

Federal Housing Finance Board

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by 1.5 and adding to this product all other components of total capital.

(b) For reasons of safety and soundness, the Finance Board may require an individual Bank to have and maintain a greater amount of total capital than mandated by paragraph (a)(1) of this section.

§ 932.3 Risk-based capital requirement.

(a) Each Bank shall maintain at all times permanent capital in an amount at least equal to the sum of its credit risk capital requirement, its market risk capital requirement, and its operations risk capital requirement, calculated in accordance with §§ 932.4, 932.5 and 932.6, respectively.

(b) For reasons of safety and soundness, the Finance Board may require an individual Bank to have and maintain a greater amount of permanent capital than required by paragraph (a) of this section.

§ 932.4 Credit risk capital requirement.

(a) *General requirement.* Each Bank's credit risk capital requirement shall be equal to the sum of the Bank's credit risk capital charges for all assets, off-balance sheet items and derivative contracts.

(b) *Credit risk capital charge for assets.* Except as provided in paragraph (i) of this section, each Bank's credit risk capital charge for an asset shall be equal to the book value of the asset multiplied by the credit risk percentage requirement assigned to that asset pursuant to paragraph (e)(2) of this section.

(c) *Credit risk capital charge for off-balance sheet items.* Each Bank's credit risk capital charge for an off-balance sheet item shall be equal to the credit equivalent amount of such item, as determined pursuant to paragraph (f) of this section multiplied by the credit risk percentage requirement assigned to that item pursuant to paragraph (e)(2) of this section, except that the credit risk percentage requirement applied to the credit equivalent amount for a stand-by letter of credit shall be that for an advance with the same remaining maturity as that stand-by letter of credit.

(d) *Credit risk capital charge for derivative contracts—(1) Derivative contracts with non-member counterparties.* Except as provided in paragraph (j) of this section, each Bank's credit risk capital charge for a specific derivative contract entered into between a Bank and a non-member institution shall equal the sum of :

(i) The current credit exposure for the derivative contract, calculated in accordance with paragraph (g) or (h) of this section, as applicable, multiplied by the credit risk percentage requirement assigned to that derivative contract pursuant to paragraph (e)(2) of this section, provided that:

(A) The remaining maturity of the derivative contract shall be deemed to be less than one year for the purpose of applying Table 1.1 or 1.3 of this part; and

(B) Any collateral held against an exposure from the derivative contract shall be applied to reduce the portion of the credit risk capital charge corresponding to the current credit exposure in accordance with the requirements of paragraph (e)(2)(ii)(B) of this section; plus

(ii) The potential future credit exposure for the derivative contract calculated in accordance with paragraph (g) or (h) of this section, as applicable, multiplied by the credit risk percentage requirement assigned to that derivative contract pursuant to paragraph (e)(2) of this section, where the actual remaining maturity of the derivative contract is used to apply Table 1.1 or Table 1.3 of this part.

(2) *Derivative contracts with a member.* Except as provided in paragraph (j) of this section, the credit risk capital charge for any derivative contract entered into between a Bank and one of its member institutions shall be calculated in accordance with paragraph (d)(1) of this section. However, the credit risk percentage requirements used in the calculations shall be found in Table 1.1 of this part, which sets forth the credit risk percentage requirements for advances.

(e) *Determination of credit risk percentage requirements—(1) Finance Board determination of credit risk percentage requirements.* The Finance Board shall determine, and update periodically, the

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credit risk percentage requirements set forth in Tables 1.1 through 1.4 of this part applicable to a Bank's assets, off-balance sheet items, and derivative contracts.

(2) *Bank determination of credit risk percentage requirements.* (i) Each Bank shall determine the credit risk percentage requirement applicable to each asset, each off-balance sheet item and each derivative contract by identifying the category set forth in Table 1.1, Table 1.2, Table 1.3 or Table 1.4 of this part to which the asset, item or derivative belongs, given, if applicable, its demonstrated credit rating and remaining maturity (as determined in accordance with paragraphs (e)(2)(ii) and (e)(2)(iii) of this section). The applicable credit risk percentage requirement for an asset, off-balance sheet item or derivative contract shall be used to calculate the credit risk capital charge for such asset, item, or derivative contract in accordance with paragraphs (b), (c) or (d) of this section respectively. The relevant categories and credit risk percentage requirements are provided in the following Tables 1.1 through 1.4 of this part:

TABLE 1.1—REQUIREMENT FOR ADVANCES

| Type of advances | Percentage applicable to advances |
|---|-----------------------------------|
| Advances with: | |
| Remaining maturity ≤ 4 years | 0.07 |
| Remaining maturity > 4 years to 7 years .. | 0.20 |
| Remaining maturity > 7 years to 10 years .. | 0.30 |
| Remaining maturity > 10 years | 0.35 |

TABLE 1.2—REQUIREMENT FOR RATED RESIDENTIAL MORTGAGE ASSETS

| Type of residential mortgage asset | Percentage applicable to residential mortgage assets |
|--|--|
| Highest Investment Grade | 0.37 |
| Second Highest Investment Grade | 0.60 |
| Third Highest Investment Grade | 0.86 |
| Fourth Highest Investment Grade | 1.20 |
| If Downgraded to Below Investment Grade After Acquisition By Bank: | |
| Highest Below Investment Grade | 2.40 |
| Second Highest Below Investment Grade | 4.80 |
| All Other Below Investment Grade | 34.00 |
| Subordinated Classes of Mortgage Assets: | |
| Highest Investment Grade | 0.37 |
| Second Highest Investment Grade | 0.60 |
| Third Highest Investment Grade | 1.60 |
| Fourth Highest Investment Grade | 4.45 |
| If Downgraded to Below Investment Grade After Acquisition By Bank: | |
| Highest Below Investment Grade | 13.00 |
| Second Highest Below Investment Grade | 34.00 |
| All Other Below Investment Grade | 100.00 |

TABLE 1.3—REQUIREMENT FOR RATED ASSETS OR RATED ITEMS OTHER THAN ADVANCES OR RESIDENTIAL MORTGAGE ASSETS

[Based on remaining maturity]

| | Applicable percentage | | | | |
|---|-----------------------|----------------|----------------|------------------|---------|
| | ≤ 1 year | >1 yr to 3 yrs | >3 yrs to 7yrs | >7 yrs to 10 yrs | >10 yrs |
| U.S. Government Securities | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Highest Investment Grade | 0.15 | 0.40 | 0.90 | 1.40 | 2.20 |
| Second Highest Investment Grade | 0.20 | 0.45 | 1.00 | 1.45 | 2.30 |
| Third Highest Investment Grade | 0.70 | 1.10 | 1.60 | 2.05 | 2.95 |
| Fourth Highest Investment Grade | 2.50 | 3.70 | 4.45 | 5.50 | 7.05 |
| If Downgraded Below Investment Grade After Acquisition by Bank: | | | | | |
| Highest Below Investment Grade | 10.00 | 13.00 | 13.00 | 13.00 | 13.00 |
| Second Highest Below Investment Grade | 26.00 | 34.00 | 34.00 | 34.00 | 34.00 |
| All Other | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

TABLE 1.4—REQUIREMENT FOR UNRATED ASSETS

| Type of unrated asset | Applicable percentage |
|--|-----------------------|
| Cash | 0.00 |
| Premises, Plant, and Equipment | 8.00 |
| Investments Under § 940.3(e) & (f) | 8.00 |

(ii) When determining the applicable credit risk percentage requirement

from Tables 1.2 or 1.3 of this part, each Bank shall apply the following criteria:

(A) For assets or items that are rated directly by an NRSRO, the credit rating shall be the NRSRO's credit rating for the asset or item as determined in accordance with paragraph (e)(2)(iii) of this section.

(B) When using Table 1.3 of this part, for an asset, off-balance sheet item, or

derivative contract that is not rated directly by an NRSRO, but for which an NRSRO rating has been assigned to any corresponding obligor counterparty, third party guarantor, or collateral backing the asset, item, or derivative, the credit rating that shall apply to the asset, item, or derivative, or portion of the asset, item, or derivative so guaranteed or collateralized, shall be the credit rating corresponding to such obligor counterparty, third party guarantor, or underlying collateral, as determined in accordance with paragraph (e)(2)(iii) of this section. If there are multiple obligor counterparties, third party guarantors, or collateral instruments backing an asset, item, or derivative not rated directly by an NRSRO, or any specific portion thereof, then the credit rating that shall apply to that asset, item, or derivative or specific portion thereof, shall be the highest credit rating among such obligor counterparties, third party guarantors, or collateral instruments, as determined in accordance with paragraph (e)(2)(iii) of this section. Assets, items or derivatives shall be deemed to be backed by collateral for purposes of this paragraph if the collateral is:

(1) Actually held by the Bank or an independent, third-party custodian, or, if permitted under the Bank's collateral agreement with such party, by the Bank's member or an affiliate of that member where the term "affiliate" has the same meaning as in §950.1 of this chapter;

(2) Legally available to absorb losses;

(3) Of a readily determinable value at which it can be liquidated by the Bank;

(4) Held in accordance with the provisions of the Bank's member products policy established pursuant to §917.4 of this chapter; and

(5) Subject to an appropriate discount to protect against price decline during the holding period, as well as the costs likely to be incurred in the liquidation of the collateral.

(C) When using Table 1.3 of this part, for an asset with a short-term credit rating from a given NRSRO, the credit risk percentage requirement shall be based on the remaining maturity of the asset and the long-term credit rating provided for the issuer of the asset by

the same NRSRO. Should the issuer of the short-term asset not have a long-term credit rating, the long-term equivalent rating shall be determined as follows:

(1) The highest short-term credit rating shall be equivalent to the third highest long-term rating;

(2) The second highest short-term rating shall be equivalent to the fourth highest long-term rating;

(3) The third highest short-term rating shall be equivalent to the fourth highest long-term rating; and

(4) If the short-term rating is downgraded to below investment grade after acquisition by the Bank, the short-term rating shall be equivalent to the second highest below investment grade long-term rating.

(D) For residential mortgage assets and other assets or items, or relevant portion of an asset or item, that do not meet the requirements of paragraphs (e)(2)(ii)(A), (e)(2)(ii)(B) or (e)(2)(ii)(C) of this section, and are not identified in Tables 1.1 or Table 1.4 of this part, each Bank shall determine its own credit rating for such assets or items, or relevant portion thereof, using credit rating standards available from an NRSRO or other similar standards. This credit rating, as determined by the Bank, shall be used to identify the applicable credit risk percentage requirement under Table 1.2 of this part for residential mortgage assets, or under Table 1.3 of this part for all other assets or items.

(E) The credit risk percentage requirement for mortgage assets that are acquired member assets described in §955.2 of this chapter shall be assigned from Table 1.2 of this part based on the rating of those assets after taking into account any credit enhancement required by §955.3 of this chapter. Should a Bank further enhance a pool of loans through the purchase of insurance or by some other means, the credit risk percentage requirement shall be based on the rating of such pool after the supplemental credit enhancement, except that the Finance Board retains the right to adjust the credit capital charge to account for any deficiencies with the supplemental enhancement on a case-by-case basis.

(iii) In determining the credit ratings under paragraph (e)(2)(ii)(A), (e)(2)(ii)(B) and (e)(2)(ii)(C) of this section, each Bank shall apply the following criteria:

(A) The most recent credit rating from a given NRSRO shall be considered. If only one NRSRO has rated an asset or item, that NRSRO's rating shall be used. If an asset or item has received credit ratings from more than one NRSRO, the lowest credit rating from among those NRSROs shall be used.

(B) Where a credit rating has a modifier (e.g., A-1+ for short-term ratings and A+ or A- for long-term ratings) the credit rating is deemed to be the credit rating without the modifier (e.g., A-1+ = A-1 and A+ or A- = A);

(f) *Calculation of credit equivalent amount for off-balance sheet items—(1) General requirement.* The credit equivalent amount for an off-balance sheet item shall be determined by a Finance Board approved model or shall be equal to the face amount of the instrument multiplied by the credit conversion factor assigned to such risk category of instruments, subject to the exceptions in paragraph (f)(2) of this section, provided in the following Table 2 of this part:

TABLE 2—CREDIT CONVERSION FACTORS FOR OFF-BALANCE SHEET ITEMS

| Instrument | Credit conversion factor (In percent) |
|---|---------------------------------------|
| Asset sales with recourse where the credit risk remains with the Bank | 100 |
| Commitments to make advances subject to certain drawdown. | |
| Commitments to acquire loans subject to certain drawdown. | |
| Standby letters of credit | 50 |
| Other commitments with original maturity of over one year. | |
| Other commitments with original maturity of one year or less | |
| | 20 |

(2) *Exceptions.* The credit conversion factor shall be zero for Other Commitments With Original Maturity of Over One Year and Other Commitments With Original Maturity of One Year or Less, for which credit conversion factors of 50 percent or 20 percent would otherwise apply, that are unconditionally cancelable, or that effectively provide for automatic cancellation, due to the deterioration in a borrower's creditworthiness, at any time by the Bank without prior notice.

(g) *Calculation of current and potential future credit exposures for single derivative contracts—(1) Current credit exposure.* The current credit exposure for a derivative contract that is not subject to a qualifying bilateral netting contract described in paragraph (h)(3) of this section shall be:

(i) If the mark-to-market value of the contract is positive, the mark-to-market value of the contract; or

(ii) If the mark-to-market value of the contract is zero or negative, zero.

(2) *Potential future credit exposure.* (i) The potential future credit exposure for a single derivative contract, including a derivative contract with a negative mark-to-market value, shall be calculated using an internal model approved by the Finance Board or, in the alternative, by multiplying the effective notional amount of the derivative contract by one of the assigned credit conversion factors, modified as may be required by paragraph (g)(2)(ii) of this section, for the appropriate category as provided in the following Table 3 of this part:

TABLE 3—CREDIT CONVERSION FACTORS FOR POTENTIAL FUTURE CREDIT EXPOSURE DERIVATIVE CONTRACTS [In percent]

| Residual maturity | Interest rate | Foreign exchange and gold | Equity | Precious metals except gold | Other commodities |
|---------------------------|---------------|---------------------------|--------|-----------------------------|-------------------|
| One year or less | 0 | 1 | 6 | 7 | 10 |
| Over 1 year to five years | .5 | 5 | 8 | 7 | 12 |
| Over five years | 1.5 | 7.5 | 10 | 8 | 15 |

(ii) In applying the credit conversion factors in Table 3 of this part the following modifications shall be made:

(A) For derivative contracts with multiple exchanges of principal, the conversion factors are multiplied by the number of remaining payments in the derivative contract; and

(B) For derivative contracts that automatically reset to zero value following a payment, the residual maturity equals the time until the next payment; however, interest rate contracts with remaining maturities of greater than one year shall be subject to a minimum conversion factor of 0.5 percent.

(iii) If a Bank uses an internal model to determine the potential future credit exposure for a particular type of derivative contract, the Bank shall use the same model for all other similar types of contracts. However, the Bank may use an internal model for one type of derivative contract and Table 3 of this part for another type of derivative contract.

(iv) Forwards, swaps, purchased options and similar derivative contracts not included in the Interest Rate, Foreign Exchange and Gold, Equity, or Precious Metals Except Gold categories shall be treated as other commodities contracts when determining potential future credit exposures using Table 3 of this part.

(v) If a Bank uses Table 3 of this part to determine the potential future credit exposures for credit derivative contracts, the credit conversion factors provided in Table 3 for equity contracts shall also apply to the credit derivative contracts entered into with investment grade counterparties. If the counterparty is downgraded to below investment grade, the credit conversion factor provided in Table 3 of this part for other commodity contracts shall apply.

(h) *Calculation of current and potential future credit exposures for multiple derivative contracts subject to a qualifying bilateral netting contract*—(1) Current credit exposure. The current credit exposure for multiple derivative contracts executed with a single counterparty and subject to a qualifying bilateral netting contract described in paragraph (h)(3) of this section,

shall be calculated on a net basis and shall equal:

(i) The net sum of all positive and negative mark-to-market values of the individual derivative contracts subject to a qualifying bilateral netting contract, if the net sum of the mark-to-market values is positive; or

(ii) Zero, if the net sum of the mark-to-market values is zero or negative.

(2) *Potential future credit exposure.* The potential future credit exposure for each individual derivative contract from among a group of derivative contracts that are executed with a single counterparty and subject to a qualifying bilateral netting contract described in paragraph (h)(3) of this section shall be calculated as follows:

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

where:

(i) A_{net} is the potential future credit exposure for an individual derivative contract subject to the qualifying bilateral netting contract;

(ii) A_{gross} is the gross potential future credit exposure, *i.e.*, the potential future credit exposure for the individual derivative contract, calculated in accordance with paragraph (g)(2) of this section but without regard to the fact that the contract is subject to the qualifying bilateral netting contract;

(iii) NGR is the net to gross ratio, *i.e.*, the ratio of the net current credit exposure of all the derivative contracts subject to the qualifying bilateral netting contract, calculated in accordance with paragraph (h)(1) of this section, to the gross current credit exposure; and

(iv) The gross current credit exposure is the sum of the positive current credit exposures of all the individual derivative contracts subject to the qualifying bilateral netting contract, calculated in accordance with paragraph (g)(1) of this section but without regard to the fact that the contract is subject to the qualifying bilateral netting contract.

(3) *Qualifying bilateral netting contract.* A bilateral netting contract shall be considered a qualifying bilateral netting contract if the following conditions are met:

(i) The netting contract is in writing;

(ii) The netting contract is not subject to a walkaway clause;

(iii) The netting contract provides that the Bank would have a single legal claim or obligation either to receive or to pay only the net amount of the sum of the positive and negative mark-to-market values on the individual derivative contracts covered by the netting contract in the event that a counterparty, or a counterparty to whom the netting contract has been assigned, fails to perform due to default, insolvency, bankruptcy, or other similar circumstance;

(iv) The Bank obtains a written and reasoned legal opinion that represents, with a high degree of certainty, that in the event of a legal challenge, including one resulting from default, insolvency, bankruptcy, or similar circumstances, the relevant court and administrative authorities would find the Bank's exposure to be the net amount under:

(A) The law of the jurisdiction by which the counterparty is chartered or the equivalent location in the case of non-corporate entities, and if a branch of the counterparty is involved, then also under the law of the jurisdiction in which the branch is located;

(B) The law of the jurisdiction that governs the individual derivative contracts covered by the netting contract; and

(C) The law of the jurisdiction that governs the netting contract;

(v) The Bank establishes and maintains procedures to monitor possible changes in relevant law and to ensure that the netting contract continues to satisfy the requirements of this section; and

(vi) The Bank maintains in its files documentation adequate to support the netting of a derivative contract.

(i) *Credit risk capital charge for assets hedged with credit derivatives*—(1) Credit derivatives with a remaining maturity of one year or more. The credit risk capital charge for an asset that is hedged with a credit derivative that has a remaining maturity of one year or more may be reduced only in accordance with paragraph (i)(3) or (i)(4) of this section and only if the credit derivative provides substantial protection against credit losses.

(2) *Credit derivatives with a remaining maturity of less than one year*. The cred-

it risk capital charge for an asset that is hedged with a credit derivative that has a remaining maturity of less than one year may be reduced only in accordance with paragraph (i)(3) of this section and only if the remaining maturity on the credit derivative is identical to or exceeds the remaining maturity of the hedged asset and the credit derivative provides substantial protection against credit losses.

(3) *Capital charge reduced to zero*. The credit risk capital charge for an asset shall be zero if a credit derivative is used to hedge the credit risk on that asset in accordance with paragraph (i)(1) or (i)(2) of this section, provided that:

(i) The remaining maturity for the credit derivative used for the hedge is identical to or exceeds the remaining maturity for the hedged asset, and either:

(A) The asset referenced in the credit derivative is identical to the hedged asset; or

(B) The asset referenced in the credit derivative is different from the hedged asset, but only if the asset referenced in the credit derivative and the hedged asset have been issued by the same obligor, the asset referenced in the credit derivative ranks *pari passu* to or more junior than the hedged asset and has the same maturity as the hedged asset, and cross-default clauses apply; and

(ii) The credit risk capital charge for the credit derivative contract calculated pursuant to paragraph (d) of this section is still applied.

(4) *Capital charge reduction in certain other cases*. The credit risk capital charge for an asset hedged with a credit derivative in accordance with paragraph (i)(1) of this section shall equal the sum of the credit risk capital charges for the hedged and unhedged portion of the asset provided that:

(i) The remaining maturity for the credit derivative is less than the remaining maturity for the hedged asset and either:

(A) The asset referenced in the credit derivative is identical to the hedged asset; or

(B) The asset referenced in the credit derivative is different from the hedged asset, but only if the asset referenced in the credit derivative and the hedged

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asset have been issued by the same obligor, the asset referenced in the credit derivative ranks pari passu to or more junior than the hedged asset and has the same maturity as the hedged asset, and cross-default clauses apply; and

(ii) The credit risk capital charge for the unhedged portion of the asset equals:

(A) The credit risk capital charge for the hedged asset, calculated as the book value of the hedged asset multiplied by the hedged asset's credit risk percentage requirement assigned pursuant to paragraph (e)(2) of this section where the appropriate credit rating is that for the hedged asset and the appropriate maturity is the remaining maturity of the hedged asset; minus

(B) The credit risk capital charge for the hedged asset, calculated as the book value of the hedged asset multiplied by the hedged asset's credit risk percentage requirement assigned pursuant to paragraph (e)(2) of this section where the appropriate credit rating is that for the hedged asset but the appropriate maturity is deemed to be the remaining maturity of the credit derivative; and

(iii) The credit risk capital charge for the hedged portion of the asset is equal to the credit risk capital charge for the credit derivative, calculated in accordance with paragraph (d) of this section.

(j) *Zero Credit risk capital charge for certain derivative contracts.* The credit risk capital charge for the following derivative contracts shall be zero:

(1) A foreign exchange rate contract with an original maturity of 14 calendar days or less (gold contracts do not qualify for this exception); and

(2) A derivative contract that is traded on an organized exchange requiring the daily payment of any variations in the market value of the contract.

(k) *Date of calculations.* Unless otherwise directed by the Finance Board, each Bank shall perform all calculations required by this section using the assets, off-balance sheet items, and derivative contracts held by the Bank, and, if applicable, the values or credit ratings of such assets, items, or derivatives as of the close of business of the last business day of the month for

which the credit risk capital charge is being calculated.

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§ 932.5 Market risk capital requirement.

(a) *General requirement.* (1) Each Bank's market risk capital requirement shall equal the sum of:

(i) The market value of the Bank's portfolio at risk from movements in interest rates, foreign exchange rates, commodity prices, and equity prices that could occur during periods of market stress, where the market value of the Bank's portfolio at risk is determined using an internal market risk model that fulfills the requirements of paragraph (b) of this section and that has been approved by the Finance Board; and

(ii) The amount, if any, by which the Bank's current market value of total capital is less than 85 percent of the Bank's book value of total capital, where:

(A) The current market value of the total capital is calculated by the Bank using the internal market risk model approved by the Finance Board under paragraph (d) of this section; and

(B) The book value of total capital is the same as the amount of total capital reported by the Bank to the Finance Board under § 932.7 of this part.

(2) A Bank may substitute an internal cash flow model to derive a market risk capital requirement in place of that calculated using an internal market risk model under paragraph (a)(1) of this section, provided that:

(i) The Bank obtains Finance Board approval of the internal cash flow model and of the assumptions to be applied to the model; and

(ii) The Bank demonstrates to the Finance Board that the internal cash flow model subjects the Bank's assets and liabilities, off-balance sheet items and derivative contracts, including related options, to a comparable degree of stress for such factors as will be required for an internal market risk model.

(b) *Measurement of market value at risk under a Bank's internal market risk model.* (1) Except as provided under paragraph (a)(2) of this section, each