exposure-weighted average EAD for wholesale exposures.<br>For each retail subcategory, present the disclosures outlined above across a sufficient number of segments to allow for a meaningful differentiation of credit risk. |
| Quantitative disclosures: historical results. | (d) Actual losses in the preceding period for each category and subcategory and how this differs from past experience. A discussion of the factors that impacted the loss experience in the preceding period—for example, has the savings association experienced higher than average default rates, loss rates or EADs.<br>(e) Comparison of risk parameter estimates against actual outcomes over a longer period.[62] At a minimum, this should include information on estimates of losses against actual losses in the wholesale category and each retail subcategory over a period sufficient to allow for a meaningful assessment of the performance of the internal rating processes for each category/subcategory.[63] Where appropriate, the savings association should further decompose this to provide analysis of PD, ELGD, LGD, and EAD outcomes against estimates provided in the quantitative risk assessment disclosures above.[64] |

TABLE 11.6.—GENERAL DISCLOSURE FOR COUNTERPARTY CREDIT RISK-RELATED EXPOSURES

| | |
|---|---|
| Qualitative Disclosures ..... | (a) The general qualitative disclosure requirement with respect to OTC derivatives, eligible margin loans, and repo-style transactions, including:<br>• Discussion of methodology used to assign economic capital and credit limits for counterparty credit exposures;<br>• Discussion of policies for securing collateral, valuing and managing collateral, and establishing credit reserves;<br>• Discussion of the primary types of collateral taken;<br>• Discussion of policies with respect to wrong-way risk exposures; and<br>• Discussions of the impact of the amount of collateral the bank would have to provide given a credit rating downgrade. |
| Quantitative Disclosures ..... | (b) Gross positive fair value of contracts, netting benefits, netted current credit exposure, collateral held (including type, for example, cash, government securities), and net unsecured credit exposure.[65] Also report measures for EAD used for regulatory capital for these transactions, the notional value of credit derivative hedges purchased for counterparty credit risk protection, and the distribution of current credit exposure by types of credit exposure.[66]<br>(c) Notional amount of purchased and sold credit derivatives, segregated between use for the institution's own credit portfolio, as well as in its intermediation activities, including the distribution of the credit derivative products used, broken down further by protection bought and sold within each product group.<br>(d) The estimate of alpha if the savings association has received supervisory approval to estimate alpha. |

TABLE 11.7.—CREDIT RISK MITIGATION[67] [68] [69]

| | |
|---|---|
| Qualitative Disclosures ..... | (a) The general qualitative disclosure requirement with respect to credit risk mitigation including:<br>• Policies and processes for, and an indication of the extent to which the savings association uses, on- and off-balance sheet netting;<br>• Policies and processes for collateral valuation and management;<br>• A description of the main types of collateral taken by the savings association;<br>• The main types of guarantors/credit derivative counterparties and their creditworthiness; and<br>• Information about (market or credit) risk concentrations within the mitigation taken. |

[59] This disclosure does not require a detailed description of the model in full—it should provide the reader with a broad overview of the model approach, describing definitions of the variables, and methods for estimating and validating those variables set out in the quantitative risk disclosures below. This should be done for each of the four category/subcategories. The savings association should disclose any significant differences in approach to estimating these variables within each category/subcategories.

[60] The PD, ELGD, LGD and EAD disclosures in Table 11.5(c) should reflect the effects of collateral, qualifying master netting agreements, eligible guarantees and eligible credit derivatives as defined in Part 1. Disclosure of each PD grade should include the exposure weighted-average PD for each grade. Where a savings association aggregates PD grades PD for the purposes of disclosure, this should be a representative breakdown of the distribution of PD grades used for regulatory capital purposes.

[61] Outstanding loans and EAD on undrawn commitments can be presented on a combined basis for these disclosures.

[62] These disclosures are a way of further informing the reader about the reliability of the information provided in the ''quantitative disclosures: risk assessment'' over the long run. The disclosures are requirements from year-end 2010; in the meantime, early adoption is encouraged. The phased implementation is to allow a savings association sufficient time to build up a longer run of data that will make these disclosures meaningful.

[63] This regulation is not prescriptive about the period used for this assessment. Upon implementation, it might be expected that a savings association would provide these disclosures for as long run of data as possible—for example, if a savings association has 10 years of data, it might choose to disclose the average default rates

[64] A savings association should provide this further decomposition where it will allow users greater insight into the reliability of the estimates provided in the ''quantitative disclosures: risk assessment.'' In particular, it should provide this information where there are material differences between its estimates of PD, ELGD, LGD or EAD compared to actual outcomes over the long run. The savings association should also provide explanations for such differences.

[65] Net unsecured credit exposure is the cedit exposure after considering both the benefits from legally enforceable netting agreements and collateral arrangements without taking into account haircuts for price volatility, liquidity, etc.

[66] This may include interest rate derivative contracts, foreign exchange derivative contracts, equity derivative contracts, credit derivatives, commodity or other derivative contracts, repo-style transactions, and eligible margin loans.

TABLE 11.7.—CREDIT RISK MITIGATION[67 68 69]—Continued

| | |
|---|---|
| Quantitative Disclosures | (b) For each separately disclosed portfolio, the total exposure (after, where applicable, on- or off-balance sheet netting) that is covered by guarantees/credit derivatives and the risk-weighted asset amount associated with that exposure. |

TABLE 11.8.—SECURITIZATION

| | |
|---|---|
| Qualitative Disclosures | (a) The general qualitative disclosure requirement with respect to securitization (including synthetics), including a discussion of:<br>• The savings association's objectives relating to securitization activity, including the extent to which these activities transfer credit risk of the underlying exposures away from the savings association to other entities;<br>• The roles played by the savings association in the securitization process[70] and an indication of the extent of the savings association's involvement in each of them; and<br>• The regulatory capital approaches (for example, RBA, IAA and SFA) that the savings association follows for its securitization activities.<br>(b) Summary of the savings association's accounting policies for securitization activities, including:<br>• Whether the transactions are treated as sales or financings;<br>• Recognition of gain-on-sale;<br>• Key assumptions for valuing retained interests, including any significant changes since the last reporting period and the impact of such changes; and<br>• Treatment of synthetic securitizations.<br>(c) Names of NRSROs used for securitizations and the types of securitization exposure for which each agency is used. |
| Quantitative Disclosures | (d) The total outstanding exposures securitized by the savings association in securitizations that meet the operation criteria in Section 41 (broken down into traditional/synthetic), by underlying exposure type.[71,72,73]<br>(e) For exposures securitized by the savings association in securitizations that meet the operational criteria in Section 41:<br>• Amount of securitized assets that are impaired/past due; and<br>• Losses recognized by the savings association during the current period[74] broken down by exposure type.<br>(f) Aggregate amount of securitization exposures broken down by underlying exposure type.<br>(g) Aggregate amount of securitization exposures and the associated IRB capital charges for these exposures broken down into a meaningful number of risk weight bands. Exposures that have been deducted from capital should be disclosed separately by type of underlying asset.<br>(h) For securitizations subject to the early amortisation treatment, the following items by underlying asset type for securitized facilities:<br>• The aggregate drawn exposures attributed to the seller's and investors' interests; and<br>• The aggregate IRB capital charges incurred by the savings association against the investor's shares of drawn balances and undrawn lines.<br>(i) Summary of current year's securitization activity, including the amount of exposures securitized (by exposure type), and recognised gain or loss on sale by asset type. |

TABLE 11.9.—OPERATIONAL RISK

| | |
|---|---|
| Qualitative Disclosures | (a) The general qualitative disclosure requirement for disclosures operational risk.<br>(b) Description of the AMA, including a discussion of relevant internal and external factors considered in the savings association's measurement approach.<br>(c) A description of the use of insurance for the purpose of mitigating operational risk. |

[67] At a minimum, a savings association must give the disclosures in Table 11.7 in relation to credit risk mitigation that has been recognized for the purposes of reducing capital requirements under this Appendix. Where relevant, savings associations are encouraged to give further information about mitigants that have not been recognized for that purpose.

[68] Credit derivatives that are treated, for the purposes of this Appendix, as synthetic securitization exposures should be excluded from the credit risk mitigation disclosures and included within those relating to securitization.

[69] Counterparty credit risk-related exposures disclosed pursuant to Table 11.6 should be excluded from the credit risk mitgation disclosures in Table 11.7.

[70] For example: Originator, investor, servicer, provider of credit enhancement, sponsor of asset backed commercial paper facility, liquidity provider, swap provider.

[71] Underlying exposure types may include, for example, 1–4 family residential loans, from equity lines, credit card receivables, and auto loans.

[72] Securitization transactions in which the originating savings association does not retain any securitization exposure should be shown separately but need only be reported for the year of inception.

[73] Where relevant, a savings association is encouraged to differentiate between exposures resulting from activities in which they act only as sponsors, and exposures that result from all other savings association securitization activities.

[74] For example, charge-offs/allowances (if the assets remain on the savings association's balance sheet) or write-downs of I/O strips and other residual interests.

TABLE 11.10.—EQUITIES NOT SUBJECT TO MARKET RISK RULE

| | |
|---|---|
| Qualitative Disclosures | (a) The general qualitative disclosure requirement with respect to equity risk, including:<br>• Differentiation between holdings on which capital gains are expected and those taken under other objectives including for relationship and strategic reasons; and<br>• Discussion of important policies covering the valuation of and accounting for equity holdings in the banking book. This includes the accounting techniques and valuation methodologies used, including key assumptions and practices affecting valuation as well as significant changes in these practices. |
| Quantitative Disclosures | (b) Value disclosed in the balance sheet of investments, as well as the fair value of those investments; for quoted securities, a comparison to publicly-quoted share values where the share price is materially different from fair value.<br>(c) The types and nature of investments, including the amount that is:<br>• Publicly traded; and<br>• Non-publicly traded.<br>(d) The cumulative realized gains (losses) arising from sales and liquidations in the reporting period.<br>(e)• Total unrealized gains (losses);[75]<br>• Total latent revaluation gains (losses);[76] and<br>• Any amounts of the above included in tier 1 and/or tier 2 capital.<br>(f) Capital requirements broken down by appropriate equity groupings, consistent with the savings association's methodology, as well as the aggregate amounts and the type of equity investments subject to any supervisory transition regarding regulatory capital requirements.[77] |

TABLE 11.11.—INTEREST RATE RISK FOR NON-TRADING ACTIVITIES

| | |
|---|---|
| Qualitative disclosures | (a) The general qualitative disclosure requirement, including the nature of interest rate risk for non-trading activities and key assumptions, including assumptions regarding loan prepayments and behavior of non-maturity deposits, and frequency of measurement of interest rate risk for non-trading activities. |
| Quantitative disclosures | (b) The increase (decline) in earnings or economic disclosures value (or relevant measure used by management) for upward and downward rate shocks according to management's method for measuring interest rate risk for non-trading activities, broken down by currency (as appropriate). |

* * * * *

Dated: September 5, 2006.

**John C. Dugan,**

*Comptroller of the Currency.*

By order of the Board of Governors of the Federal Reserve System, September 11, 2006.

**Jennifer J. Johnson,**

*Secretary of the Board.*

Dated at Washington, DC, this 5th day of September, 2006.

By order of the Board of Directors.

Federal Deposit Insurance Corporation.

**Robert E. Feldman,**

*Executive Secretary.*

Dated: September 5, 2006.

By the Office of Thrift Supervision.

**John M. Reich,**

*Director.*

[FR Doc. 06–7656 Filed 9–22–06]

BILLING CODES 4810–33–P, 6210–01–P, 6714–01–P, 6720–01–P

## DEPARTMENT OF THE TREASURY

### Office of the Comptroller of the Currency

### 12 CFR Part 3

**[Docket No. 06–10]**

**RIN 1557–AC99**

## FEDERAL RESERVE SYSTEM

### 12 CFR Parts 208 and 225

**[Regulations H and Y; Docket No. R–1266]**

## FEDERAL DEPOSIT INSURANCE CORPORATION

### 12 CFR Part 325

**RIN 3064–AD10**

## DEPARTMENT OF THE TREASURY

### Office of Thrift Supervision

### 12 CFR Part 566

**[Docket No. 2006–34]**

**RIN 1550–AC02**

## Risk-Based Capital Standards: Market Risk

**AGENCIES:** Office of the Comptroller of the Currency, Treasury; Board of Governors of the Federal Reserve System; Federal Deposit Insurance Corporation, and Office of Thrift Supervision, Treasury.

**ACTION:** Joint notice of proposed rulemaking.

**SUMMARY:** The Office of the Comptroller of the Currency (OCC), the Board of Governors of the Federal Reserve System (Board), and the Federal Deposit Insurance Corporation (FDIC) are proposing revisions to the market risk capital rule to enhance its risk sensitivity and introduce requirements for public disclosure of certain qualitative and quantitative information about the market risk of a bank or bank holding company. The Office of Thrift Supervision (OTS) currently does not apply a market risk capital rule to savings associations and is proposing in this notice a market risk capital rule for savings associations. The proposed rules for each agency are substantively identical.

**DATES:** Comments must be received on or before January 23, 2007.

**ADDRESSES:** Comments should be directed to:

*OCC:* You should include OCC and Docket Number 06–10 in your comment.

[75] Unrealized gains (losses) recognized in the balance sheet but not through earnings.

[76] Unrealized gains (losses) not recognized either in the balance sheet or through earnings.

[77] This disclosure should include a breakdown of equities that are subject to the 0%, 20%, 100%, 300%, and 400% risk weights, as applicable.