Office of the
Comptroller of the Currency

Guidance on Advanced Approaches GAA 2013-01: Implementing the Supervisory Formula Approach for Securitization Exposures

This document provides guidance regarding supervisory expectations for determining the capital requirements on the underlying exposures (K_{IRB}) input to the Supervisory Formula Approach (SFA) and the flexibility afforded national banks and federal savings associations (collectively, banks) when dealing with data limitations under the advanced approaches risk-based capital rule (rule).[1] Staff at the Office of the Comptroller of the Currency (OCC) and the Board of Governors of the Federal Reserve System (Board) worked closely together on the development of this guidance.[2] This guidance reiterates certain requirements in the rule and explains the OCC's supervisory expectations for complying with these requirements.

Background

Under the rule, the SFA is one of several approaches available to a bank when calculating risk-weighted assets for securitization exposures. To implement the SFA for a given securitization exposure, a bank must calculate several input parameters: the exposure's credit enhancement level (L) and thickness (T); the exposure-weighted average loss given default (EWALGD) for the underlying exposures to the securitization transaction; the effective number (N) of underlying exposures; and the K_{IRB}. The bank must be able to calculate these input parameters on an ongoing basis. This guidance sets forth supervisory expectations for calculating the K_{IRB} input.

In many situations, calculating K_{IRB} is the greatest challenge banks face when attempting to implement the SFA. The rule defines K_{IRB} as the ratio of A to B, where

- A is the capital requirement for the underlying exposures, defined as:
  the sum of the risk-based capital requirements for the underlying exposures plus the expected credit losses of the underlying exposures (as determined under [the rule] as if the underlying exposures were directly held by the bank);[3] and

- B is the amount of the underlying exposures (UE), defined as:
  the exposure at default (EAD) of any underlying exposures that are 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

[1] 12 CFR 3, appendix C (national banks), and 12 CFR 167, appendix C (federal savings associations).
[2] For substantively identical guidance issued by the Board, refer to the Board Web site at http://www.federalreserve.gov/bankinforeg/basel/basel-coordination-committee-bulletins.htm.
[3] 12 CFR 3, appendix C, section 45(e)(3)(i), and 12 CFR 167, appendix C, section 45(e)(3)(i).

> that are securitization exposures (as defined in paragraph (e) of section 42 of [the rule]) plus the adjusted carrying value of any underlying exposures that are equity exposures (as defined in paragraph (b) of section 51 of [the rule]).[4]

Calculating A can be challenging because banks often do not originate, service, or hold the exposures that underlie the securitization transaction. Unlike other input parameters to the SFA, which often can be derived from servicer reports or other information sources, the calculation of the capital requirement for underlying exposures that are wholesale or retail credit exposures generally relies on detailed information about the individual underlying exposures and a relevant reference data set from which to quantify internal ratings-based (IRB) approach parameters. Further, underlying exposures that are unrated securitization exposures potentially represent even more complexity in measuring required capital. When the bank is not the originator/servicer of the securitization transaction, detailed information on the underlying exposures may not be readily available on an ongoing basis.

Acknowledging this challenge, the preamble to the rule notes the need for flexibility when evaluating a bank's process for calculating K_{IRB}:

> The agencies recognize that, in light of data shortcomings, a bank may have to use approaches to estimating K_{IRB} that are less sophisticated than what the bank might use for similar assets that it originates, services, and holds directly. Supervisors generally will review the reasonableness of K_{IRB} estimates in the context of available data, and will expect estimates of K_{IRB} to incorporate appropriate conservatism to address any data shortcomings.[5]

At the same time, the rule's broader objectives require that the SFA not be used to circumvent risk management and measurement requirements for wholesale and retail exposures subject to the IRB framework.

Banks are afforded flexibility when dealing with limited access to exposure-level data for the underlying exposures and limited relevant reference data (collectively, data limitations). Such flexibility relates to the relative emphasis placed on the rule's section 22(c)(1) requirement that parameter estimates be accurate, timely, and reliable and the section 22(c)(3) requirement that parameter estimates be conservatively adjusted to reflect limited relevant reference data. The guidance emphasizes that banks should incorporate appropriately conservative estimates when calculating K_{IRB} when data limitations introduce material uncertainty and less confidence in the accuracy of the estimates. Because risk-weighted assets under the SFA are a nondecreasing function of K_{IRB}, appropriate conservatism represents a reasonable means of addressing the uncertainty surrounding K_{IRB} that results from data limitations.

[4] 12 CFR 3, appendix C, section 45(e)(1), and 12 CFR 167, appendix C, section 45(e)(1).
[5] "Risk-Based Capital Standards: Advanced Capital Adequacy Framework—Basel II; Final Rule," 72 *Federal Register*, 69,358 (2007).

General Implementation Guidance

For the purpose of implementing the SFA, when determining the K_{IRB} input a bank must adhere to the rule requirements for determining risk-based capital for the underlying exposures, employing sound modeling techniques and using all relevant data that is reasonably obtainable. While banks' processes for determining K_{IRB} for wholesale and retail underlying exposures must attempt to produce accurate parameter estimates, supervisors recognize that, in many instances, reasonably obtainable exposure and reference data may have limited relevant information. In keeping with section 22(c)(3) of the rule, banks must apply appropriately conservative adjustments to the parameter estimates to reflect data limitations.

A bank must make a good faith effort to obtain data to support its risk quantification processes, including risk characteristic information on the underlying exposures to support the segmentation of exposures by risk and relevant reference data to support sound risk quantification. In some instances, to obtain such data a bank may need to explore sources of available information on underlying exposures beyond what is contained within servicing reports, or use the bank's own historical loss experience for similar types of exposures as a source of relevant reference data.

Given data limitations that introduce material uncertainty and less confidence in the accuracy of the K_{IRB} input, a bank is expected to demonstrate that its process for determining K_{IRB} incorporates appropriate conservatism. Consistent with existing supervisory guidance that addresses conservatism when estimating parameters under the IRB framework and with sections 22(j) and 22(k) of the rule, this process must be well documented and independently validated. Additionally, consistent with that supervisory guidance, the process should be empirically grounded.[6] Further, when using less directly relevant reference data to inform parameter estimates, a bank should consider applying principles outlined by the Basel Committee on Banking Supervision for low-default portfolios.[7] In general, a bank is expected to benchmark its estimates when calculating K_{IRB} against both internal and external data for similar types of exposures, including data from economic downturn conditions. Furthermore, the process for estimating risk parameters for the pool of underlying exposures should be sufficiently granular to capture material variations in credit quality within the pool, and must ensure that K_{IRB} is calculated conservatively, both initially and over time.

As an example, assume that a bank has developed an SFA process for a consolidated asset-backed commercial paper (ABCP) conduit exposure to automobile lending receivables, and that the bank's initial approach to estimating K_{IRB} relies solely on servicer reports for the receivables and is based on a simple delinquency approach. The bank adds an ad hoc buffer to the initial probability of default (PD) and loss given default (LGD) parameters. But even with the adjustments, the bank is

[6] Basel Coordination Committee Bulletin 2013-05, "Applying the Requirement for Conservatism in Basel II Risk Parameters," May 2, 2013.
[7] "Validation of Low-Default Portfolios in the Basel II Framework," Basel Committee Newsletter No. 6 (September 2005), available at http://www.bis.org/publ/bcbs_nl6.pdf.

not able to demonstrate that the resultant estimates generally would be conservative. To address these concerns, the bank enhances its approach by obtaining additional risk information on the underlying receivables and uses the information to better link the risk profile of the underlying exposures to other reference data for which historical default and loss severity rates can be actually observed. Specifically, in this hypothetical example the bank is able to successfully map the automobile lending receivables to its own historical auto loan reference data, albeit at a less granular level, and leverage its existing IRB parameter quantification processes to develop additional estimates of PD and LGD for the underlying exposures to the securitization transaction.

Using these benchmark estimates and the preliminary delinquency-based estimates, as well as thoughtful consideration of the limitations of both methodologies, the bank is then able to make an informed assessment as to whether its PD and LGD estimates reflect appropriate conservatism. Additionally, by developing a process that periodically collects risk information on the underlying exposures at a more granular level and by linking its estimates to existing IRB parameter quantification processes, the bank is able to more effectively demonstrate the extent of conservatism in its calculation of K_{IRB} over time as well as show that it reviews its underlying exposures in accordance with section 22(b)(5) and updates its parameters, as appropriate, as required by section 22(c)(9).