§ 217.131 Mechanics for calculating total wholesale and retail risk-weighted assets.

(a) Overview. A Board-regulated institution 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

(b) Mergers and acquisitions of companies with advanced systems. (1) If a Board-regulated institution merges with or acquires a company that calculates its risk-based capital requirements using advanced systems, the Board-regulated institution may use the acquired company’s advanced systems to determine total risk-weighted assets for the merged or acquired company’s exposures for up to 24 months after the calendar quarter during which the acquisition or merger consummates. The Board may extend this transition period for up to an additional 12 months. Within 90 days of consummating the merger or acquisition, the Board-regulated institution must submit to the Board an implementation plan for using its advanced systems for the merged or acquired company.

(2) If the acquiring Board-regulated institution is not subject to the advanced approaches in this subpart at the time of acquisition or merger, during the period when subpart D of this part applies to the acquiring Board-regulated institution, the ALLL associated with the exposures of the merged or acquired company may not be directly included in tier 2 capital. Rather, any excess eligible credit reserves associated with the merged or acquired company’s exposures may be included in the Board-regulated institution’s tier 2 capital up to 0.6 percent of the credit-risk-weighted assets associated with those exposures.

§§ 217.125–217.130 [Reserved]

RISK-WEIGHTED ASSETS FOR GENERAL CREDIT RISK

§ 217.131 Mechanics for calculating total wholesale and retail risk-weighted assets.

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§§ 217.125–217.130 [Reserved]
and loan holding companies, any on-
balance sheet asset that is held in a
non-guaranteed separate account.

(c) Phase 2—Assignment of wholesale
obligors and exposures to rating grades
and retail exposures to segments—(1) As-
signment of wholesale obligors and expo-
sures to rating grades.

(i) The Board-regulated institution
must assign each obligor of a wholesale
exposure to a single obligor rating
grade and must assign each wholesale
exposure to which it does not directly
assign an LGD estimate to a loss sever-
ity rating grade.

(ii) The Board-regulated institution
must identify which of its wholesale
obligors are in default.

(2) Segmentation of retail exposures. (i)
The Board-regulated institution must
group the retail exposures in each re-
tail subcategory into segments that
have homogeneous risk characteristics.

(ii) The Board-regulated institution
must identify which of its retail expo-
sures are in default. The Board-regu-
lated institution must segment de-
faulted retail exposures separately
from non-defaulted retail exposures.

(iii) If the Board-regulated institu-
tion determines the EAD for eligible margin loans using the approach in §217.132(b), the Board-regulated institu-
tion must identify which of its retail exposures are eligible margin loans for which the Board-regulated institution uses this EAD approach and must seg-
ment such eligible margin loans sepa-
rately from other retail exposures.

(3) Eligible purchased wholesale expo-
sures. A Board-regulated institution
may group its eligible purchased
wholesale exposures into segments that
have homogeneous risk characteristics. A Board-regulated institution must use
the wholesale exposure formula in
Table 1 of this section to determine the
risk-based capital requirement for each
segment of eligible purchased whole-
sale exposures.

(d) Phase 3—Assignment of risk param-
eters to wholesale exposures and segments
of retail exposures. (1) Quantification
process. Subject to the limitations in this
paragraph (d), the Board-regulated institu-
tion must:

(i) Associate a PD with each whole-
sale obligor rating grade;

(ii) Associate an LGD with each
whole sale loss severity rating grade or
assign an LGD to each wholesale expo-
sure;

(iii) Assign an EAD and M to each
wholesale exposure; and

(iv) Assign a PD, LGD, and EAD to
each segment of retail exposures.

(2) Floor on PD assignment. The PD for
each wholesale obligor or retail seg-
ment may not be less than 0.03 percent,
except for exposures to or directly and
unconditionally guaranteed by a sov-
ereign entity, the Bank for Interna-
tional Settlements, the Interna-
tional Monetary Fund, the European
Commission, the European Central
Bank, or a multilateral development
bank, to which the Board-regulated in-
stitution assigns a rating grade associ-
ated with a PD of less than 0.03 per-
cent.

(3) Floor on LGD estimation. The LGD
for each segment of residential mort-
gage exposures may not be less than 10
percent, except for segments of resi-
dential mortgage exposures for which
all or substantially all of the principal
of each exposure is either:

(i) Directly and unconditionally
guaranteed by the full faith and credit
of a sovereign entity; or

(ii) Guaranteed by a contingent obli-
gation of the U.S. government or its
agencies, the enforceability of which is
dependent upon some affirmative ac-
tion on the part of the beneficiary of
the guarantee or a third party (for ex-
ample, meeting servicing require-
ments).

(4) Eligible purchased wholesale expo-
sures. A Board-regulated institution
must assign a PD, LGD, EAD, and M to
each segment of eligible purchased
wholesale exposures. If the Board-regu-
lated institution can estimate ECL
(but not PD or LGD) for a segment of
eligible purchased wholesale exposures, the Board-regulated institution must assume that the LGD of the segment
equals 100 percent and that the PD of
the segment equals ECL divided by
EAD. The estimated ECL must be cal-
culated for the exposures without re-
gard to any assumption of recourse or
guarantees from the seller or other
parties.

(5) Credit risk mitigation: credit deriva-
tives, guarantees, and collateral. (i) A
Board-regulated institution 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 §217.134 or, if applicable, applying double default treatment to the exposure as provided in §217.135. A Board-regulated institution may decide separately for each wholesale exposure that qualifies for the double default treatment under §217.133 whether to apply the double default treatment or to use the PD substitution or LGD adjustment treatment without recognizing double default effects.

(ii) A Board-regulated institution 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 and LGD of the segment.

(iii) Except as provided in paragraph (d)(6) of this section, a Board-regulated institution may take into account the risk reducing effects of collateral in support of a wholesale exposure when quantifying the LGD of the exposure, and may take into account the risk reducing effects of collateral in support of retail exposures when quantifying the PD and LGD of the segment.

(6) EAD for OTC derivative contracts, repo-style transactions, and eligible margin loans. A Board-regulated institution must calculate its EAD for an OTC derivative contract as provided in §217.132(c) and (d). A Board-regulated institution may take into account the risk reducing effects of financial collateral in support of a wholesale exposure when quantifying the LGD of the exposure, and may take into account the risk reducing effects of collateral in support of retail exposures when quantifying the PD and LGD of the segment.

(7) Effective maturity. An exposure’s M must be no greater than five years and no less than one year, except that an exposure’s M must be no less than one day if the exposure is a trade related letter of credit, or if the exposure has an original maturity of less than one year and is not part of a Board-regulated institution’s ongoing financing of the obligor. An exposure is not part of a Board-regulated institution’s ongoing financing of the obligor if the Board-regulated institution:

(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.

(8) EAD for exposures to certain central counterparties. A Board-regulated institution may attribute an EAD of zero to exposures that arise from the settlement of cash transactions (such as equities, fixed income, spot foreign exchange, and spot commodities) with a central counterparty where there is no assumption of ongoing counterparty credit risk by the central counterparty after settlement of the trade and associated default fund contributions.

(e) Phase 4—Calculation of risk-weighted assets—(1) Non-defaulted exposures. (i) A Board-regulated institution must calculate the dollar risk-based capital requirement for each of its wholesale exposures to a non-defaulted obligor (except for eligible guarantees and eligible credit derivatives that hedge another wholesale exposure, IMM exposures, cleared transactions, default fund contributions, unsettled transactions, and exposures to which the Board-regulated institution applies the double default treatment in §217.135) and segments of non-defaulted retail exposures 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 1 and multiplying the output of the formula (K) by the EAD of the exposure or segment. Alternatively, a Board-regulated institution may apply a 300 percent risk
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weight to the EAD of an eligible margin loan if the Board-regulated institution is not able to meet the Board’s requirements for estimation of PD and LGD for the margin loan.

<table>
<thead>
<tr>
<th>TABLE 1 TO § 217.131 – IRB RISK-BASED CAPITAL FORMULAS FOR WHOLESALE EXPOSURES TO NON-DEFAULTED OBLIGORS AND SEGMENTS OF NON-DEFAULTED RETAIL EXPOSURES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capital</strong></td>
</tr>
<tr>
<td>Requirement</td>
</tr>
<tr>
<td>(K)</td>
</tr>
<tr>
<td>Non-Defaulted Exposures</td>
</tr>
<tr>
<td>Correlation</td>
</tr>
<tr>
<td>Factor (R)</td>
</tr>
<tr>
<td>For residential mortgage exposures: R = 0.15</td>
</tr>
<tr>
<td>For qualifying revolving exposures: R = 0.04</td>
</tr>
<tr>
<td>For other retail exposures: R = 0.03 + 0.13×e^{−3.5×PD}</td>
</tr>
<tr>
<td>Wholesale</td>
</tr>
<tr>
<td>Correlation</td>
</tr>
<tr>
<td>Factor (R)</td>
</tr>
<tr>
<td>For HVCRE exposures:</td>
</tr>
<tr>
<td>R = 0.12 + 0.18×e^{−50×PD}</td>
</tr>
<tr>
<td>For wholesale exposures to unregulated financial institutions:</td>
</tr>
</tbody>
</table>
R = 1.25 \times (0.12 + 0.12 e^{-5b\cdot PD})

For wholesale exposures to regulated financial institutions with total assets greater than or equal to $100 billion:

R = 1.25 \times (0.12 + 0.12 e^{-5b\cdot PD})

For wholesale exposures other than HVCRE exposures, unregulated financial institutions, and regulated financial institutions with total assets greater than or equal to $100 billion:

R = 0.12 + 0.12 e^{-5b\cdot PD}

Maturity

b = \left( 0.11852 - 0.05478 \times \ln(PD) \right)^2

Adjustment

(b)

1^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 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 §217.135(e) 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 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) Not covered by an eligible U.S. government guarantee: The dollar risk-based capital requirement for each wholesale exposure not covered by an eligible guarantee from the U.S. government to a defaulted obligor and each segment of defaulted retail exposures not covered by an eligible guarantee from the U.S. government equals 0.08 multiplied by the EAD of the exposure or segment.

(ii) Covered by an eligible U.S. government guarantee: The dollar risk-based capital requirement for each wholesale exposure to a defaulted obligor covered by an eligible guarantee from the U.S. government and each segment of defaulted retail exposures covered by an eligible guarantee from the U.S. government equals the sum of:
(A) The sum of the EAD of the portion of each wholesale exposure to a defaulted obligor covered by an eligible guarantee from the U.S. government plus the EAD of the portion of each segment of defaulted retail exposures that is covered by an eligible guarantee from the U.S. government and the resulting sum is multiplied by 0.016, and

(B) The sum of the EAD of the portion of each wholesale exposure to a defaulted obligor not covered by an eligible guarantee from the U.S. government plus the EAD of the portion of each segment of defaulted retail exposures that is not covered by an eligible guarantee from the U.S. government and the resulting sum is multiplied by 0.08.

(iii) The sum of all the dollar risk-based capital requirements for each wholesale exposure to a defaulted obligor and each segment of defaulted retail exposures calculated in paragraph (e)(2)(i) of this section plus the dollar risk-based capital requirements each wholesale exposure to a defaulted obligor and 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 and segments.

(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 for those exposures and segments.

(v) The total dollar risk-based capital requirement for each wholesale exposure to a defaulted obligor and for each segment of defaulted retail exposures calculated in paragraph (e)(2)(iii) of this section multiplied by 12.5.

(4) Non-material portfolios of exposures.

The risk-weighted asset amount for any on-balance-sheet asset that does not meet the definition of a wholesale, retail, securitization, IMM, or equity exposure, cleared transaction, or default fund contribution and is not subject to deduction under §217.22(a), (c), or (d) equals the carrying value of the asset.
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 §217.132.

(5) Assets held in non-guaranteed separate accounts. The risk-weighted asset amount for an on-balance sheet asset that is held in a non-guaranteed separate account is zero percent of the carrying value of the asset.


§217.132 Counterparty credit risk of repo-style transactions, eligible margin loans, and OTC derivative contracts.

(a) Methodologies for collateral recognition. (1) Instead of an LGD estimation methodology, a Board-regulated institution may use the following methodologies to recognize the benefits of financial collateral in mitigating the counterparty credit risk of repo-style transactions, eligible margin loans, collateralized OTC derivative contracts and single product netting sets of such transactions, and to recognize the benefits of any collateral in mitigating the counterparty credit risk of repo-style transactions that are included in a Board-regulated institution’s VaR-based measure under subpart F of this part:

(i) The collateral haircut approach set forth in paragraph (b)(2) of this section;

(ii) The internal models methodology set forth in paragraph (d) of this section; and

(iii) For single product netting sets of repo-style transactions and eligible margin loans, the simple VaR methodology set forth in paragraph (b)(3) of this section.

(2) A Board-regulated institution may use any combination of the three methodologies for collateral recognition; however, it must use the same methodology for transactions in the same category.

(3) A Board-regulated institution must use the methodology in paragraph (c) of this section, or with prior written approval of the Board, the internal model methodology in paragraph (d) of this section, to calculate EAD for an OTC derivative contract or a set of OTC derivative contracts subject to a qualifying master netting agreement. To estimate EAD for qualifying cross-product master netting agreements, a Board-regulated institution may only use the internal models methodology in paragraph (d) of this section.

(4) A Board-regulated institution must also use the methodology in paragraph (e) of this section to calculate the risk-weighted asset amounts for CVA for OTC derivatives.

(b) EAD for eligible margin loans and repo-style transactions—(1) General. A Board-regulated institution may recognize the credit risk mitigation benefits of financial collateral that secures an eligible margin loan, repo-style transaction, or single-product netting set of such transactions by factoring the collateral into its LGD estimates for the exposure. Alternatively, a Board-regulated institution may estimate an unsecured LGD for the exposure, as well as for any repo-style transaction that is included in the Board-regulated institution’s VaR-based measure under subpart F of this part, and determine the EAD of the exposure using:

(i) The collateral haircut approach described in paragraph (b)(2) of this section;

(ii) For netting sets only, the simple VaR methodology described in paragraph (b)(3) of this section; or

(iii) The internal models methodology described in paragraph (d) of this section.

(2) Collateral haircut approach—(i) EAD equation. A Board-regulated institution may determine EAD for an eligible margin loan, repo-style transaction, or netting set by setting EAD equal to max

\[ \max\{0, (\Sigma E_\text{E} - \Sigma E_\text{C}) + \Sigma (E_\text{L} \times H_L) + \Sigma (E_\text{x} \times H_x)\} \]

where:

(A) \( \Sigma E \) equals the value of the exposure (the sum of the current fair values of all instruments, gold, and cash the Board-regulated institution has lent, sold subject to repurchase, or posted as collateral to the counterparty under the transaction (or netting set));

(B) \( \Sigma E_\text{C} \) equals the value of the collateral (the sum of the current fair values of all instruments, gold, and cash the