(ii) *Second-or-subsequent-to-default credit derivatives.* (A) A national bank or Federal savings association that obtains credit protection on a group of underlying exposures through a n^{th}-to-default credit derivative that meets the rules of recognition of § 3.134(b) (other than a first-to-default credit derivative) may recognize the credit risk mitigation benefits of the derivative only if:

(*1*) The national bank or Federal savings association 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 national bank or Federal savings association satisfies the requirements of paragraph (l)(3)(ii)(A) of this section, the national bank or Federal savings association must determine its risk-based capital requirement for the underlying exposures as if the bank had only synthetically securitized the underlying exposure with the n^{th} smallest risk-based capital requirement and had obtained no credit risk mitigant on the other underlying exposures.

(C) A national bank or Federal savings association must calculate a risk-based capital requirement for counterparty credit risk according to § 3.132 for a n^{th}-to-default credit derivative that does not meet the rules of recognition of § 3.134(b).

(m) *Guarantees and credit derivatives other than n^{th}-to-default credit derivatives*—(1) *Protection provider.* For a guarantee or credit derivative (other than an n^{th}-to-default credit derivative) provided by a national bank or Federal savings association that covers the full amount or a pro rata share of a securitization exposure's principal and interest, the national bank or Federal savings association must risk weight the guarantee or credit derivative as if it holds the portion of the reference exposure covered by the guarantee or credit derivative.

(2) *Protection purchaser.* (i) A national bank or Federal savings association that purchases an OTC credit derivative (other than an n^{th}-to-default credit derivative) that is recognized under § 3.145 as a credit risk mitigant (including via recognized collateral) is not required to compute a separate counterparty credit risk capital requirement under § 3.131 in accordance with § 3.132(c)(3).

(ii) If a national bank or Federal savings association cannot, or chooses not to, recognize a purchased credit derivative as a credit risk mitigant under § 3.145, the national bank or Federal savings association must determine the exposure amount of the credit derivative under § 3.132(c).

(A) If the national bank or Federal savings association purchases credit protection from a counterparty that is not a securitization SPE, the national bank or Federal savings association must determine the risk weight for the exposure according § 3.131.

(B) If the national bank or Federal savings association purchases the credit protection from a counterparty that is a securitization SPE, the national bank or Federal savings association must determine the risk weight for the exposure according to this section, including paragraph (a)(5) of this section for a credit derivative that has a first priority claim on the cash flows from the underlying exposures of the securitization SPE (notwithstanding amounts due under interest rate or currency derivative contracts, fees due, or other similar payments.

§ 3.143 Supervisory formula approach (SFA).

(a) *Eligibility requirements.* A national bank or Federal savings association must use the SFA to determine its risk-weighted asset amount for a securitization exposure if the national bank or Federal savings association can calculate on an ongoing basis each of the SFA parameters in paragraph (e) of this section.

(b) *Mechanics.* The risk-weighted asset amount for a securitization exposure equals its SFA risk-based capital requirement as calculated under paragraph (c) and (d) of this section, multiplied by 12.5.

(c) *The SFA risk-based capital requirement.* (1) If K_{IRB} is greater than or equal to L + T, an exposure's SFA risk-based capital requirement equals the exposure amount.

(2) If K_{IRB} is less than or equal to L, an exposure's SFA risk-based capital

requirement is UE multiplied by TP multiplied by the greater of:

(i) F · T (where F is 0.016 for all securitization exposures); or

(ii) S[L + T] − S[L].

(3) If K_{IRB} is greater than L and less than L + T, the national bank or Federal savings association must apply a 1,250 percent risk weight to an amount equal to UE · TP (K_{IRB} − L), and the exposure's SFA risk-based capital requirement is UE multiplied by TP multiplied by the greater of:

(i) F · (T − (K_{IRB} − L)) (where F is 0.016 for all other securitization exposures); or

(ii) S[L + T] − S[K_{IRB}].

(d) *The supervisory formula:*

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

$$(2)\quad K[Y] = (1-h) \cdot \left[\left(1 - \beta[Y; a, b]\right) \cdot Y + \beta[Y; a+1, b] \cdot c\right]$$

$$(3)\quad h = \left(1 - \frac{K_{IRB}}{EWALGD}\right)^{N}$$

$$(4)\quad a = g \cdot c$$

$$(5)\quad b = g \cdot (1 - c)$$

$$(6)\quad c = \frac{K_{IRB}}{1 - h}$$

$$(7)\quad g = \frac{(1 - c) \cdot c}{f} - 1$$

$$(8)\quad f = \frac{v + K_{IRB}^{\ 2}}{1 - h} - c^2 + \frac{(1 - K_{IRB}) \cdot K_{IRB} - v}{(1 - h) \cdot 1000}$$

$$(9)\quad v = K_{IRB} \cdot \frac{(EWALGD - K_{IRB}) + .25 \cdot (1 - EWALGD)}{N}$$

$$(10)\quad d = 1 - (1 - h) \cdot (1 - \beta[K_{IRB}; a, b]).$$

(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.* For purposes of the calculations in paragraphs (c) and (d) of this section:

(1) *Amount of the underlying exposures (UE).* UE is the 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 that are securitization exposures (as defined in §3.142(e)) plus the adjusted carrying value of any underlying exposures that are equity exposures (as defined in §3.151(b)).

(2) *Tranche percentage (TP)*. TP is the ratio of the amount of the national bank's or Federal savings association'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 subpart E as if the underlying exposures were directly held by the national bank or Federal savings association); 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, to a group of underlying exposures, or to all of the 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 national bank's or Federal savings association's securitization exposure; to

(B) UE.

(ii) A national bank or Federal savings association 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 that contains the national bank's or Federal savings association'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.

(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 national bank's or Federal savings association's securitization exposure; to

(ii) UE.

(6) *Effective number of exposures (N)*. (i) Unless the national bank or Federal savings association elects to use the formula provided in paragraph (f) of this section,

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

where EAD_i represents the EAD associated with the ith instrument in the underlying exposures.

(ii) Multiple exposures to one obligor must be treated as a single underlying exposure.

(iii) In the case of a resecuritization, the national bank or Federal savings association 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 ith obligor. In the case of a resecuritization, 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 national bank or Federal savings association may apply the SFA using the following simplifications:

(i) h = 0; and

(ii) v = 0.

(2) Under the conditions in §§ 3.143(f)(3) and (f)(4), a national bank or Federal savings association may employ a simplified method for calculating N and EWALGD.

(3) If C_1 is no more than 0.03, a national bank or Federal savings association may set EWALGD = 0.50 if none of the underlying exposures is a securitization exposure, or may set EWALGD = 1 if one or more of the underlying exposures is a securitization exposure, and may set 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 national bank or Federal savings association.

(4) Alternatively, if only C_1 is available and C_1 is no more than 0.03, the national bank or Federal savings association may set EWALGD = 0.50 if none of the underlying exposures is a securitization exposure, or may set EWALGD = 1 if one or more of the underlying exposures is a securitization exposure and may set $N = 1/C_1$.

§ 3.144 Simplified supervisory formula approach (SSFA).

(a) *General requirements for the SSFA.* To use the SSFA to determine the risk weight for a securitization exposure, a national bank or Federal savings association must have data that enables it to assign accurately the parameters described in paragraph (b) of this section. Data used to assign the parameters described in paragraph (b) of this section must be the most currently available data; if the contracts governing the underlying exposures of the securitization require payments on a monthly or quarterly basis, the data used to assign the parameters described in paragraph (b) of this section must be no more than 91 calendar days old. A national bank or Federal savings association