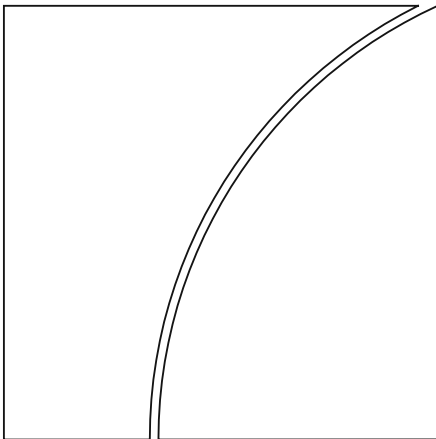


# Basel Committee on Banking Supervision



## Capital requirements for banks' equity investments in funds

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# Capital requirements for banks' equity investments in funds

## Executive Summary

This document presents the Basel Committee's final policy framework for calculating the capital requirements for banks' equity investments in funds that are held in their banking book, including text for the final standard. This follows the consultative document published in July 2013.<sup>1</sup> The Committee wishes to thank respondents for their comments in this regard.

## Background

As part of the work by the Financial Stability Board to strengthen the oversight and regulation of shadow banking, the Committee agreed to review the risk-based capital requirements for banks' exposures to funds.<sup>2</sup> This initiative was undertaken to clarify the existing treatment of such exposures in the Basel II capital adequacy framework,<sup>3</sup> and also to achieve a more internationally consistent and risk-sensitive capital treatment for banks' investments in the equity of funds, reflecting both the risk of the fund's underlying investments and its leverage.

## Prudential framework

The framework agreed by the Committee consists of three approaches, with varying degrees of risk sensitivity: the "look-through approach" (LTA), the "mandate-based approach" (MBA), and the "fall-back approach" (FBA). To ensure that banks have appropriate incentives to enhance the risk management of their exposures, the degree of conservatism increases with each successive approach.

The Committee also agreed to incorporate a leverage adjustment to the risk-weighted assets derived from the above approaches to appropriately reflect a fund's leverage.

## Transitional arrangements

This final standard will apply as of 1 January 2017.

### A. Scope of application

The framework is applicable to banks' equity investments in all types of funds that are held in their banking book, including off-balance sheet exposures (eg unfunded commitments to subscribe to a fund's future capital calls). The Committee is mindful of the need to avoid a disparate treatment between the banking book and trading book and will ensure, as part of its fundamental review of the trading

<sup>1</sup> Capital requirements for banks' equity investments in funds, July 2013, which is available at [www.bis.org/publ/bcbs257.pdf](http://www.bis.org/publ/bcbs257.pdf).

<sup>2</sup> Strengthening Oversight and Regulation of Shadow Banking, November 2012, which is available at [www.financialstabilityboard.org/publications/r\\_121118.pdf](http://www.financialstabilityboard.org/publications/r_121118.pdf).

<sup>3</sup> International convergence of capital measurement and capital standards, June 2006, which is available at [www.bis.org/publ/bcbs128.htm](http://www.bis.org/publ/bcbs128.htm).

book, that a consistent approach is applied.<sup>4</sup> The framework applies to all banks, irrespective of whether they apply the Standardised Approach or Internal Ratings-Based (IRB) approaches for credit risk.

Subject to the discretion of national supervisors, equity investments in funds that meet the conditions in paragraphs 356 and 357 of Basel II may be exempted from the framework.

The Basel III framework requires banks to deduct certain direct and indirect investments in financial institutions (see paragraphs 78 to 89). Exposures, including underlying exposures held by funds, that are required to be deducted under the Basel III framework should not be risk weighted and therefore should be excluded from the framework advanced in this document.

## B. Hierarchy of approaches

As noted above, the prudential framework comprises a hierarchy of approaches for banks' equity investments in funds:

- (i) The LTA is the most granular approach. Subject to meeting the conditions set out for its use, banks employing the LTA must apply the risk weight of the fund's underlying exposures as if the exposures were held directly by the bank.
- (ii) The MBA provides an additional layer of risk sensitivity that can be used when banks do not meet the conditions for applying the LTA. Banks employing the MBA assign risk weights on the basis of the information contained in a fund's mandate or in the relevant national legislation.
- (iii) When neither of the above approaches is feasible, the FBA must be utilised. The FBA applies a 1,250% risk weight to a bank's equity investment in the fund.

## C. Leverage adjustment

One of the main drivers of risk related to equity investments in funds is their underlying leverage. The final standards text incorporates a leverage adjustment to more fully reflect the effect of this risk. The adjustment is analogous to proportional consolidation of a fund, and would adjust upwards the average risk weight of a fund by its leverage for a given equity investment.

# Revisions to Basel II

## Part 2: The First Pillar – Minimum Capital Requirements; Section II: Credit Risk – The Standardised Approach

Paragraph 80 will be amended by deleting the words "such as venture capital and private equity investments".

Subsection 11(i) will be included as follows:

<sup>4</sup> See the second consultative document published in October 2013, available at [www.bis.org/publ/bcbs265.pdf](http://www.bis.org/publ/bcbs265.pdf).

## 11(i). Equity investments in funds

80(i). Equity investments in funds that are held in the banking book must be treated in a manner consistent with one or more of the following three approaches, which vary in their risk sensitivity and conservatism: the “look-through approach” (LTA), the “mandate-based approach” (MBA), and the “fall-back approach” (FBA).

### (i) The look-through approach

80(ii) The LTA requires a bank to risk weight the underlying exposures of a fund as if the exposures were held directly by the bank. This is the most granular and risk-sensitive approach. It must be used when:

- (a) there is sufficient and frequent information provided to the bank regarding the underlying exposures of the fund; and
- (b) such information is verified by an independent third party.

80(iii). To satisfy condition (a) above, the frequency of financial reporting of the fund must be the same as, or more frequent than, that of the bank’s and the granularity of the financial information must be sufficient to calculate the corresponding risk weights.<sup>5</sup> To satisfy condition (b) above, there must be verification of the underlying exposures by an independent third party, such as the depository or the custodian bank or, where applicable, the management company.

80(iv). Under the LTA banks must risk weight all underlying exposures of the fund as if those exposures were directly held. This includes, for example, any underlying exposure arising from the fund’s derivatives activities (for situations in which the underlying receives a risk weighting treatment under Pillar 1) and the associated counterparty credit risk (CCR) exposure. Instead of determining a credit valuation adjustment (CVA) charge associated with the fund’s derivatives exposures in accordance with paragraphs 97-104 of Basel III, banks must multiply the CCR exposure by a factor of 1.5 before applying the risk weight associated with the counterparty.<sup>6</sup> See the annex for an example of how to calculate risk-weighted assets using the LTA.

80(v). Banks may rely on third-party calculations for determining the risk weights associated with their equity investments in funds (ie the underlying risk weights of the exposures of the fund) if they do not have adequate data or information to perform the calculations themselves. In such cases, the applicable risk weight shall be 1.2 times higher than the one that would be applicable if the exposure were held directly by the bank.<sup>7</sup>

### (ii) The mandate-based approach

80(vi). The second approach, the MBA, provides a method for calculating regulatory capital that can be used when the conditions for applying the LTA are not met.

<sup>5</sup> An external audit is not required.

<sup>6</sup> A bank is not required to apply the 1.5 factor for situations in which the CVA capital charge would not otherwise be applicable. This includes: (i) transactions with a central counterparty and (ii) securities financing transactions (SFTs), unless the bank’s national supervisor determines that the bank’s CVA loss exposure arising from SFTs are material.

<sup>7</sup> For instance, any exposure that is subject to a 20% risk weight under the Standardised Approach would be weighted at 24% (1.2 \* 20%) when the look through is performed by a third party.

80(vii). Under the MBA banks may use the information contained in a fund's mandate or in the national regulations governing such investment funds.<sup>8</sup> To ensure that all underlying risks are taken into account (including CCR) and that the MBA renders capital requirements no less than the LTA, the risk-weighted assets for the fund's exposures are calculated as the sum of the following three items:

- (a) Balance sheet exposures (ie the funds' assets) are risk weighted assuming the underlying portfolios are invested to the maximum extent allowed under the fund's mandate in those assets attracting the highest capital requirements, and then progressively in those other assets implying lower capital requirements. If more than one risk weight can be applied to a given exposure, the maximum risk weight applicable must be used.<sup>9</sup>
- (b) Whenever the underlying risk of a derivative exposure or an off-balance-sheet item receives a risk weighting treatment under Pillar 1, the notional amount of the derivative position or of the off-balance sheet exposure is risk weighted accordingly.<sup>10 11</sup>
- (c) The CCR associated with the fund's derivative exposures is calculated using the Current Exposure Method (CEM) set out in Annex 4, paragraph 92(i) of the Basel II framework, which includes a replacement cost and an add-on component.<sup>12</sup> Whenever the replacement cost is unknown, the exposure measure for CCR will be calculated in a conservative manner by using the notional amount as a proxy for the replacement cost. Whenever the add-on factor is unknown, the maximum add-on factor of 15%<sup>13</sup> applies.<sup>14</sup> The risk weight associated with the counterparty is applied to the sum of the replacement cost and add-on components, as in the CEM. Instead of determining a CVA charge associated with the fund's derivative exposures in accordance with paragraphs 97-104 of Basel III, banks must multiply the CCR exposure by a factor of 1.5 before applying the risk weight associated with the counterparty.<sup>15</sup>

See the annex for an example of how to calculate risk-weighted assets using the MBA.

### (iii) The fall-back approach

80(viii). Where neither the LTA nor the MBA is feasible, banks are required to apply the FBA. The FBA applies a 1,250% risk weight to the bank's equity investment in the fund.

<sup>8</sup> Information used for this purpose is not strictly limited to a fund's mandate or national regulations governing like funds. It may also be drawn from other disclosures of the fund.

<sup>9</sup> For instance, for investments in corporate bonds with no ratings restrictions, a risk weight of 150% must be applied.

<sup>10</sup> If the underlying is unknown, the full notional amount of derivative positions must be used for the calculation.

<sup>11</sup> If the notional amount of derivatives mentioned in paragraph 80(vii) is unknown, it will be estimated conservatively using the maximum notional amount of derivatives allowed under the mandate.

<sup>12</sup> The Committee has initiated a review of the CEM and has proposed, as an alternative, the non-internal model method (NIMM) for measuring CCR. If the NIMM is finalised, it will replace the use of CEM for solvency purposes. For further information about this review, see the Committee's consultative document on the NIMM that is available at [www.bis.org/publ/bcbs254.htm](http://www.bis.org/publ/bcbs254.htm).

<sup>13</sup> This corresponds to the highest add-on factor in the matrix included in Annex 4, paragraph 92(i) of the Basel II framework, ie as applied to derivative contracts with "Other Commodities" as underlying with a residual maturity over five years.

<sup>14</sup> For instance, if both the replacement cost and add-on components are unknown, a total multiplication factor of 1.15 is applied to the notional amount to reflect the CCR exposure.

<sup>15</sup> A bank is not required to apply the 1.5 factor for situations in which the CVA capital charge would not otherwise be applicable. This includes: (i) transactions with a central counterparty and (ii) securities financing transactions (SFTs), unless the bank's national supervisor determines that the bank's CVA loss exposure arising from SFTs are material.



(iv) Treatment of funds that invest in other funds

80(ix). When a bank has an investment in a fund (eg Fund A) that itself has an investment in another fund (eg Fund B), which the bank identified by using either the LTA or the MBA, the risk weight applied to the investment of the first fund (ie Fund A's investment in Fund B) can be determined by using one of the three approaches set out above. For all subsequent layers (eg Fund B's investments in Fund C and so forth), the risk weights applied to an investment in another fund (Fund C) can be determined by using the LTA under the condition that the LTA was also used for determining the risk weight for the investment in the fund at the previous layer (Fund B). Otherwise, the FBA must be applied.

(v) Partial use of an approach

80(x). A bank may use a combination of the three approaches when determining the capital requirements for an equity investment in an individual fund, provided that the conditions set out in paragraphs 80(i) to 80(xii) are met.

(vi) Exclusions to the look-through, mandate-based and the fall-back approaches

80(xi). Equity holdings in entities whose debt obligations qualify for a zero risk weight can be excluded from the LTA, MBA and FBA approaches (including those publicly sponsored entities where a zero risk weight can be applied), at the discretion of the national supervisor. If a national supervisor makes such an exclusion, this will be available to all banks.

80(xii). To promote specified sectors of the economy, supervisors may exclude from the capital charges equity holdings made under legislated programmes that provide significant subsidies or the investment to the bank and involve some form of government oversight and restrictions on the equity investments. Example of restrictions are limitations on the size and types of businesses in which the bank is investing, allowable amounts of ownership interests, geographical location and other pertinent factors that limit the potential risk of the investment to the bank. Equity holdings made under legislated programmes can only be excluded up to an aggregate of 10% of a bank's total regulatory capital.

(vii) Leverage adjustment

80(xiii). Leverage is defined as the ratio of total assets to total equity. National discretion may be applied to choose a more conservative leverage metric, if deemed appropriate. Leverage is taken into account in the MBA by using the maximum financial leverage permitted in the fund's mandate or in the national regulation governing the fund.

80(xiv). When determining the capital requirement related to its equity investment in a fund, a bank must apply a leverage adjustment to the average risk weight of the fund, as set out in paragraph 80(xv), subject to a cap of 1,250%.

80(xv). After calculating the total risk-weighted assets of the fund according to the LTA or the MBA, banks will calculate the average risk weight of the fund (Avg RWfund) by dividing the total risk-weighted assets by the total assets of the fund. Using Avg RWfund and taking into account the leverage of a fund (Lvg), the risk-weighted assets for a bank's equity investment in a fund can be represented as follows:

$$RWA_{\text{investment}} = \text{Avg RW}_{\text{fund}} * \text{Lvg} * \text{equity investment}$$

80(xvi). The effect of the leverage adjustments depends on the underlying riskiness of the portfolio (ie the average risk weight) as obtained by applying Basel II's Standardised Approach or the IRB approaches for credit risk. The formula can therefore be re-written as:

$$RWA_{\text{investment}} = RWA_{\text{fund}} * \text{percentage of shares}$$

80(xvii). See the annex for an example of how to calculate the leverage adjustment.

## Part 2: The First Pillar – Minimum Capital Requirements; Section III: Credit Risk – The Internal Ratings-Based Approach

Paragraph 339 of Section E (Rules for Equity Exposures) of Basel II will be deleted and replaced in its entirety as follows:

339. Section E presents the method of calculating the UL capital requirements for equity exposures. Section E.1 discusses (a) the market-based approach (which is further subdivided into a simple risk weight method and an internal models method), and (b) the PD/LGD approach. The risk components are provided in Section E.2. Section E.3 discusses the capital requirements for equity exposures arising from bank investments in all types of funds, including off-balance sheet exposures (eg unfunded commitments to subscribe to a fund's future capital calls). The method of calculating expected losses, and for determining the difference between that measure and provisions is described in Section III.G.

Paragraphs 360 and 361 of Section E.2 will be deleted in their entirety.

Section E.3 will be added as follows:

### 3. Equity Investments in Funds

361(i). Risk-weighted assets for equity exposures arising from bank investments in funds that are held in the trading book are subject to the market risk capital rules.

361(ii). Equity investments in funds that are held in the banking book must be treated in a consistent manner based on paragraphs 80(i) to 80(xvii), with the following exceptions:

- (i) Under the LTA banks using an IRB approach must calculate the IRB risk components (ie PD of the underlying exposures and, where applicable, LGD and EAD) associated with the fund's underlying exposures. This includes, for example, any underlying exposures arising from the fund's derivatives activities (whenever the underlying receives a risk-weighting treatment under Pillar 1) and the associated counterparty credit risk exposure, as if the bank were exposed to such risk directly.<sup>16</sup>

Banks using an IRB approach may use the Standardised Approach for credit risk when applying risk weights to the underlying components of funds if they are permitted to do so under the partial use provisions set out in paragraphs 256 to 262 in the case of directly held investments. In addition, when an IRB calculation is not feasible (eg the bank cannot assign the necessary risk components to the underlying exposures in a manner consistent with its own underwriting criteria), IRB banks shall use the Standardised Approach risk weights. However, banks must apply the simple risk weight method for equity exposures in the banking book set out in paragraph 344, and for securitisation positions, banks must apply the ratings-based approach set out in paragraphs 611 to 618.

Banks may rely on third-party calculations for determining the risk weights associated with their equity investments in funds (ie the underlying risk weights of the exposures of the fund) if they do not have adequate data or information to perform the calculations themselves. In this case, the third party shall use the Standardised Approach risk weights. However, the third party must

<sup>16</sup> As set out in the standards text for the Standardised Approach, instead of determining a CVA charge associated with the fund's derivative exposures in accordance with paragraphs 97-104 of Basel III, banks must multiply the counterparty credit risk exposure by a factor of 1.5 before they apply the risk weight associated with the counterparty.

apply the simple risk weight method for equity exposures in the banking book set out in paragraph 344, and for securitisation positions, the third party must apply the ratings-based approach set out in paragraphs 611 to 618. In addition, the applicable risk weight shall be 1.2 times higher than the one that would be applicable if the exposure were held directly by the bank.

- (ii) Under the MBA banks using an IRB approach must apply the Standardised Approach risk weights. However, banks must apply the simple risk weight method for equity exposures in the banking book set out in paragraph 344, and for securitisation exposures, banks must apply the ratings-based approach set out in paragraphs 611 to 618.

## Annex

### Calculation of risk-weighted assets using the LTA

Consider a fund that replicates an equity index. Moreover, assume the following:

- Bank uses the Standardised Approach for credit risk when calculating its capital requirements;
- Bank owns 20% of the shares of the fund;
- The fund holds short term (less than one year) forward contracts that are cleared through a qualifying central counterparty (with a notional amount of \$100); and
- The fund presents the following balance sheet:

#### Assets

Cash	\$ 20
Government bonds (AAA rated)	\$ 30
Variation margin receivable – forward contracts	\$ 50

#### Liabilities

Notes payable	\$ 5
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#### Equity

Shares	\$ 95
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Balance sheet exposures of \$100 will be risk weighted according to the risk weights applied for cash (RW=0%), government bonds (RW=0%), and centrally-cleared equity forward positions (RW=2%). The underlying risk weight for equity exposures (RW=100%) is applied to the notional amount of the forward contracts and there is a charge for counterparty credit risk. There is no CVA charge assessed since the forward contracts are cleared through a central counterparty.

The leverage of the fund is  $100/95 \approx 1.05$ .

Therefore, the risk-weighted assets for the bank's equity investment in the fund are calculated as follows:

$Avg RW_{fund} * Leverage * Equity investment =$

$$\frac{(RWA_{cash} + RWA_{bonds} + RWA_{underlying} + RWA_{forward} + RWA_{CCR})}{Total Assets_{fund}} * Leverage * Equity investment =$$

$$((\$20*0\% + \$30*0\% + \$100*100\% + \$50*2\% + \$100*6\%*2\%)/100) * 1.05 * (20\%*95) = \$20.17$$

## Calculation of risk-weighted assets using the MBA

Consider a fund with assets of \$100, where it is stated in the mandate that the fund replicates an equity index. In addition to being permitted to invest its assets in either cash or equities, the mandate allows the fund to take long positions in equity index futures up to a maximum nominal amount equivalent to the size of the fund's balance sheet (\$100). This means that the total on balance sheet and off balance sheet exposures of the fund can reach \$200. Consider also that a maximum financial leverage of 1.1 applies according to the mandate. The bank holds 20% of the shares of the fund, which represents an investment of \$18.18.

First, the on-balance sheet exposures of \$100 will be risk weighted according to the risk weights applied for equity exposures (RW=100%), ie  $RWA_{\text{on-balance}} = \$100 * 100\% = \$100$ .

Second, we assume that the fund has exhausted its limit on derivative positions, ie \$100 notional amount, which would be weighted with the risk weight associated with the underlying of the derivative position, which in this example is 100% for publicly-traded equity holdings. The total risk-weighted assets related to the maximum notional amount underlying the derivative positions are hence  $RWA_{\text{underlying}} = \$100 * 100\% = \$100$ .

Third, we would calculate the counterparty credit risk associated with the derivative contract. If we do not know the replacement cost related to the futures contract, we would approximate it by the maximum notional amount, ie \$100 and also calculate the add-on by applying a 15% conversion factor, resulting in an exposure amount of \$115. Assuming the futures contract is cleared through a qualifying CCP, a risk weight of 2% applies, so that  $RWA_{\text{CCR}} = \$115 * 2\% = \$2.3$ . There is no CVA charge assessed since the futures contract is cleared through a central counterparty.

The RWA of the fund is hence obtained by adding  $RWA_{\text{on-balance}}$ ,  $RWA_{\text{underlying}}$  and  $RWA_{\text{CCR}}$ , ie \$202.3.

### *Leverage adjustment*

The RWA (\$202.3) will be divided by the total assets of the fund (\$100) resulting in an average risk-weight of 202.3%. The average risk-weight is then scaled up by a factor of 1.1 to reflect financial leverage =  $202.3\% * 1.1 = 222.53\%$ . Finally, as the bank invested \$18.18 in the equity of the fund, its total RWAs associated with its equity investment amount to  $\$18.18 * 222.53\% = \$40.46$ .

## Calculation of the leverage adjustment

Consider a fund with assets of \$100 that invests in corporate debt. Assume that the fund is highly levered with equity of \$5 and debt of \$95. Such a fund would have financial leverage of  $100/5=20$ .

Consider the following two cases:

*Case 1: Fund specialises in low-rated corporate debt*

### Assets

Cash	\$ 10
A+ to A- bonds	\$ 20
BBB+ to BB- bonds	\$ 30
Below BB- bonds	\$ 40

The average risk weight of the fund is  $(\$10*0\% + \$20*50\% + \$30*100\% + \$40*150\%)/\$100 = 100\%$ . The financial leverage of 20 would result in a risk weight of 2000% for the banks' investment in this highly levered fund, however, this is capped at a conservative risk weight of 1,250%.

*Case 2: Fund specialises in high-rated corporate debt*

### Assets

Cash	\$ 5
AAA to AA- bonds	\$ 75
A+ to A- bonds	\$ 20

The average risk weight of the fund is  $(\$5*0\% + \$75*20\% + \$20*50\%)/\$100 = 25\%$ . The financial leverage of 20 results in a risk weight of 500%.

The above example illustrates that the rate at which the 1,250% cap is reached depends on the underlying riskiness of the portfolio (as judged by the average risk weight) as captured by Basel II Standardised Approach risk weights or the IRB methods. Therefore, for a "risky" portfolio (100% average risk weight), the 1,250% limit is reached fairly quickly with a leverage of 12.5x, while for a "low risk" portfolio (25% average risk weight) this limit is reached at a leverage of 50x.