Section A

Finalized Guidance Document Concerning the Implementation of Basel III

SAMA
Banking Supervision Department
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1. **Overview**

SAMA will implement Basel II.5 and Basel III framework commencing as of 1 January 2013 for both i) Standardized Approach and ii) IRB Approaches. Specifically, the Regulatory Capital under Basel III will be an entirely new framework incorporating a more pure and loss absorbent capital structure. However, RWAs under Basel III will be an aggregate of RWA under Basel II and enhancements and modifications to these RWA under Basel II.5 and Basel III frameworks. Refer to attached Basel III Prudential Returns package.

The finalized Guidance Document and Prudential Returns concerning Basel II.5 for both Standardized and IRB Approach have already been circulated through SAMA Circular # BCS 25478 dated 21 October 2012. These Guidance Notes are related exclusively to Basel III concerning both Standardized and IRB Approaches.

As both the Basel II.5 and Basel III Framework are to be implemented concurrently, the following are their major elements with regard to Regulatory Capital and Enhanced Risk Coverage.

For SAMA's National Discretion items, please refer to Annex # 9.

A.1.1 **Refining and Enhancing Regulatory Capital for Basel III**

Basel III

The main reasons for the economic and financial crisis, which began in 2007 was that the banks of many countries had 1) insufficient quality of capital 2) limited risk coverage 3) had built up excessive on and off-balance sheet leverage. This was accompanied by a gradual erosion of the level and quality of the capital base and at the same time, many banks were holding insufficient liquidity buffers. The banking system therefore was not able to absorb the resulting systemic trading and credit losses nor could it cope with the re-intermediation of large off-balance sheet exposures that had built up.

Consequently, the Basel III framework is composed of the following major enhancements (1 to 5) which are to be implemented on a staggered approach up to 2019 in accordance with the phase in arrangement describe in Annex #1. In this respect, items 3 (Leverage) and 5 [Liquidity (LCR & NSFR)] are currently being monitored for Saudi banks in accordance with the Phase in arrangements from January 2011 and 2012 respectively.

1. Strengthening the quality of Regulatory Capital
2. Enhanced Risk Coverage
3. Leverage Ratio – refer to SAMA Circular # BCS 5610 dated 13 February 2011
4. Introduction of Capital buffers
5. Introduction of Global Liquidity Standards [Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR)] – refer to SAMA Circular # BCS 28266 dated 19 November 2011

Consequently, these specific guidance and prudential returns are being provided for 1, 2 and 4 through this document which will initiate the monitoring of Basel III capital ratios by 1 January 2013 as per Annex # 1.

Strengthening the Quality of Regulatory Capital

Basel III framework makes critical that banks' Enhanced risk exposures are backed by a high quality capital base. To this end, the predominant form of Tier 1 capital must be common shares and retained earnings. BCBS principles adopted by SAMA ensure that banks hold a high quality Tier 1 capital that represent "Pure Capital" which is highly "Loss Absorbent" through the following measures:

- Deductions from capital and prudential filters to be generally applied at the level of common equity or its equivalent.
- Subordinated debt of high quality
- Fully discretionary noncumulative dividends or coupons
- Neither a maturity date nor an incentive to redeem.
- Innovative hybrid capital instruments with an incentive to redeem through features such as step-up clauses, currently limited to 15% of the Tier 1 capital base, will be phased out.
- Tier 3 capital instruments to cover market risks are eliminated.
- To improve market discipline, the transparency of the capital base will be improved, with all elements of capital required to be disclosed along with a detailed reconciliation to the reported accounts.

SAMA plans to ensure that its definition of Basel III Regulatory Capital is in compliance with BCBS requirements. This will be accomplished through compliance with requirements as described in Annexes # 2 to 4. Further, SAMA will ensure the Basel III enhancements to Definition of Capital are implemented in a manner that minimizes the disruption to capital instruments that are currently outstanding by Saudi banks.

B.1.2 **Enhancing risk coverage (Pillar 1) for Basel II.5 and Basel III**

1.2.1 **Basel II.5 – Enhancing risk coverage (Pillar 1)**

SAMA implemented Basel II.5 through its Guidance Document and Prudential Return. These introduced further refinements to its Basel II reforms related to capital requirements relating to securitized and resecuritized assets or Risk Weighted Assets for Pillar 1 risks i.e. for Credit and Market risks. Basel II.5 components of Pillar 1, Pillar 2 and Pillar 3 enhancements have been implemented on the basis of the following BCBS documents.

- Enhancement to the Basel II Framework – July 2009
- Revisions to the Basel II Market Risk Framework – December 2010

In specific, these refinements are concerning Securitization and Re-securitization activities in the Banking book and Trading book. These reforms will raise capital requirements for the trading book and complex securitization exposures, which were a major source of losses for many internationally active banks. The enhanced treatment also introduced a stressed value-at-risk (VaR) capital requirement based on a continuous 12-month period of significant financial stress. In addition, the Committee set higher capital requirements for so-called resecuritizations in both the banking and the trading book. Basel III also raised the standard of the Pillar 2 supervisory review process and strengthened Pillar 3 disclosures.

The Committee is also conducting a fundamental review of the trading book. The work on the fundamental review of the trading book currently is incomplete (BCBS document of May 2012).
Consequently, with regard to Market Risk, SAMA will not implement the option to use models for both Basel II.5 or Basel III for the Trading book.

1.2.2 Basel III Framework – Enhanced Risk Coverage

Basel III also introduced measures to strengthen the capital requirements through Enhanced Risk Coverage as given below, which included counterparty credit exposures arising from banks' derivatives, repo and Securities Financing Activities (SFA). These reforms also included the raising of capital buffers backing these additional exposures, in order to reduce procyclicality and provide additional incentives to move to OTC derivative contracts to central counterparties, thus helping reduce systemic risk across the financial system.

Further, Basel III also provides incentives to strengthen the risk management of counterparty credit exposures. The enhancement to counterparty credit exposures as given below was the main change amongst others to Enhanced Risk Coverage in the Basel III framework:

A. Counterparty Credit Risk
1. Revised metric to better address counterparty credit risk, credit valuation adjustments and wrong-way risks
2. Introduction of Asset Value correlation (AVC) for Financial Institutions
3. Collateralized counterparties and increased margin period of risk
4. Central Counterparties (CCPs)
5. Enhanced counterparty credit risk management requirements

B. Addressing Reliance on external credit ratings and minimizing cliff effects
1. Standardized Inferred rating treatment for long-term exposure
2. Incentive to avoid getting exposures rated
3. Incorporation of IOSCO's Code of Conduct Fundamentals for Credit Rating Agencies
4. ''Cliff effects'' arising from guarantees and credit derivatives- ''CRM''
5. Unsolicited ratings and recognition of ECAI's

The more specific, Basel III enhancements include the following:

1. Banks will be subject to an additional capital charge for potential mark-to-market losses (i.e. credit valuation adjustment – CVA – risk) associated with a deterioration in the credit worthiness of a counterparty. This charge is applicable both i) under Standardized Approach and ii) IRB Approaches. While the Basel II standard covers the risk of a counterparty default, it does not address such CVA risk, which during the financial crisis was a greater source of losses than those arising from outright defaults. Consequently, an additional Counterparty Credit risk.

2. Under IRB, banks must determine their capital requirement for counterparty credit risk using stressed inputs. This will address concerns about capital charges becoming too low during periods of compressed market volatility and help address procyclicality. The approach, which is similar to what has been introduced for market risk, will also promote more integrated management of market and counterparty credit risk.

3. Basel III Framework has strengthened standards for collateral management and initial margining. Banks with large and illiquid derivative exposures to a counterparty will have to apply longer margining periods as a basis for determining the regulatory capital requirement. Additional standards have been adopted to strengthen collateral risk management practices.

4. Basel III Framework also includes the additional systemic risk arising from the interconnectedness of banks and other financial institutions through the derivatives markets. In this regard, the Basel III Framework supports the efforts of the Committee on Payments and Settlement Systems (CPSS) and the International Organization of Securities Commissions (IOSCO) to establish strong standards for financial market infrastructures, including central counterparties. These standards have now been finalized through the BCBS Finalized Document entitled "Capital Requirements for Banks Exposures to Central Counterparties" of July 2012.The capitalization of bank exposures to central counterparties (CCPs) is based in part on the compliance of the CCP with such standards. A bank's collateral and mark-to-market exposures to CCPs meeting these enhanced principles will be subject to a low risk weight, proposed at 2%; and default fund exposures to CCPs will be subject to risk-sensitive capital requirements. These criteria, together with strengthened capital requirements for bilateral OTC derivative exposures, will create strong incentives for banks to move exposures to such CCPs. Moreover, to address systemic risk within the financial sector, the Committee also is raising the risk weights through IRB Approaches only on exposures to financial institutions relative to the non-financial corporate sector, as financial exposures are more highly correlated than non-financial ones.

5. The Committee is raising counterparty credit risk management standards in a number of areas, including for the treatment of wrong-way risk, i.e. cases where the exposure increases when the credit quality of the counterparty deteriorates. It also issued final additional guidance for the sound backtesting of counterparty credit exposures.

Finally, the Committee assessed a number of measures to mitigate the reliance on external ratings of the Basel II framework. The measures include requirements for banks to perform their own internal assessments of externally rated securitization exposures, the elimination of certain "cliff effects" associated with credit risk mitigation practices, and the incorporation of key elements of the IOSCO *Code of Conduct Fundamentals for Credit Rating Agencies* into the Committee's eligibility criteria for the use of external ratings in the capital framework. The Committee also is conducting a more fundamental review of the securitization framework, including its reliance on external ratings.

A.   **Regulatory Capital Under Basel III**

2.   **Definition of Regulatory Capital for Basel III**

2.1   **A Summary of Components of capital**
Total regulatory capital will consist of the sum of the following elements:
- Tier 1 Capital (going-concern capital)
  a. Common Equity Tier 1 Capital
  b. Additional Tier 1 Capital
- Tier 2 Capital

For each of the three categories above (Tier-1-a, Tier-1-b and Tier-2 capital) there are sets of criteria that instruments are required to meet before inclusion in the relevant category. **(Refer to attachment # 2 to 4).**

Limits and minima
All elements above are net of the associated regulatory adjustments and are subject to the following restrictions (see also Annex 1):
- Common Equity Tier 1 must be at least 4.5% of risk-weighted assets at all times.
- Tier 1 Capital must be at least 6.0% of risk-weighted assets at all times.
- Total Capital (Tier 1 Capital plus Tier 2 Capital) must be at least 8.0% of risk weighted assets at all times.

2.2   **Details on Components of Regulatory Capital**

2.2.1   **Common Equity Tier 1**

Common Equity Tier 1 capital consists of the sum of the following elements:
- Common shares issued by the bank that meet the criteria for classification as common shares for regulatory purposes (or the equivalent for non-joint stock companies);
- Stock surplus (share premium) resulting from the issue of instruments included Common Equity Tier 1;
- Retained earnings;
- Accumulated other comprehensive income and other disclosed reserves;

(There is no adjustment applied to remove from Common Equity Tier 1 unrealized gains or losses recognized on the balance sheet. Unrealized

losses are subject to the transitional arrangements set out in paragraph 94 (c) and (d) Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems, 2011.)

- Common shares issued by consolidated subsidiaries of the bank and held by third parties (i.e. minority interest) that meet the criteria for inclusion in Common Equity Tier 1 capital.
- Retained earnings and other comprehensive income include interim profit or loss.
- Dividends are removed from Common Equity Tier 1 in accordance with applicable accounting standards. The treatment of minority interest and the regulatory adjustments applied in the calculation of Common Equity Tier 1 are addressed in separate sections.

Common shares issued by the bank

For an instrument to be included in Common Equity Tier 1 capital it must meet all of the criteria that an outlined in Annex-2. The vast majority of internationally active banks are structured as joint stock companies. (Joint stock companies are defined as companies that have issued common shares, irrespective of whether these shares are held privately or publically. These will represent the vast majority of internally active banks)[1] and for these banks the criteria must be met solely with common shares.

In the rare cases where banks need to issue non-voting common shares as part of Common Equity Tier 1, they must be identical to voting common shares of the issuing bank in all respects except the absence of voting rights.

- Common shares issued by consolidated subsidiaries are described in section 3 of this document.

Regulatory adjustments applied in the calculation of Common Equity Tier 1 are described in section 4 of this document.

- Common shares issued by consolidated subsidiaries are described in section 3 of this document.

2.2.2. **Additional Tier 1 capital**

- A minimum set of criteria for an instrument issued by the bank to meet or to exceed in order for its to be included in additional Tier-1 Capital and described in Annex # 3.

Additional Tier 1 capital consists of the sum of the following elements:

- Instruments issued by the bank that meet the criteria for inclusion in Additional Tier 1 capital (and are not included in Common Equity Tier 1); Refer to paragraph 54-56, A global regulatory framework for more resilient banks and banking systems – revised version (rev June 2011)

[1] Refer to paragraphs 53: Basel III: A global regulatory framework for more resilient banks and banking system revised version (rev June 2011).

- Stock surplus (share premium) resulting from the issue of instruments included in Additional Tier 1 capital;

- Instruments issued by consolidated subsidiaries of the bank and held by third parties that meet the criteria for inclusion in Additional Tier 1 capital and are not included in Common Equity Tier 1. Refer to section 3 for the relevant criteria; and
- Regulatory adjustments applied in the calculation of Additional Tier 1 Capital are addressed in section 4 of this document.
- Tier-1 Capital instruments issued by consolidated subsidiaries are described in section 3 of this document.

2.2.3. **Tier 2 capital**

The objective of Tier 2 is to provide loss absorption on a gone-concern basis. Based on this objective, the following out the minimum set of criteria for an instrument to meet or exceed in order for it to be included in Tier 2 capital. (Annex 4)
- For details on the qualifying criteria for Tier 2 capital, please refer to annex # 4.

Tier 2 capital consists of the sum of the following elements:

- Instruments issued by the bank that meet the criteria for inclusion in Tier 2 capital (and are not included in Tier 1 capital);
- Stock surplus (share premium) resulting from the issue of instruments included in Tier 2 capital;
- Instruments issued by consolidated subsidiaries of the bank and held by third parties that meet the criteria for inclusion in Tier 2 capital and are not included in Tier 1 capital are described in section 3.
- Certain loan loss provisions
- Regulatory adjustments applied in the calculation of Tier 2 Capital.

The treatment of regulatory adjustments applied in the calculation of Tier 2 Capital are addressed in section 4.

Stock surplus (share premium) resulting from the issue of instruments included in Tier 2 capital;
Stock surplus (i.e. share premium) that is not eligible for inclusion in Tier 1, will only be permitted to be included in Tier 2 capital if the shares giving rise to the stock surplus are permitted to be included in Tier 2 capital.

General provisions/general loan-loss reserves (for banks using the Standardized Approach for credit risk)
Provisions or loan-loss reserves held against future, presently unidentified losses are freely available to meet losses which subsequently materialize and therefore qualify for inclusion within Tier 2. Provisions ascribed to identified deterioration of particular assets or known liabilities, whether individual or grouped, should be excluded. Furthermore, general provisions/general loan-loss reserves eligible for inclusion in Tier 2 will be limited to a maximum of 1.25 percentage points of credit risk-weighted risk assets calculated under the Standardized approach.

Excess of total eligible provisions under the Internal Ratings-based Approach

Where the total expected loss amount is less than total eligible provisions, as explained in paragraphs 380 to 383 of the June 2006 Comprehensive version of Basel II, banks may recognize the difference in Tier 2 capital up to a maximum of 0.6% of credit risk weighted assets calculated under the IRB approach. SAMA may apply a lower limit than 0.6% which will be communicated to banks.

3. **Minority interest (i.e. non-controlling interest) and other capital issued out of consolidated subsidiaries that is held by third parties**

Note: Minority Interests arise on the full consolidation of majority held subsidiaries.

3.1 **Common shares issued by consolidated subsidiaries**

Minority interest arising from the issue of common shares by a fully consolidated subsidiary of the bank may receive recognition in Common Equity Tier 1 only if (1) the instrument giving rise to the minority interest would, if issued by the bank, meet all of the criteria for classification as common shares for regulatory capital purposes; and (2) the subsidiary that issued the instrument is itself a bank (for the purposes of this paragraph, any institution that is subject to the same minimum prudential standards and level of supervision as a bank may be considered to be a bank.) & (Minority interest in a subsidiary that is a bank is strictly excluded from the parent bank's common equity if the parent bank or affiliate has entered into any arrangements to fund directly or indirectly minority investment in the subsidiary whether through an SPV or through another vehicle or arrangement. The treatment outlined above, thus, is strictly available where all minority investments in the bank subsidiary solely represent genuine third party common equity contributions to the subsidiary).
The amount of minority interest meeting the criteria above that will be recognized in consolidated Common Equity Tier 1 will be calculated as follows:

- Total minority interest meeting the two criteria above minus the amount of the surplus Common Equity Tier 1 of the subsidiary attributable to the minority shareholders.
- Surplus Common Equity Tier 1 of the subsidiary is calculated as the Common Equity Tier 1 of the subsidiary minus the lower of: (1) the minimum Common Equity Tier 1 requirement of the subsidiary plus the capital conservation buffer (i.e. 7.0% of risk weighted assets) and (2) the portion of the consolidated minimum Common Equity Tier 1 requirement plus the capital conservation buffer (i.e. 7.0% of consolidated risk weighted assets) that relates to the subsidiary.
- The amount of the surplus Common Equity Tier 1 that is attributable to the minority shareholders is calculated by multiplying the surplus Common Equity Tier 1 by the percentage of Common Equity Tier 1 that is held by minority shareholders.
  Refer to para 62 A global regulatory framework for more resilient bank.

3.2 **Tier 1 qualifying capital issued by consolidated subsidiaries**

Tier 1 capital instruments issued by a fully consolidated subsidiary of the bank to third party investors including amounts under paragraph 62 of the BCBS document of June 2011 may receive recognition in Tier 1 capital only if the instruments would, if issued by the bank, meet all of the criteria for classification as Tier 1 capital. The amount of this capital that will be recognized in Tier 1 will be calculated as follows:

- Total Tier 1 of the subsidiary issued to third parties minus the amount of the surplus Tier 1 of the subsidiary attributable to the third party investors.
- Surplus Tier 1 of the subsidiary is calculated as the Tier 1 of the subsidiary minus the lower of: (1) the minimum Tier 1 requirement of the subsidiary plus the capital conservation buffer (ie 8.5% of risk weighted assets) and (2) the portion of the consolidated minimum Tier 1 requirement plus the capital conservation buffer (ie 8.5% of consolidated risk weighted assets) that relates to the subsidiary.
- The amount of the surplus Tier 1 that is attributable to the third party investors is calculated by multiplying the surplus Tier 1 by the percentage of Tier 1 that is held by third party investors.

The amount of this Tier 1 capital that will be recognized in Additional Tier 1 will exclude amounts recognized in Common Equity Tier 1 Capital under paragraph 62 of BCBS document of June 2011.

3.3 **Tier 1 and Tier 2 qualifying capital issued by consolidated subsidiaries**

Total capital instruments (ie Tier 1 and Tier 2 capital instruments) issued by a fully consolidated subsidiary of the bank to third party investors (including amounts under paragraph 3.1 and 3.2) may receive recognition in Total Capital only if the instruments would, if issued by the bank, meet all of the criteria for classification as Tier 1 or Tier 2 capital. The amount of this capital that will be recognized in consolidated Total Capital will be calculated
as follows:
- Total capital instruments of the subsidiary issued to third parties minus the amount of the surplus Total Capital of the subsidiary attributable to the third party investors.
- Surplus Total Capital of the subsidiary is calculated as the Total Capital of the subsidiary minus the lower of: (1) the minimum Total Capital requirement of the subsidiary plus the capital conservation buffer (ie 10.5% of risk weighted assets) and (2) the portion of the consolidated minimum Total Capital requirement plus the capital conservation buffer (i.e. 10.5% of consolidated risk weighted assets) that relates to the subsidiary.
- The amount of the surplus Total Capital that is attributable to the third party investors is calculated by multiplying the surplus Total Capital by the percentage of Total Capital that is held by third party investors.

The amount of this Total Capital that will be recognized in Tier 2 will exclude amounts recognized in Common Equity Tier 1 under paragraph 3.1 and amounts recognized in Additional Tier 1 under paragraph 3.2.

Paragraphs 64-65: A global regulatory framework for more resilient banks and banking systems – revised version (rev June 2011).

Where capital has been issued to third parties out of a special purpose vehicle (SPV), none of this capital can be included in Common Equity Tier 1. However, such capital can be included in consolidated Additional Tier 1 or Tier 2 and treated as if the bank itself had issued the capital directly to the third parties only if it meets all the relevant entry criteria and the only asset of the SPV is its investment in the capital of the bank in a form that meets or exceeds all the relevant entry criteria (as required by criterion 14 for Additional Tier 1 and criterion 9 for Tier 2). In cases where the capital has been issued to third parties through an SPV via a fully consolidated subsidiary of the bank, such capital may, subject to the requirements of this paragraph, be treated as if the subsidiary itself had issued it directly to the third parties and may be included in the bank's consolidated Additional Tier 1 or Tier 2 in accordance with the treatment outlined in paragraphs 63 and 64 of the BCBS document of June 2011.

4.   **Regulatory Adjustments or "Filter"**

4.1   This section sets out the regulatory adjustments to be applied to regulatory capital. In most cases these adjustments are applied in the calculation of Common Equity Tier 1.

4.1.1 **Goodwill and other intangibles (except mortgage servicing rights)**

Goodwill and all other intangibles must be deducted in the calculation of Common Equity Tier 1, including any goodwill included in the valuation of significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation. With the exception of mortgage servicing rights, the full amount is to be deducted net of any associated deferred tax liability which would be extinguished if the intangible assets become impaired or derecognized under the relevant accounting standards. The amount to be deducted in respect of mortgage servicing rights is set out in the threshold deductions section below.

Subject to prior supervisory approval, banks that report under local GAAP may use the IFRS definition of intangible assets to determine which assets are classified as intangible and are thus required to be deducted.

4.1.2 **Deferred tax assets**

Deferred tax assets (DTAs) that rely on future profitability of the bank to be realized are to be deducted in the calculation of Common Equity Tier 1. Deferred tax assets may be netted with associated deferred tax liabilities

(DTLs) only if the DTAs and DTLs relate to taxes levied by the same taxation authority and offsetting is permitted by the relevant taxation authority. Where these DTAs relate to temporary differences (e.g. allowance for credit losses) the amount to be deducted is set out in the "threshold deductions" section below. All other such assets, e.g. those relating to operating losses, such as the carry forward of unused tax losses, or unused tax credits, are to be deducted in full net of deferred tax liabilities as described above. The DTLs permitted to be netted against DTAs must exclude amounts that have been netted against the deduction of goodwill, intangibles and defined benefit pension assets, and must be allocated on a pro rata basis between DTAs subject to the threshold deduction treatment and DTAs that are to be deducted in full.

An over installment of tax or, in some jurisdictions, current year tax losses carried back to prior years may give rise to a claim or receivable from the government or local tax authority. Such amounts are typically classified as current tax assets for accounting purposes. The recovery of such a claim or receivable would not rely on the future profitability of the bank and would be assigned the relevant sovereign risk weighting.

4.1.3 Cash flow hedge reserves

The amount of the cash flow hedge reserves that relates to the hedging of items that are not fair valued on the balance sheet (including projected cash flows) should be derecognized in the calculation of Common Equity Tier 1. **This means that positive amounts should be deducted and negative amounts should be added back.**

This treatment specifically identifies the element of the cash flow hedge reserve that is to be derecognized for prudential purposes. It removes the element that gives rise to artificial volatility in common equity, as in this case the reserve only reflects one half of the picture (the fair value of the derivative, but not the changes in fair value of the hedged future cash flow).

4.1.4 A Shortfall of the stock of provisions to expected losses

The deduction from capital in respect of a shortfall of the stock of provisions to expected losses under the IRB approach should be made in the calculation of Common Equity Tier 1. The full amount is to be deducted and should not be reduced by any tax effects that could be expected to occur if provisions were to rise to the level of expected losses.

4.1.4 BA Gain on sale related to securitization transactions

Derecognize in the calculation of Common Equity Tier 1 any increase in equity capital resulting from a securitization transaction, such as that associated with expected future margin income (FMI) resulting in a gain-on-sale.

4.1.4 C Cumulative gains and losses due to changes in own credit risk on fair valued financial liabilities

Derecognize in the calculation of Common Equity Tier 1, all unrealized gains and losses that have resulted from changes in the fair value of liabilities that are due to changes in the bank's own credit risk.

In addition, with regard to derivative liabilities, derecognize all accounting valuation adjustments arising from the bank's own credit risk. The offsetting between valuation adjustments arising from the bank's own credit risk and those arising from its counterparties' credit risk is not allowed.

(BIS has issued its final guidelines (July 2012) titled "Regulatory treatment of valuation adjustments to derivative liabilities - final rule issued by the Basel Committee". Banks are advised to refer to the aforementioned, these would be regarded as binding by SAMA with respect to capital computation / capital adequacy under Basel III guidelines.

Refer to Paragraph 75, Cumulative gains and losses due to changes in own credit risk on fair valued financial liabilities (Updated in July 2012)

4.1.5 **Defined benefit pension fund assets and liabilities**

Defined benefit pension fund liabilities, as included on the balance sheet, must be fully recognized in the calculation of Common Equity Tier 1 (ie Common Equity Tier 1 cannot be increased through derecognizing these liabilities). **For each defined benefit pension fund that is an asset on the balance sheet, the asset should be deducted in the calculation of Common Equity Tier 1 net of any associated deferred tax liability which would be extinguished if the asset should become impaired or derecognized under the relevant accounting standards.** Assets in the fund to which the bank has unrestricted and unfettered access can, with supervisory approval, offset the deduction. Such offsetting assets should be given the risk weight they would receive if they were owned directly by the bank.
This treatment addresses the concern that assets arising from pension funds may not be capable of being withdrawn and used for the protection of depositors and other creditors of a bank. The concern is that their only value stems from a reduction in future payments into the fund. The treatment allows for banks to reduce the deduction of the asset if they can address these concerns and show that the assets can be easily and promptly withdrawn from the fund.

4.1.6 **Investments in own shares (treasury stock)**

All of a bank's investments in its own common shares, whether held directly or indirectly, **will be deducted in the calculation of Common Equity Tier 1** (unless already derecognized under the relevant accounting standards). In

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addition, any own stock which the bank could be contractually obliged to purchase should be deducted in the calculation of Common Equity Tier 1. The treatment described will apply irrespective of the location of the exposure in the banking book or the trading book. In addition:

- Gross long positions may be deducted net of short positions in the same underlying exposure only if the short positions involve no counterparty risk.

- Banks should look through holdings of index securities to deduct exposures to own shares. However, gross long positions in own shares resulting from holdings of index securities may be netted against short position in own shares resulting from short positions in the same underlying index. In such cases the short positions may involve counterparty risk (which will be subject to the relevant counterparty credit risk charge).

This deduction is necessary to avoid the double counting of a bank's own capital. Certain accounting regimes do not permit the recognition of treasury stock and so this deduction is only relevant where recognition on the balance sheet is permitted. The treatment seeks to remove the double counting that arises from direct holdings, indirect holdings via index funds and potential future holdings as a result of contractual obligations to purchase own shares.

Following the same approach outlined above, banks must deduct investments in their own Additional Tier 1 in the calculation of their Additional Tier 1 capital and must deduct investments in their own Tier 2 in the calculation of their Tier 2 capital.

4.1.7 Reciprocal cross holdings in the capital of banking, financial and insurance entities

Reciprocal cross holdings of capital that are designed to artificially inflate the capital position of banks will be deducted in full. Banks must apply a "corresponding deduction approach" to such investments in the capital of other banks, other financial institutions and insurance entities. This means the deduction should be applied to the same component of capital for which the capital would qualify if it was issued by the bank itself.

4.2 Investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation and where the bank does not own more than 10% of the issued common share capital of the entity.

The regulatory adjustment described in this section applies to investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation and where the bank does not own more than 10% of the issued common share capital of the entity. In addition:

- Investments include direct, indirect[1] and synthetic holdings of capital instruments. For example, banks should look through holdings of index securities to determine their underlying holdings of capital.[2]
- Holdings in both the banking book and trading book are to be included. Capital includes common stock and all other types of cash and synthetic capital instruments (e.g. subordinated debt). It is the net long position that is to be included (i.e. the gross long position net of short positions in the same underlying exposure where the maturity of the short position either matches the maturity of the long position or has a residual maturity of at least one year).
- Underwriting positions held for five working days or less can be excluded. Underwriting positions held for longer than five working days must be included.
- If the capital instrument of the entity in which the bank has invested does not meet the criteria for Common Equity Tier 1, Additional Tier 1, or Tier 2 capital of the bank, the capital is to be considered common shares for the purposes of this regulatory adjustment.[3]

Amounts below the threshold, which are not deducted, will continue to be risk weighted. Thus, instruments in the trading book will be treated as per the market risk rules and instruments in the banking book should be treated as per the internal ratings-based approach or the standardized approach (as applicable). For the application of risk weighting the amount of the holdings must be allocated on a pro rata basis between those below and those above the threshold.

4.2.1 If the total of all holdings listed above in aggregate exceed 10% of the bank's common equity (after applying all other regulatory adjustments in full listed prior to this one) then the amount above 10% is required to be deducted, applying a corresponding deduction approach. This means the deduction should be applied to the same component of capital for which the capital would qualify if it was issued by the bank itself. Accordingly, the amount to be deducted from common equity should be calculated as the total of all holdings which in aggregate

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[1] Indirect holdings are exposures or parts of exposures that, if a direct holding loses its value, will result in a loss to the bank substantially equivalent to the loss in value of the direct holding.

[2] If banks find it operationally burdensome to look through and monitor their exact exposure to the capital of other financial institutions as a result of their holdings of index securities, SAMA may permit banks, subject to prior supervisory approval, to use a conservative estimate.

[3] If the investment is issued out of a regulated financial entity and not included in regulatory capital in the relevant sector of the financial entity, it is not required to be deducted.

exceed 10% of the bank's common equity (as per above) multiplied by the common equity holdings as a percentage of the total capital holdings. This would result in a common equity deduction which corresponds to the proportion of total capital holdings held in common equity. Similarly,

the amount to be deducted from Additional Tier 1 capital should be calculated as the total of all holdings which in aggregate exceed 10% of the bank's common equity (as per above) multiplied by the Additional Tier 1 capital holdings as a percentage of the total capital holdings. The amount to be deducted from Tier 2 capital should be calculated as the total of all holdings which in aggregate exceed 10% of the bank's common equity (as per above) multiplied by the Tier 2 capital holdings as a percentage of the total capital holdings.

If, under the corresponding deduction approach, a bank is required to make a deduction from a particular tier of capital and it does not have enough of that tier of capital to satisfy that deduction, the shortfall will be deducted from the next higher tier of capital (eg if a bank does not have enough Additional Tier 1 capital to satisfy the deduction, the shortfall will be deducted from Common Equity Tier 1).

4.3 Significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation[1]

The regulatory adjustment described in this section applies to investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation where the bank owns more than 10% of the issued common share capital of the issuing entity or where the entity is an affiliate[2] of the bank. In addition:

- Investments include direct, indirect and synthetic holdings of capital instruments. For example, banks should look through holdings of index securities to determine their underlying holdings of capital.[3]

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[1] Investments in entities that are outside of the scope of regulatory consolidation refers to investments in entities that have not been consolidated at all or have not been consolidated in such a way as to result in their assets being included in the calculation of consolidated risk-weighted assets of the group.

[2] An affiliate of a bank is defined as a company that controls, or is controlled by, or is under common control with, the bank. Control of a company is defined as (1) ownership, control, or holding with power to vote 20% or more of a class of voting securities of the company; or (2) consolidation of the company for financial reporting purposes.

[3] If banks find it operationally burdensome to look through and monitor their exact exposure to the capital of other financial institutions as a result of their holdings of index securities, SAMA may permit banks to use a conservative estimate.

- Holdings in both the banking book and trading book are to be included. Capital includes common stock and all other types of cash and synthetic capital instruments (e.g. subordinated debt). It is the net long position that is to be included (i.e. the gross long position net of short positions in the same underlying exposure where the maturity of the short position

either matches the maturity of the long position or has a residual maturity of at least one year).

- Underwriting positions held for five working days or less can be excluded. Underwriting positions held for longer than five working days must be included.
- If the capital instrument of the entity in which the bank has invested does not meet the criteria for Common Equity Tier 1, Additional Tier 1, or Tier 2 capital of the bank, the capital is to be considered common shares for the purposes of this regulatory adjustment.[1]
- National discretion applies to allow banks, with prior supervisory approval, to exclude temporarily certain investments where these have been made in the context of resolving or providing financial assistance to reorganize a distressed institution. (If necessary and relevant, please refer to SAMA for further guidance.)

All investments included above that are not common shares must be fully deducted following a corresponding deduction approach. This means the deduction should be applied to the same tier of capital for which the capital would qualify if it was issued by the bank itself. If the bank is required to make a deduction from a particular tier of capital and it does not have enough of that tier of capital to satisfy that deduction, the shortfall will be deducted from the next higher tier of capital (e.g. if a bank does not have enough Additional Tier 1 capital to satisfy the deduction, the shortfall will be deducted from Common Equity Tier 1).

Investments included above that are common shares will be subject to the threshold treatment described in the next section.

4.4 Threshold deductions

Instead of a full deduction, the following items may each receive limited recognition when calculating Common Equity Tier 1, with recognition capped at 10% of the bank's common equity (after the application of all regulatory adjustments set out in paragraphs 4.1.1 to 4.3):

- Significant investments in the common shares of unconsolidated financial institutions (banks, insurance and other financial entities) as referred to in paragraph 4.3 of this document; (Refer to paragraph 87-89, A global regulatory framework for more resilient bank and banking systems – revised version (rev June 2011)
- Mortgage servicing rights (MSRs); and
- DTAs that arise from temporary differences.

[1] If the investment is issued out of a regulated financial entity and not included in regulatory capital in the relevant sector of the financial entity, it is not required to be deducted.

On 1 January 2013, a bank must deduct the amount by which the aggregate of the three items above exceeds 15% of its common equity component of Tier 1 (calculated prior to the deduction of these items but after application of all other regulatory adjustments applied in the calculation of Common Equity Tier 1). The

items included in the 15% aggregate limit are subject to full disclosure. As of 1 January 2018, the calculation of the 15% limit will be subject to the following treatment: the amount of the three items that remains recognized after the application of all regulatory adjustments must not exceed 15% of the Common Equity Tier 1 capital, calculated after all regulatory adjustments. See Annex 62. for an example.

The amount of the three items that are not deducted in the calculation of Common Equity Tier 1 will be risk weighted at 250%. (Refer to Prudential Return)

4.10 Former deductions from capital

90. The following items, which under Basel II were deducted 50% from Tier 1 and 50% from Tier 2 (or had the option of being deducted or risk weighted), will receive a 1250% risk weight: (Refer to Prudential Return)
- Certain Securitization and Resecuritization exposures;
- Certain equity exposures under the PD/LGD approach;
- Non-payment/delivery on non-DvP and non-PvP transactions; and
- Significant investments in commercial entities.

5. Transitional arrangements

The transitional arrangements for implementing the new standards will help to ensure that there is minimal disruption in banking sector, and that it can meet the higher capital standards through reasonable earnings retention and capital

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raising, while still supporting lending to the economy. The transitional arrangements include:

5.1 **Minimum Capital Adequacy Ratio** – Please also refer to Annex-1.

National implementation by ~~member countries~~ Saudi Banks will begin on 1 January 2013. ~~Member countries must translate the rules into national laws and regulations before this date~~. As of 1 January 2013, banks will be required to meet the following new minimum requirements in relation to risk-weighted assets (RWAs):

– 3.5% Common Equity Tier 1/RWAs;
– 4.5% Tier 1 capital/RWAs, and
– 8.0% total capital/RWAs.

5.2 **Phasing in of the minimum Common Equity Tier 1 and Tier 1 requirements**

The minimum Common Equity Tier 1 and Tier 1 requirements will be phased in between 1 January 2013 and 1 January 2015. On 1 January 2013, the minimum Common Equity Tier 1 requirement will rise from the current 2% level to 3.5%. The Tier 1 capital requirement will rise from 4% to 4.5%. On 1 January 2014, banks will have to meet a 4% minimum Common Equity Tier 1 requirement and a Tier 1 requirement of 5.5%. On 1 January 2015, banks will have to meet the 4.5% Common Equity Tier 1 and the 6% Tier 1 requirements. The total capital requirement remains at the existing level of 8.0% and so does not need to be phased in. The difference between the total capital requirement of 8.0% and the Tier 1 requirement can be met with Tier 2 and higher forms of capital.

5.3 **15% Limit for Significant Investment**

The regulatory adjustments (ie deductions and prudential filters), including amounts above the aggregate 15% limit for significant investments in financial institutions, mortgage servicing rights, and deferred tax assets from temporary differences, would be fully deducted from Common Equity Tier 1 by 1 January 2018.

5.4 **Phasing in regulatory adjustment**

In particular, the regulatory adjustments will begin at 20% of the required adjustments to Common Equity Tier 1 on 1 January 2014, 40% on 1 January 2015, 60% on 1 January 2016, 80% on 1 January 2017, and reach 100% on 1 January 2018. During this transition period, the remainder not deducted from Common Equity Tier 1 **will continue to be subject to existing national treatments (Follow up).** The same transition approach will apply to deductions from Additional Tier 1 and Tier 2 capital. Specifically, the regulatory adjustments to Additional Tier 1 and Tier 2 capital will begin at 20% of the required deductions on 1 January 2014, 40% on 1 January 2015, 60% on 1 January 2016, 80% on 1 January 2017, and reach 100% on 1 January 2018. During this

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transition period, the remainder not deducted from capital **will continue to be subject to existing national treatments. (Follow up)**

5.5 **The treatment of capital issued out of subsidiaries and held by third parties**

The treatment of capital issued out of subsidiaries and held by third parties (eg minority interest) will also be phased in. Where such capital is eligible for inclusion in one of the three components of capital according to paragraphs 63 to 65 of the BCBS document of June 2011, it can be included from 1 January 2013. Where such capital is not eligible for inclusion in one of the three components of capital but is included under the existing national treatment, 20% of this amount should be excluded from the relevant component of capital on 1 January 2014, 40% on 1 January 2015, 60% on 1 January 2016, 80% on 1 January 2017, and reach 100% on 1 January 2018.

5.6 **Grand Fathering**

Existing public sector capital injections will be grandfathered until 1 January 2018.

5.7 **Capital instruments that no longer qualify as non-common equity Tier 1 capital**

Capital instruments that no longer qualify as non-common equity Tier 1 capital or Tier 2 capital will be phased out beginning 1 January 2013. Fixing the base at the nominal amount of such instruments outstanding on 1 January 2013, their recognition will be capped at 90% from 1 January 2013, with the cap reducing by 10 percentage points in each subsequent year. This cap will be applied to Additional Tier 1 and Tier 2 separately and refers to the total amount of instruments outstanding that no longer meet the relevant entry criteria. To the extent an instrument is redeemed, or its recognition in capital is amortized, after 1 January 2013, the nominal amount serving as the base is not reduced. In addition, instruments with an incentive to be redeemed will be treated as follows:

– For an instrument that has a call and a step-up prior to 1 January 2013 (or another incentive to be redeemed), if the instrument is not called at its effective maturity date and on a forward-looking basis will meet the new criteria for inclusion in Tier 1 or Tier 2, it will continue to be recognized in that tier of capital.

– For an instrument that has a call and a step-up on or after 1 January 2013 (or another incentive to be redeemed), if the instrument is not called at its effective maturity date and on a forward looking basis will meet the new criteria for inclusion in Tier 1 or Tier 2, it will continue to be recognized in that tier of capital. Prior to the effective maturity date, the instrument would be considered an "instrument that no longer qualifies as Additional Tier 1 or Tier 2" and will therefore be phased out from 1 January 2013.

– For an instrument that has a call and a step-up between 12 September 2010 and 1 January 2013 (or another incentive to be redeemed), if the instrument is not called at its effective maturity date and on a forward looking basis does not meet the new criteria for inclusion in Tier 1 or Tier 2, it will be fully derecognized in that tier of regulatory capital from 1 January 2013.

– For an instrument that has a call and a step-up on or after 1 January 2013 (or another incentive to be redeemed), if the instrument is not called at its effective maturity date and on a forward looking basis does not meet the new criteria for inclusion in Tier 1 or Tier 2, it will be derecognized in that tier of regulatory capital from the effective maturity date. Prior to the effective maturity date, the instrument would be considered an "instrument that no longer qualifies as Additional Tier 1 or Tier 2" and will therefore be phased out
from 1 January 2013.

– For an instrument that had a call and a step-up on or prior to 12 September 2010 (or another incentive to be redeemed), if the instrument was not called at its effective maturity date and on a forward looking basis does not meet the new criteria for inclusion in Tier 1 or Tier 2, it will be considered an "instrument
that no longer qualifies as Additional Tier 1 or Tier 2" and will therefore be phased out from 1 January 2013.

Capital instruments that do not meet the criteria for inclusion in Common Equity Tier 1 will be excluded from Common Equity Tier 1 as of 1 January 2013. However, instruments meeting the following three conditions will be phased out over the same horizon described in paragraph 94(g): (1) they are issued by a non-joint stock company[1]; (2) they are treated as equity under the prevailing accounting standards; and (3) they receive unlimited recognition
as part of Tier 1 capital under current national banking law.

Only those instruments issued before 12 September 2010 qualify for the above transition arrangements.

NOTE: Banks should also refer to SAMA Circular entitled "Elements of the Reforms to Raise the Quality of Regulatory Capital – Loss Absorbency at the Point of Non- Viability issued through SAMA Circular # BCS 5611 dated 13 February 2011.

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[1] Non-joint stock companies were not addressed in the Basel Committee's 1998 agreement on instruments eligible for inclusion in Tier 1 capital as they do not issue voting common shares.

Pillar 1

B.   **Enhancement Risk Under Basel III Framework**

6.   **Enhanced Risk Coverage**

In addition to raising the quality and level of the capital base, the Basel III framework recognized the need to ensure that all material risks are captured in the capital framework. Failure to capture major on- and off-balance sheet risks, as well as derivative related exposures, was a key factor that amplified the crisis. This section outlines enhancement to Risk Coverage under the Basel III framework as given below.

A. Counterparty Credit Risk

- Revised metric to better address counterparty credit risk, credit valuation adjustments and wrong-way risks
- Introduction of Asset Value correlation (AVC) for Financial Institutions
- Collateralized counterparties and increased margin period of risk
- Central Counterparties (CCPs)
- Enhanced counterparty credit risk management requirements

B. Addressing Reliance on external credit ratings and minimizing cliff effects

- Standardized Inferred rating treatment for long-term exposure
- Incentive to avoid getting exposures rated
- Incorporation of IOSCO's Code of Conduct Fundamentals for Credit Rating Agencies
- ''Cliff effects'' arising from guarantees and credit derivatives- ''CRM''
- Unsolicited ratings and recognition of ECAI's

6.1 **Counterparty Credit Risk**

As mentioned, Counterparty Credit Risk under Basel II only measured Default Risk which could be calculated by using the following 3 methods, where SAMA adopted the # 3 Current Exposure Method.

1. Internal Model Method
2. Standardized Approach
3. Current Exposure Method (CEM)

~~In this regard, SAMA had permitted only the Current Exposures Method under Basel II. For Basel III purposes as in Basel II banks are to use the more simple CEM.~~

Further, Basel III introduced the concept of Current Value Adjustment (CVA) as an additional Counterparty Risk, which again can be determined by using the Internal Model Method (IMM) or the Standardized Method.

It should also be emphasized that Basel III introduced incremental risk or additional risk through the concept of the Credit Value Adjustment which

measure the counterparty risk prior to default. Consequently, total risk is an aggregate of these two.

The main revision to Internal Models Method to measure default risk exposure is to using the Effective EPE with stressed parameters.

In this regard, the Default risk capital charge is the greater of:
- Portfolio level capital charge based on effective EPE (not including CVA charge using current market data) and the portfolio level capital charge based on effective EPE under stress calibration.

B. **Credit Value Adjustment**

   Capitalization of the risk of CVA losses
   The major element of CVA include the following:
   - Applies to IMM and non IMM banks
   - Huge mark-to-market losses incurred during financial crisis
   - BCBS introduced a ''bond equivalent of the counterparty exposure'' approach which aims to better capture CVA losses
   - In addition to default risk, additional capital charge introduced for CCR for OTC derivatives
   - Transactions with SFTs and CCPs excluded from CVA capital charge unless these are material, where the materiality threshold for SFT's will be defined by SAMA and if warranted, bank will be advised accordingly.
   - Banks with IMM approval and Specific Interest Rate Risk VaR model approval for bonds will use ''Advanced CVA risk capital charge''
   - All other banks will calculate CVA capital charge based on ''Standardized CVA risk capital charge'' methodology
   - Under Basel II, Banks in KSA are mandated by SAMA to use ''CEM'' methodology for both Standardized & IRB Approach. However, for Basel III they can utilize IMM as well.
   - Under the Standardized Approach, Banks would be required to develop enhanced system's capability to apply this formula
   - Maturity: Mi is the notional weighted average maturity (FAQ- For CVA purposes, the 5-year cap of the effective maturity will not be applied). This applies to all transactions with the counterparty, not only to index CDS- Maturity will be capped at the longest contractual remaining maturity in the netting set.

A. **Counterparty credit risk using Internal Models**

This section is only applicable for those banks that have been given regulatory approval by SAMA to use the IMM Approach to calculate counterparty credit risk. Alternatively, Banks should use Standardized Approach 6.1.B on page 30. Also, for further clarifications, please refer to SAMA Circular # BCS 24331 dated 4 September 2012 entitled "Basel III Definition of Capital FAQs (p.7).

6.1.A **Internal Model Method (IMM)**

Default Risk Exposures Calculation

Internal Model (EPE)

25(i). To determine the default risk capital charge for counterparty credit risk as defined in paragraph 105, banks must use the greater of the portfolio-level capital charge (not including the CVA charge in paragraphs 97-104) based on Effective EPE using current market data and the portfolio-level capital charge based on Effective EPE using a stress calibration. The stress calibration should be a single consistent stress calibration for the whole portfolio of counterparties. The greater of Effective EPE using current market data and the stress calibration should not be applied on a counterparty by counterparty basis, but on a total portfolio level.

61. When the Effective EPE model is calibrated using historic market data, the bank must employ current market data to compute current exposures and at least three years of historical data must be used to estimate parameters of the model. Alternatively, market implied data may be used to estimate parameters of the model. In all cases, the data must be updated quarterly or more frequently if market conditions warrant. To calculate the Effective EPE using a stress calibration, the bank must also calibrate Effective EPE using three years of data that include a period of stress to the credit default spreads of a bank's counterparties or calibrate Effective EPE using market implied data from a suitable period of stress. The following process will be used to assess the adequacy of the stress calibration:

- The bank must demonstrate, at least quarterly, that the stress period coincides with a period of increased CDS or other credit spreads – such as loan or corporate bond spreads – for a representative selection of the bank's counterparties with traded credit spreads. In situations where the bank does not have adequate credit spread data for a counterparty, the bank should map each counterparty to specific credit spread data based on region, internal rating and business types.
- The exposure model for all counterparties must use data, either historic or implied, that include the data from the stressed credit period, and must use such data in a manner consistent with the method used for the calibration of the Effective EPE model to current data.
- To evaluate the effectiveness of its stress calibration for Effective EPE, the bank must create several benchmark portfolios that are vulnerable to the same main risk factors to which the bank is exposed. The exposure to these benchmark portfolios shall be calculated using (a) current positions at current market prices, stressed volatilities, stressed correlations and other relevant stressed exposure model inputs from the 3-year stress period and (b) current positions at end of stress period market prices, stressed volatilities, stressed correlations and other relevant stressed exposure model inputs from

the 3-year stress period. Supervisors may adjust the stress calibration if the exposures of these benchmark portfolios deviate substantially.

Calculation of Credit Value Adjustment (CVA)

The Concept

Credit Value Adjustments (CVA) under Basel III is an incremental credit risk capital charge prior to default. Under Basel II and Basel II.5 counterparty credit risk methodology only calculated capital requirements for default risk. However, Basel III brings in the capital charge with regard to the deterioration of a counterparty risk prior to default. Consequently, the CVA is in addition or as an incremental risk to default risk. SAMA's methodology uses the Current Exposure Method (CEM) for Default Risk which is one of the threefour methods prescribed under Basel II Annex # 4[1]. Consequently, capital requirements for counterparty risk is the aggregate of CEM and CVA calculations.

Specific Aspects of CVA under IMM Approach

Capitalization of the risk of CVA losses

99. To implement the bond equivalent approach, the following new section VIII will be added to Annex 4 of the Basel II framework.[1] The new paragraphs (97 to 105) are to be inserted after paragraph 96 in Annex 4.[1]

VIII. Treatment of mark-to-market counterparty risk losses (CVA capital charge)

- CVA Risk Capital Charge

97. In addition to the default risk capital requirements for counterparty credit risk determined based on the standardized or internal ratings-based (IRB) approaches for credit risk, a bank must add a capital charge to cover the risk of mark-to-market losses on the expected counterparty risk (such losses being known as credit value adjustments, CVA) to OTC derivatives. The CVA capital charge will be calculated in the manner set forth below depending on the bank's approved method of calculating capital charges for counterparty credit risk and specific interest rate risk. A bank is not required to include in this capital charge (i) transactions with a central counterparty (CCP); and (ii) securities financing transactions (SFT), unless their supervisor determines that the bank's CVA loss exposures arising from SFT transactions are material.

[1]Annex 5 of this document.

A. Banks with IMM approval and Specific Interest Rate Risk VaR model[1] approval for bonds: Advanced CVA risk capital charge

98. Banks with IMM approval for counterparty credit risk and approval to use the market risk internal models approach for the specific interest-rate risk of bonds must calculate this additional capital charge by modeling the impact of changes in the counterparties' credit spreads on the CVAs of all OTC derivative counterparties, together with eligible CVA hedges according to new paragraphs 102 and 103, using the bank's VaR model for bonds. This VaR model is restricted to changes in the counterparties' credit spreads and does not model

the sensitivity of CVA to changes in other market factors, such as changes in the value of the reference asset, commodity, currency or interest rate of a derivative. Regardless of the accounting valuation method a bank uses for determining CVA, the CVA capital charge calculation must be based on the following formula for the CVA of each counterparty:

$$CVA = (LGD_{MKT}) \cdot \sum_{i=1}^{T} Max\left(0; exp\left(-\frac{s_{i-1} \cdot t_{i-1}}{LGD_{MKT}}\right) - exp\left(-\frac{s_i \cdot t_i}{LGD_{MKT}}\right)\right) \cdot \left(\frac{EE_{i-1} \cdot D_{i-1} + EE_i \cdot D_i}{2}\right)$$

$$CVA = (LGD_{MKT}) \cdot \sum_{i-1}^{t} Max\left(0; exp\left(\frac{s_{i-1} \cdot t_{i-1}}{LGD_{MKT}}\right) - exp\left(\frac{s_i \cdot t_i}{LGD_{MKT}}\right)\right) \cdot \left(\frac{EE_{i-1} \cdot D_{i-1} + EE_i}{2}\right)$$

Where:

- t_i is the time of the i-th revaluation time bucket, starting from $t_0=0$.

- t_T is the longest contractual maturity across the netting sets with the counterparty.

- s_i is the credit spread of the counterparty at tenor t_i, used to calculate the CVA of the counterparty. Whenever the CDS spread of the counterparty is available, this must be used. Whenever such a CDS spread is not available, the bank must use a proxy spread that is appropriate based on the rating, industry and region of the counterparty.

- LGD_{MKT} is the loss given default of the counterparty and should be based on the spread of a market instrument of the counterparty (or where a counterparty instrument is not available, based on the proxy spread that is appropriate based on the rating, industry and region of the counterparty). It should be noted that this LGD_{MKT}, which inputs into the calculation of the CVA risk capital charge, is different from the LGD that is determined for the IRB and CCR default risk charge, as this LGD_{MKT} is a market assessment rather than an internal estimate.

- The first factor within the sum represents an approximation of the market implied marginal probability of a default occurring between times t_{i-1} and t_i. Market implied default probability (also known as risk neutral probability) represents the market price of buying protection against a default and is in general different from the real-world likelihood of a default.

[1] "VaR model" refers to the internal model approach to market risk.

- EE_i is the expected exposure to the counterparty at revaluation time t_i, as defined in paragraph 30 (regulatory expected exposure), where exposures of different netting sets for such counterparty are added, and where the longest maturity of each netting set is given by the longest contractual maturity inside the netting set. For banks using the short cut method (paragraph 41 of Annex 4)[1] for margined trades, the paragraph 99 should be applied.

- D_i is the default risk-free discount factor at time t_i, where $D_0 = 1$.

99. The formula in paragraph 98 must be the basis for all inputs into the bank's approved VaR model for bonds when calculating the CVA risk capital charge for a counterparty. For example, if this approved VaR model is based on full repricing, then the formula must be used directly. If the bank's approved VaR model is based on credit spread sensitivities for specific tenors, the bank must base each credit spread sensitivity on the following formula:[2]

$$Regulatory\ CS01_i = 0.0001 \cdot t_i \cdot exp\left(-\frac{s_i \cdot t_i}{LGD_{MKT}}\right) \cdot \left(\frac{EE_{i-1} \cdot D_{i-1} - EE_{i+1} \cdot D_{i+1}}{2}\right)$$

If the bank's approved VaR model uses credit spread sensitivities to parallel shifts in credit spreads (Regulatory CS01), then the bank must use the following formula:[3]

$$Regulatory\ CS01 = 0.0001 \cdot \sum_{i=1}^{T}\left(t_i \cdot exp\left(-\frac{s_i \cdot t_i}{LGD_{MKT}}\right) - t_{i-1} \cdot exp\left(-\frac{s_{i-1} \cdot t_{i-1}}{LGD_{MKT}}\right)\right) \cdot \left(\frac{EE_{i-1} \cdot D_{i-1} + EE_i \cdot D_i}{2}\right)$$

If the bank's approved VaR model uses second-order sensitivities to shifts in credit spreads (spread gamma), the gammas must be calculated based on the formula in paragraph 98.

Banks using the short cut method for collateralized OTC derivatives (paragraph 41 in Appendix 4), must compute the CVA risk capital charge according to paragraph 98, by assuming a constant EE (expected exposure) profile, where EE is set equal to the effective expected positive exposure of the shortcut method for a maturity equal to the maximum of (i) half of the longest maturity occurring in the netting set and (ii) the notional weighted average maturity of all transactions inside the netting set.

[1] Annex 5 in the document.

[2] This derivation assumes positive marginal default probabilities before and after time bucket t_i and is valid for $i<T$. For the final time bucket $i=T$, the corresponding formula is:

$$Regulatory\ CS01_T = 0.0001 \cdot t_T \cdot exp\left(-\frac{s_T \cdot t_T}{LGD_{MKT}}\right) \cdot \left(\frac{EE_{T-1} \cdot D_{T-1} + EE_T \cdot D_T}{2}\right)$$

[3] This derivation assumes positive marginal default probabilities.

Banks with IMM approval for the majority of their businesses, but which use CEM (Current Exposure Method) or SM (Standardized Method) for certain smaller portfolios, and which have approval to use the market risk internal models approach for the specific interest rate risk of bonds, will include these non-IMM netting sets into the CVA risk capital charge, according to paragraph 98, unless the national supervisor decides that paragraph 104 should apply for these portfolios. Non-IMM netting sets are included into the advanced CVA risk

capital charge by assuming a constant EE profile, where EE is set equal to the EAD as computed under CEM or SM for a maturity equal to the maximum of (i) half of the longest maturity occurring in the netting set and (ii) the notional weighted average maturity of all transactions inside the netting set. The same approach applies where the IMM model does not produce an expected exposure profile.

For exposures to certain counterparties, the bank's approved market risk VaR model may not reflect the risk of credit spread changes appropriately, because the bank's market risk VaR model does not appropriately reflect the specific risk of debt instruments issued by the counterparty. For such exposures, the bank is not allowed to use the advanced CVA risk charge. Instead, for these exposures the bank must determine the CVA risk charge by application of the standardized method in paragraph 104. Only exposures to counterparties for which the bank has supervisory approval for modeling the specific risk of debt instruments are to be included into the advanced CVA risk charge.

100. The CVA risk capital charge consists of both general and specific credit spread risks, including Stressed VaR but excluding IRC (incremental risk charge). The VaR figure should be determined in accordance with the quantitative standards described in paragraph 718(Lxxvi). It is thus determined as the sum of (i) the non-stressed VaR component and (ii) the stressed VaR component.

    i.   When calculating the non-stressed VaR, current parameter calibrations for expected exposure must be used.

    ii. When calculating the stressed VaR future counterparty EE profiles (according to the stressed exposure parameter calibrations as defined in paragraph 61 of Annex 4)[1] must be used. The period of stress for the credit spread parameters should be the most severe one-year stress period contained within the three year stress period used for the exposure parameters.[2]

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[1] Annex 5 in this document.

[2] Note that the three-times multiplier inherent in the calculation of a bond VaR and a stressed VaR will apply to these calculations.

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101. This additional CVA risk capital charge is the standalone market risk charge, calculated on the set of CVAs (as specified in paragraph 98) for all OTC derivatives counterparties, collateralized and uncollateralized, together with eligible CVA hedges. Within this standalone CVA risk capital charge, no offset against other instruments on the bank's balance sheet will be permitted (except as otherwise expressly provided herein).

102. Only hedges used for the purpose of mitigating CVA risk, and managed as such, are eligible to be included in the VaR model used to calculate the

above CVA capital charge or in the **standardized CVA risk capital charge set forth in paragraph 104**. For example, if a credit default swap (CDS) referencing an issuer is in the bank's inventory and that issuer also happens to be an OTC counterparty but the CDS is not managed as a hedge of CVA, then such a CDS is not eligible to offset the CVA within the standalone VaR calculation of the CVA risk capital charge.

103. The only eligible hedges that can be included in the calculation of the CVA risk capital charge under paragraphs 98 or 104 are single-name CDSs, single-name contingent CDSs, other equivalent hedging instruments referencing the counterparty directly, and index CDSs. In case of index CDSs, the following restrictions apply:

- The basis between any individual counterparty spread and the spreads of index CDS hedges must be reflected in the VaR. This requirement also applies to cases where a proxy is used for the spread of a counterparty, since idiosyncratic basis still needs to be reflected in such situations. For all counterparties with no available spread, the bank must use reasonable basis time series out of a representative bucket of similar names for which a spread is available.
- If the basis is not reflected to the satisfaction of the supervisor, then the bank must reflect only 50% of the notional amount of index hedges in the VaR. Other types of counterparty risk hedges must not be reflected within the calculation of the CVA capital charge, and these other hedges must be treated as any other instrument in the bank's inventory for regulatory capital purposes. Tranched or nthto-default CDSs are not eligible CVA hedges. Eligible hedges that are included in the CVA capital charge must be removed from the bank's market risk capital charge calculation.

6.1.B Counterparty Credit Risk (Under the Standardized Approach)

The total capital requirements for counterparty credit risk under the Standardized Approach is also an aggregate of the 1) Default risk under SAMA Basel III calculated using the Current Exposure Method and the Incremental Risk under Basel III called the Credit Value Adjustment.

For further clarifications, please refer to SAMA Circular # BCS 24331 dated 4 September 2012 entitled "Basel III Definition of Capital FAQs (p.7).

Consequently, Bank using the Standardized Approach will calculate the Default Risk using the CEM as prescribed also under Basel II, and the CVA under the Standardized Approach as given below under Basel III.

However, the above does not preclude a bank implementing the IRB approach for credit risk and/ or the standardized approach for counterparty credit risk to be subject to the Standardized Approach CVA Capital charge

Standardized CVA risk capital charge

104. When a bank does not have the required approvals to use paragraph 98 to calculate a CVA capital charge for its counterparties, the bank must calculate a portfolio capital charge using the following formula:

$$K = 2.33 \cdot \sqrt{h} \cdot \sqrt{\cdot \left(\sum_i 0.5 \cdot w_i \cdot (M_i \cdot EAD_i^{total} - M_i^{hedge} B_i) - \sum_{ind} w_{ind} \cdot M_{ind} \cdot B_{ind} \right)^2 + \sum_i 0.75 \cdot w_i^2 \cdot (M_i \cdot EAD_i^{total} - M_i^{hedge} B_i)^2}$$

Where:

- h is the one-year risk horizon (in units of a year), h = 1.
- w_i is the weight applicable to counterparty 'i'. Counterparty 'i' must be mapped to one of the seven weights wi based on its external rating, as shown in the table of this paragraph below. When a counterparty does not have an external rating, the bank must, subject to supervisory approval, map the internal rating of the counterparty to one of the external ratings.

- EAD_i^{total} EAD is the exposure at default of counterparty 'i' (summed across its netting sets), including the effect of collateral as per the existing IMM, SM or CEM rules as applicable to the calculation of counterparty risk capital charges for such counterparty by the bank. For non-IMM banks the exposure should be discounted by applying the factor $(1-exp(-0.05*M_i))/(0.05*M_i)$. For IMM banks, no such discount should be applied as the discount factor is already included in M_i.

- B_i is the notional of purchased single name CDS hedges (summed if more than one position) referencing counterparty 'i', and used to hedge CVA risk. This notional amount should be discounted by applying the factor $(1-exp(-0.05*M_i^{hedge}))/(0.05* M_i^{hedge})$.

- B_{ind} is the full notional of one or more index CDS of purchased protection, used to hedge CVA risk. This notional amount should be discounted by applying the factor $(1-exp(-0.05*M_{ind}))/(0.05* M_{ind})$.
- w_{ind} is the weight applicable to index hedges. The bank must map indices to one of the seven weights wi based on the average spread of index 'ind'.

- M_i is the effective maturity of the transactions with counterparty 'i'. For IMM banks, Mi is to be calculated as per Annex 4,[1] paragraph 38 of the Basel Accord. For non-IMM banks, M_i is the notional weighted average

maturity as referred to in the third bullet point of para 320. However, for this purpose, Mi should not be capped at 5 years.

- M_i^{hedge} is the maturity of the hedge instrument with notional B_i (the quantities $M_i^{hedge} B_i$ are to be summed if these are several positions).

- M^{ind} is the maturity of the index hedge 'ind'. In case of more than one index hedge position, it is the notional weighted average maturity.

For any counterparty that is also a constituent of an index on which a CDS is used for hedging counterparty credit risk, the notional amount attributable to that single name (as per its reference entity weight) may, with supervisory approval, be subtracted from the index CDS notional amount and treated as a single name hedge (B_i) of the individual counterparty with maturity based on the maturity of the index.

The weights are given in this table, and are based on the external rating of the counterparty:[2]

Rating	Weight W_i
AAA	0.7%
AA	0.7%
A	0.8%
BBB	1.0%
BB	2.0%
B	3.0%
CCC	10.0%

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[1] Annex 5 of this document.

[2] The notations follow the methodology used by one institution, Standard & Poor's. The use of Standard & Poor's credit ratings is an example only; those of some other approved external credit assessment institutions could be used on an equivalent basis. The ratings used throughout this document, therefore, do not express any preferences or determinations on external assessment institutions by the Committee.

6.1.C **Further Details on CCR and CVA Aggregation**

105. Calculation of the aggregate CCR and CVA risk capital charges for 6.1.A IMM and 6.1.b (Standardized Approach)

As a summary, total counterparty exposure is an aggregate of 1) Default Rate calculated either through IMM, CEM or Standardized Approach and 2) Credit Value Adjustment which again can be calculated as per the IMM or Standardized Approach or CEM.

This paragraph deals with the aggregation of the default risk capital charge and the CVA risk capital charge for potential mark-to-market losses. Note that outstanding EAD referred to in the default risk capital charges below is net of incurred CVA losses according to [new paragraph after Para 9 in Annex 4 of the BCBS Basel III guidelines],[1] which affects all items "i" below. In this paragraph, "IMM capital charge" refers to the default risk capital charge for CCR based on the RWAs obtained when multiplying the outstanding EAD of each counterparty under the IMM approach by the applicable credit risk weight (under the Standardized or IRB approach), and summing across counterparties. Equally, Current Exposures Method "(CEM) capital charge" or "SM capital charge" refer to the default risk capital charges where outstanding EADs for all counterparties in the portfolio are determined based on CEM or SM, respectively.

    A. Banks with IMM approval and market-risk internal-models approval for the specific interest-rate risk of bonds

The total CCR capital charge for such a bank is determined as the sum of the following components:

i. The higher of (a) its IMM capital charge based on current parameter calibrations for EAD and (b) its IMM capital charge based on stressed parameter calibrations for EAD. For IRB banks, the risk weights applied to OTC derivative exposures should be calculated with the full maturity adjustment as a function of PD and M set equal to 1 in the Basel Accord (paragraph 272), provided the bank can demonstrate to SAMA its specific VaR model applied in paragraph 98 contains effects of rating migrations. If the bank cannot demonstrate this to the satisfaction of SAMA, the full maturity adjustment function, given by the formula $(1 - 1.5 \times b)^{-1} \times (1 + (M - 2.5) \times b)$[2] should apply.

ii. The advanced CVA risk capital charge determined pursuant to paragraphs 98 to 103.

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[1] Annex 5 of this document.

[2] Where "M" is the effective maturity and "b" is the maturity adjustment as a function of the PD, as defined in paragraph 272 of the Basel Accord.

B. Banks with IMM approval and without Specific Risk VaR approval for bonds The total CCR capital charge for such a bank is determined as the sum of the following components:

i. The higher of (a) the IMM capital charge based on current parameter calibrations for EAD and (b) the IMM capital charge based on stressed parameter calibrations for EAD.

ii. The standardized CVA risk capital charge determined by paragraph 104.

C. All other banks

The total CCR capital charge for such banks is determined as the sum of the following two components:

i. The sum over all counterparties of the CEM or SM based capital charge (depending on the bank's CCR approach) with EADs determined by paragraphs 91or 69 respectively.

ii. The standardized CVA risk capital charge determined by paragraph 104.

In addition, the following paragraph will be inserted after paragraph 9 in Annex 4.[1]

"Outstanding EAD" for a given OTC derivative counterparty is defined as the greater of zero and the difference between the sum of EADs across all netting sets with the counterparty and the credit valuation adjustment (CVA) for that counterparty which has already been recognized by the bank as an incurred write-down (i.e. a CVA loss). This CVA loss is calculated without taking into account any offsetting debit valuation adjustments which have been deducted from capital under paragraph 75.[2] RWAs for a given OTC derivative counterparty may be calculated as the applicable risk weight under the Standardized or IRB approach multiplied by the outstanding EAD of the counterparty. This reduction of EAD by incurred CVA losses does not apply to the determination of the CVA risk capital charge.

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[1] Annex 5 of this document.

[2] The incurred CVA loss deduced from exposures to determine outstanding EAD is the CVA loss gross of all debit value adjustments (DVA) which have been separately deducted from capital. To the extent DVA has not been separately deducted from a bank's capital, the incurred CVA loss used to determine outstanding EAD will be net of such DVA.

6.2 <u>Wrong-way risk</u>

As a summary, ''Wrong-way risk substantially applies only to IMM banks and is typically defined as an exposure to a counterparty that is adversely correlated

with the credit quality of that counterparty'' (Transactions with counterparties such as financial guarantors). However, there are implications for the Standardized and IRB Approaches as described in p.36.

As a summary:
- 2 types of wrong way risk
- *General wrong-way risk (GWWR)*
- *Specific wrong-way risk (SWWR)*
- GWWR arises when the PD of the counterparties are positively corrected with general market risk factors
- Arises from purchase of credit protection via CDS from mono-line insurers
- Banks must identify exposures that give rise to general WWR:
  - Stress testing and scenario analysis to be conducted
  - Monitor general wrong way risk by product, by region, by industry etc.
  - Reports to be provided to Senior Management and Board on a regular basis

Implement an explicit Pillar 1 capital charge and revise Annex 4[1] where specific wrong-way risk (SWWR) has been identified
- Banks exposed to SWWR if future exposure to a counterparty is highly correlated with the counterparty's PD
- Banks need to have explicit procedure for identifying, monitoring and controlling specific WWR
- Specific WWR charges applies for where there exists a legal connection between the counterparty and the underlying issuer e.g.
  - Single name credit default swaps
  - Equity derivatives referencing single counterparty
  - CDS (Credit Default Swaps): use expected loss assuming underlying in liquidation (LGD for swap = 100%)
  - Equity, bond, securities financing EAD= value of transaction under JtD (jump-to-default)

100. In specific, Paragraph 57 of Annex 4[1] in Basel II will be revised as follows to explain the following aforementioned summary on wrong way exposures:

57. Banks must identify exposures that give rise to a greater degree of general wrong-way risk. Stress testing and scenario analyses must be designed to identify risk factors that are positively correlated with counterparty credit worthiness. Such testing needs to address the possibility of severe shocks occurring when relationships between risk factors have changed. Banks should monitor general wrong way risk by

[1]Annex 5 of this document.

product, by region, by industry, or by other categories that are germane to the business. Reports should be provided to senior management and the appropriate committee of the Board on a regular basis that communicate wrong way risks and the steps that are being taken to manage that risk.

Implement an explicit Pillar 1 capital charge and revise Annex 4[1] where specific wrong-way risk has been identified

101. In order to implement the requirement that the EAD calculation reflect a higher EAD value for counterparties where specific wrong way risk has been identified, paragraph 423 of the Basel II text and paragraphs 29 and 58 of Annex 4 will be revised as follows:

> 423. Each separate legal entity to which the bank is exposed must be separately rated. A bank must have policies acceptable to its supervisor regarding the treatment of individual entities in a connected group including circumstances under which the same rating may or may not be assigned to some or all related entities. Those policies must include a process for the identification of specific wrong way risk for each legal entity to which the bank is exposed. Transactions with counterparties where specific wrong way risk has been identified need to be treated differently when calculating the EAD for such exposures (see paragraph 58, Annex 4).[1]
>
> 29. When using an internal model, exposure amount or EAD is calculated as the product of alpha times Effective EPE, as specified below (except for counterparties that have been identified as having explicit specific wrong way risk – see paragraph 58):
>
> 58. A bank is exposed to "specific wrong-way risk" if future exposure to a specific counterparty is highly correlated with the counterparty's probability of default. For example, a company writing put options on its own stock creates wrong way exposures for the buyer that is specific to the counterparty. A bank must have procedures in place to identify, monitor and control cases of specific wrong way risk, beginning at the inception of a trade and continuing through the life of the trade. To calculate the CCR capital charge, the instruments for which there exists a legal connection between the counterparty and the underlying issuer, and for which specific wrong way risk has been identified, are not considered to be in the same netting set as other transactions with the counterparty. Furthermore, for single-name credit default swaps where there exists a legal connection between the counterparty and the underlying issuer, and where specific wrong way risk has been identified, EAD in respect of such swap counterparty exposure equals the full expected loss in the remaining fair value of the underlying instruments assuming the underlying issuer is in liquidation. The use of the full expected loss in remaining fair value of the underlying instrument allows the bank to recognize, in respect of such swap, the market value that has been lost already and any expected recoveries.

[1]Annex 5 of this document.

Application to IRB and Standardized Approach

Accordingly LGD for Advanced or Foundation IRB banks must be set to 100% for such swap transactions.[1] For banks using the Standardized Approach, the risk weight to use is that of an unsecured transaction. For

equity derivatives, bond options, securities financing transactions etc. referencing a single company where there exists a legal connection between the counterparty and the underlying company, and where specific wrong way risk has been identified, EAD equals the value of the transaction under the assumption of a jump-to-default of the underlying security. In as much this makes re-use of possibly existing (market risk) calculations (for IRC) that already contain an LGD assumption, the LGD must be set to 100%.

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[1] Note that the recoveries may also be possible on the underlying instrument beneath such swap. The capital requirements for such underlying exposure are to be calculated under the Accord without reduction for the swap which introduces wrong way risk. Generally this means that such underlying exposure will receive the risk weight and capital treatment associated with an unsecured transaction (ie assuming such underlying exposure is an unsecured credit exposure).

6.3. **Asset Value Correlation (AVC) multiplier for large financial institutions**

As summary, the following elements are relevant.

- AVC is applicable under credit risk for IRB Approaches only; For banks remaining on Standardized Approach for bank asset class this will not apply
- Financial institution's (FIs) credit quality deteriorated in a highly corrected manner during the severe financial crisis
- To address this Basel III introduced AVC for large financial institutions
- A multiplier of 1.25 is applied to the correlation parameter of all exposures to large financial institutions meeting the following criteria:
  - *Regulated financial institutions are whose total assets are greater than or equal to US$100 billion* (SR 375 billion)
  - *Most recent audited financial statements of the parent and consolidated Subsidiarie*s *to be used*

Unregulated financial institutions are regardless of size and includes lending, factoring, leasing, securitization etc. (FAQs unregulated financial institution can include a financial institution or leveraged fund that is not subject to prudential solvency regulation)

102. In order to implement the AVC multiplier, paragraph 272 of the Basel framework would be revised as follows: (This relates to the determination of Capital requirements under IRB Approaches.)

272. Throughout this section, PD and LGD are measured as decimals, and EAD is measured as currency (e.g. euros), except where explicitly noted otherwise. For exposures not in default, the formula for calculating risk-weighted assets is:[1]

Correlation (R) = 0.12 × (1 – EXP(-50 × PD)) / (1 – EXP(-50)) + 0.24 × [1 – (1 – EXP(-50 × PD)) / (1 – EXP(-50))]

Maturity adjustment (b) = (0.11852 – 0.05478 × ln (PD))^2

Capital requirement[2] (K) = [LGD × N[(1 – R)^-0.5 × G(PD) + (R / (1 – R))^0.5 × G(0.999)] – PD x LGD] x (1 – 1.5 x b)^-1 × (1 + (M – 2.5) × b)

Risk-weighted assets (RWA) = K x 12.5 x EAD

[1] Ln denotes the natural logarithm. N(x) denotes the cumulative distribution function for a standard normal random variable (i.e. the probability that a normal random variable with mean zero and variance of one is less than or equal to x). G(z) denotes the inverse cumulative distribution function for a standard normal random variable (ie the value of x such that N(x) = z). The normal cumulative distribution function and the inverse of the normal cumulative distribution function are, for example, available in Excel as the functions NORMSDIST and NORMSINV.

[2] If this calculation results in a negative capital charge for any individual sovereign exposure, banks should apply a zero capital charge for that exposure.

The capital requirement (K) for a defaulted exposure is equal to the greater of zero and the difference between its LGD (described in paragraph 468) and the bank's best estimate of expected loss (described

in paragraph 471). The risk-weighted asset amount for the defaulted exposure is the product of K, 12.5, and the EAD.

A multiplier of 1.25 is applied to the correlation parameter of all exposures to FIs meeting the following criteria. A multiplier of 1.25 is applied to the correlation parameter described on page 379 para 102 of BCBS Basel III guidelines, of all exposures to financial institutions meeting the following criteria.

Accordingly, the correlation R as determined by the formats in paragraph 1012 will be multiplied by 1.25. This in turn would produce a higher "R" correlation and capital requirements necessary for exposure to large FI.

- Regulated financial institutions whose total assets are greater than or equal to US $100 billion (SR 375 billion). The most recent audited financial statement of the parent company and consolidated subsidiaries must be used in order to determine asset size. For the purpose of this paragraph, a regulated financial institution is defined as a parent and its subsidiaries where any substantial legal entity in the consolidated group is supervised by a regulator that imposes prudential requirements consistent with international norms. These include, but are not limited to, prudentially regulated Insurance Companies, Broker/Dealers, Banks, Thrifts and Futures Commission Merchants;

- Unregulated financial institutions, regardless of size. Unregulated financial institutions are, for the purposes of this paragraph, legal entities whose main business includes: the management of financial assets, lending, factoring, leasing, provision of credit enhancements, securitization, investments, financial custody, central counterparty services, proprietary trading and other financial services activities identified by supervisors.

6.4. Collateralized counterparties and margin period of risk

Increase the margin period of risk

As a summary the following are relevant.
- Applicable to IMM banks
- Financial crisis showed that the mandated margin period of risks for regulatory capital calculations underestimated the realized risk
- Margin period of risk increased to 20 business days for netting sets where the number of trade exceeds 5000 or that contain illiquid collateral

103. To further explain the aforementioned Summary, and in order to implement the increased margin periods of risk, the following new paragraphs 41(i) and 41 (ii) will be inserted into Annex 4[1] of the Basel II framework:

41(i). For transactions subject to daily re-margining and mark-to-market valuation, a supervisory floor of five business days for netting sets consisting only of repo-style transactions, and 10 business days for all other netting sets is imposed on the margin period of risk used for the purpose of modeling EAD with margin agreements. In the following cases a higher supervisory floor is imposed:

- For all netting sets where the number of trades exceeds 5,000 at any point during a quarter, a supervisory floor of 20 business days is imposed for the margin period of risk for the following quarter.

- For netting sets containing one or more trades involving either illiquid collateral, or an OTC derivative that cannot be easily replaced, a supervisory floor of 20 business days is imposed for the margin period of risk. For these purposes, "Illiquid collateral" and "OTC derivatives that cannot be easily replaced" must be determined in the context of stressed market conditions and will be characterized by the absence of continuously active markets where a counterparty would, within two or fewer days, obtain multiple price quotations that would not move the market or represent a price reflecting a market discount (in the case of collateral) or premium (in the case of an OTC derivative). Examples of situations where trades are deemed illiquid for this purpose include, but are not limited to, trades that are not marked daily and trades that are subject to specific accounting treatment for valuation purposes (eg OTC derivatives or repo-style transactions referencing securities whose fair value is determined by models with inputs that are not observed in the market).

[1]Annex 5 of this document.

- In addition, a bank must consider whether trades or securities it holds as collateral are concentrated in a particular counterparty and if that counterparty exited the market precipitously whether the bank would be able to replace its trades.

41 (ii). If a bank has experienced more than two margin call disputes on a particular netting set over the previous two quarters that have lasted longer than the applicable margin period of risk (before consideration of this provision), then the least double the supervisory floor for that netting set for the subsequent two quarters.

41 (iii). For re-margining with a periodicity of N-days, irrespective of the shortcut method or full IMM model, the margin period of risk should be at least equal to the supervisory floor, F, plus the N days minus one day. That is,

Margin Period of Risk = F + N - 1.

Paragraph 167 of Basel II (Adjustment for different holding periods and non daily mark-to-market or re-margining) will be replaced with the following:

167. The minimum holding period for various products is summarized in the following table.

Transaction Type	Minimum holding period	Condition
Repo-style transaction	5 business days	Daily re-margining
Other capital market transactions	Ten business days	Daily re-margining
Secured lending	Twenty business days	Daily revaluation

Where a bank has such a transaction or netting set which meets the criteria outlined in paragraphs 41(i) or 41 (ii) of Annex 4, the minimum holding period should be the margin period of risk that would apply under those paragraphs.

Paragraph 179 of Basel II (Use of models) will be replaced with the following:

179. The quantitative and qualitative criteria for recognition of internal market risk models for repo-style transactions and other similar transactions are in principle the same as in paragraphs 718 (LXXIV) to 718 (LXXVI). With regard to the holding period, the minimum will be 5-business days for repo-style transactions, rather than the 10-business days in paragraph 718 (LXXVI) (c). For other transactions eligible for the VaR models approach, the 10-business day holding period will be retained. The minimum holding period should be adjusted upwards for market instruments where such a holding period would be inappropriate given the liquidity of the instrument concerned. At a minimum, where a bank has a repo-style or similar transaction or netting set which meets the criteria outlined in paragraphs 41(i) or 41 (ii) of Annex 4, the minimum holding period should be the margin period of risk that would apply under those paragraphs, in combination with paragraph 41(iii).

6.4.1 Revise the shortcut method for estimating Effective EPE

The following is a summary of the components.

- Applicable to IMM banks

- Amended ''short-cut'' method to take more realistic simplifying assumptions to estimate Effective EPE when a bank is unable to model margin requirements along with exposures

104. In order to elaborate on the aforementioned, Paragraph 41 of Annex 4[1] in Basel II will be revised as follows:

41. Shortcut method: a bank that can model EPE without margin agreements but cannot achieve the higher level of modeling sophistication to model EPE with margin agreements can use the following method for margined counterparties subject to re-margining and daily mark-to-market as described in paragraph 41 (i)[2]. The method is a simple approximation to Effective EPE and sets Effective EPE for a margined counterparty equal to the lesser of:

a) Effective EPE without any held or posted margining collateral, plus any collateral that has been posted to the counterparty independent of the daily valuation and margining process or current exposure (ie initial margin or independent amount); or

b) An add-on that reflects the potential increase in exposure over the margin period of risk plus the larger of

i. the current exposure net of and including all collateral currently held or posted, excluding any collateral called or in dispute; or

ii. the largest net exposure including all collateral held or posted under the margin agreement that would not trigger a collateral call. This amount should reflect all applicable thresholds, minimum transfer amounts, independent amounts and initial margins under the margin agreement.

The add-on is calculated as $E[\max(\Delta MtM, 0)]$, where $E[\ldots]$ is the expectation (ie the average over scenarios) and ΔMtM is the possible change of the mark-to-market value of the transactions during the margin period of risk. Changes in the value of collateral need to be reflected using the supervisory haircut method or the internal estimates method, but no collateral payments are assumed during the margin period of risk. The margin period of risk is subject to the supervisory floor specified in paragraphs 41(i) to 41(iii). Backtesting should test whether realized (current) exposures are consistent with the shortcut method prediction over all margin periods within one year. If some of the trades in the netting set have a maturity of less

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[1] Annex 5 of this document.
[2] Where a bank generally uses this shortcut method to measure Effective EPE, this shortcut method may be used by a bank that is a clearing member in a CCP for its transactions with the CCP and with clients, including those client transactions that result in back-to-back trades with a CCP.

than one year, and the netting set has higher risk factor sensitivities without these trades, this fact should be taken into account. If backtesting indicates that effective EPE is underestimated, the bank

should take actions to make the method more conservative, eg by scaling up risk factor moves.

6.4.2 **Preclude downgrade triggers from being reflected in EAD**

As a summary:
- Applicable to IMM banks
- Downgrade triggers in margin agreements resulted in liquidity strains for market participants during the crisis
- Prevent the reflection in EAD of any clause in a collateral agreement that requires receipt of collateral when a counterparty's credit quality deteriorates (downgrade triggers)

105. In order to explicitly disallow downgrade triggers in EAD, a new paragraph 41(iv) will be inserted into Annex 4[1] to read as follows:

41(iv). Banks using the internal models method must not capture the effect of a reduction of EAD due to any clause in a collateral agreement that requires receipt of collateral when counterparty credit quality deteriorates.

6.4.3 **Add requirements to improve operational performance of the collateral department**

- Only applicable to IMM Banks.

To implement the requirements designed to improve the collateral department operations, two new paragraphs, 51(i) and 51(ii), will be incorporated into Annex 4 and paragraph 777(x), Part 3: The Second Pillar – Supervisory Review Process, will be revised as follows:

51(i). Banks applying the internal model method must have a collateral management unit that is responsible for calculating and making margin calls, managing margin call disputes and reporting levels of independent amounts, initial margins and variation margins accurately on a daily basis. This unit must control the integrity of the data used to make margin calls, and ensure that it is consistent and reconciled regularly with all relevant sources of data within the bank. This unit must also track the extent of reuse of collateral (both cash and non-cash) and the rights that the bank gives away to its respective counterparties for the collateral that it posts. These internal reports must indicate the categories of collateral assets that are reused, and the terms of such reuse including instrument, credit quality and maturity. The unit must also track concentration to individual collateral asset classes accepted by the banks. Senior management must allocate sufficient resources to this unit for its systems to have an appropriate level of operational performance, as measured by the timeliness and accuracy of outgoing calls and response time to incoming calls. Senior management must ensure that this unit is adequately staffed to process calls and disputes in a timely manner even under severe market crisis, and to enable the bank to limit its number of large disputes caused by trade volumes.

[1]Annex 5 of this document.

51(ii). The bank's collateral management unit must produce and maintain appropriate collateral management information that is reported on a regular basis to senior management. Such internal reporting should include information

on the type of collateral (both cash and non-cash) received and posted, as well as the size, aging and cause for margin call disputes. This internal reporting should also reflect trends in these figures.

777(x). The bank must conduct an independent review of the CCR management system regularly through its own internal auditing process. This review must include both the activities of the business credit and trading units and of the independent CCR control unit. A review of the overall CCR management process must take place at regular intervals (ideally not less than once a year) and must specifically address, at a minimum:

- the adequacy of the documentation of the CCR management system and process;
- the organization of the collateral management unit;
- the organization of the CCR control unit;
- the integration of CCR measures into daily risk management;
- the approval process for risk pricing models and valuation systems used by front and back-office personnel;
- the validation of any significant change in the CCR measurement process;
- the scope of counterparty credit risks captured by the risk measurement model;
- the integrity of the management information system;
- the accuracy and completeness of CCR data;
- the accurate reflection of legal terms in collateral and netting agreements into exposure measurements;
- the verification of the consistency, timeliness and reliability of data sources used to run internal models, including the independence of such data sources;
- the accuracy and appropriateness of volatility and correlation assumptions;
- the accuracy of valuation and risk transformation calculations; and
- the verification of the model's accuracy through frequent backtesting.

Refer to Pillar 2 section of this document with regard to BCBS Basel III requirements to improve the operational performance of the collateral definition.

6.4.4 **Requirements on the controls around the reuse of collateral by IMM banks**

As a summary, please note the following:
- Applicable to IMM banks
- Relates to variation margin, initial or independent margin and calls resulting from potential downgrade.
- Cash management policies for IMM banks to account liquidity risks of potential incoming margin calls

To further elaborate on the aforementioned,

107. To implement the requirements on controls regarding the reuse of collateral, a new paragraph 51(iii) will be included in Annex 4[1] as follows:

> 51(iii). A bank employing the internal models method must ensure that its cash management policies account simultaneously for the liquidity risks of potential incoming margin calls in the context of exchanges of variation margin or other margin types, such as initial or independent margin, under adverse market shocks, potential incoming calls for the return of excess collateral posted by counterparties, and calls resulting from a potential downgrade of its own public rating. The bank must ensure that the nature and horizon of collateral reuse is consistent with its liquidity needs and does not jeopardize its ability to post or return collateral in a timely manner.

6.4.5 Require banks to use supervisory haircuts when transforming non-cash OTC collateral into cash-equivalent

- Applicable to IMM banks
- Implementation of supervisory haircuts for non-cash OTC collateral
- Recognition in EAD calculation the effect of collateral other than cash
- Must use either haircuts that meets the standards of the financial collateral comprehensive method or standard supervisory haircuts

108. To implement the supervisory haircuts for non-cash OTC collateral, a new paragraph 61(i) would be incorporated in Annex 4 as follows:

> 61(i). For a bank to recognize in its EAD calculations for OTC derivatives the effect of collateral other than cash of the same currency as the exposure itself, if it is not able to model collateral jointly with the exposure then it must use either haircuts that meet the standards of the financial collateral comprehensive method with own haircut estimates or the standard supervisory haircuts.

6.4.6 Requirement for banks to model non-cash collateral jointly with underlying securities for OTC Derivatives and SFTs

The following summary is appropriate.
- Applicable to IMM banks
- Regulation ensures robustness of non-cash collateral
- Ensure the effect of collateral on changes in the market for SFTs for EAD calculation

[1]Annex 5 of this document.

In order to further explain this component:

109. To ensure the robustness of non-cash collateral, a new paragraph 61(ii) will be inserted in Annex 4[1] as follows:

61(ii). If the internal model includes the effect of collateral on changes in the market value of the netting set, the bank must model collateral other than cash of the same currency as the exposure itself jointly with the exposure in its EAD calculations for securities-financing transactions.

6.4.7 Revise credit risk mitigation section to add a qualitative collateral management requirement

The following summary is appropriate.
- Applicable to IMM and non IMM banks
- Sufficient resources are devoted to the orderly operation of margin agreements for OTC and SFTs
- Appropriate collateral management policies to be in place

110. To ensure that sufficient resources are devoted to the orderly operation of margin agreements for OTC derivative and SFT counterparties, and that appropriate collateral management policies are in place, a new paragraph 115(i) will be inserted into the main text and will read as follows:

115(i). Banks must ensure that sufficient resources are devoted to the orderly operation of margin agreements with OTC derivative and securities-financing counterparties, as measured by the timeliness and accuracy of its outgoing calls and response time to incoming calls. Banks must have collateral management policies in place to control, monitor and report:

- the risk to which margin agreements exposes them (such as the volatility and liquidity of the securities exchanged as collateral),
- the concentration risk to particular types of collateral,
- the reuse of collateral (both cash and non-cash) including the potential liquidity shortfalls resulting from the reuse of collateral received from counterparties, and
- the surrender of rights on collateral posted to counterparties.

6.4.8 Revise text to establish standard supervisory haircuts for securitization collateral

The following summary is appropriate.
- Applicable to IMM and non IMM banks
- Re-securitization no more an eligible collateral

[1]Annex 5 of this document.
- Under Basel II framework, the standardized haircuts currently treat corporate debt and securitizations collateral in the same manner
- Collateral haircuts for securitization exposures are doubled due to stressed volatilities

111. To implement the supervisory haircuts for securitization collateral, a new paragraph 145(i) will be inserted into the Basel text and paragraph 151 will be revised as follows:

145(i). Re-securitizations (as defined in the securitization framework), irrespective of any credit ratings, are not eligible financial collateral. This prohibition applies whether the bank is using the supervisory haircuts method, the own estimates of haircuts method, the repo VaR method or the internal model method.

151. These are the standardized supervisory haircuts (assuming daily mark-to-market, daily re-margining and a 10-business day holding period), expressed as percentages:

Issue rating for debt securities	Residual Maturity	Sovereigns	Other Issuers	Securitization Exposures
AAA to AA-/A-1	<1 year	0.5	1	2
	>1 year <5 years	2	4	8
	> 5 years	4	8	16
A+ to BBB-/	<1 year	1	2	4
A-2/A-3/P-3 and	>1 year <5 years	3	6	12
unrated bank securities	> 5 years	6	12	24
BB+ to BB-	All	15	Not eligible	Not eligible
main index equities	15			
other equities	25			
UCITS/mutual funds	Highest haircut applicable to any security in Fund			
Cash in the same currency	0			
(The footnotes associated with the table are not included. However, securitization exposures would be defined as those exposures that meet the definition set forth in the securitization framework.)				

6.5 Treatment of Highly Leveraged Counterparties (HLC)

The following summary is appropriate.
- Applicable to IMM and non IMM banks (IRB Approach)
- New rule stipulates that PD for a highly leveraged counterparty (hedge funds) should be based on a period of stressed volatilities
- While, the definition of highly-leveraged counterparties is aimed at hedge funds or any other equivalently highly-leveraged counterparties that are financial entities, SAMA will in due course provide a clear definition of HLC's for IRB purposes.

112. The Committee believes it is appropriate to add a qualitative requirement indicating that the PD estimates for highly leveraged counterparties should reflect the performance of their assets based on a stressed period and, thus, is introducing a new paragraph after 415 of the framework to read as follows:

415(i). PD estimates for borrowers that are highly leveraged or for borrowers whose assets are predominantly traded assets must reflect the performance of the underlying assets based on periods of stressed volatilities.

6.6 Central counterparties to be implemented

The following represents a summary of the additional capital requirements to central counterparties.

- International regulators intention to move to CCPs to clear OTC trades
- No local CCP's is in KSA- banks will be at disadvantage

For further clarifications also refer to SAMA Circular # BCS 25093 dated 1433/11/20 (Hijri) entitled "BCBS Finalized Document Entitled "Capital Requirements for Bank Exposures to Central Counterparties".

Definition of CCP

''is a clearing house that interposes itself between counterparties to contracts traded on or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the future performance of open contracts''

- In 2009, the G20's ambition of moving standardized over-the-counter (OTC) derivatives from a bilaterally cleared to a centrally cleared model by the end of 2012 reducing systemic risks in global banking

- Capitalizing exposures to CCPs builds on the new CPSS-IOSCO Principles for Financial Market Infrastructures (PFMIs)

Key features of Interim rules published by BCBS July, 2012

As part of the reform process BCBS released *interim* rules for the risk weighting of exposures to CCP's (Document entitled: Capital requirements for bank exposures to central counterparties July, 2012)

The decision to publish the rules on an interim basis suggests that Basel Committee will monitor and make further changes if necessary

Exposures to Qualifying CCPs

Trade exposures:

Where a bank acts as a clearing member of a CCP, a risk weight of 2% must be applied to the bank's trade exposure to the CCP in respect of OTC derivatives, exchange-traded derivative transactions and SFT's.

Where a clearing member offers clearing services to clients 2% risk weight also applies when the clearing member is obligated to reimburse the clients for any losses suffered due to changes in the value of transactions in the event CCP defaults.
(''A qualifying CCP is a CCP that meets the new ''Principles for Financial Market Infrastructures'' published by Payment and Settlement Systems and International Organization of Securities Commission'')

Clearing member exposures to clients

˚A clearing member is a member of or a direct participant in a CCP that is entitled to enter into transactions with the CCP''

- Clearing member will always calculate its exposure (including potential CVA risk exposure) to clients as bilateral trades
- To recognize shorter close-out period for cleared transactions clearing members can capitalize the exposure to their clients applying a margin of period of risk of at least 5 days in case if they adopt the IMM or multiply the EAD by a scalar of no less than 0.71 if they adopt either the CEM or the Standardized Method

Client exposure
''A client is a party to a transaction with a CCP through either a clearing member acting as a financial intermediary or a clearing member guaranteeing the performance of the client to the CCP''

- Where a bank is a client of a clearing member and enters into a transaction with the clearing member acting as financial intermediary the client's exposures to the clearing member may receive the same treatment as defined for clearing member exposures to CCPs subject to meeting two conditions as defined in Para 114 (a) and (b) of Basel Document for central counterparties

Basel III imposed a capital charge on a bank's exposures to a CCPs default funds

''CCP default funds consist of contributions made by clearing members which are designed to protect the relevant CCP from losses caused by the default of a clearing member''

- Whenever a bank is required to capitalize for exposures arising from default fund contributions to a ''Qualifying CCP''
- Clearing member banks may apply one of the following approaches:

Method 1: Risk sensitive approach

Risk sensitive formula considers size and quality of a qualifying CCP's financial resources

Method 2: Simplified method

Clearing member banks: Default fund exposures will be subject to a 1250% risk weight subject to an overall cap of 20% of the total trade exposures to the relevant CCP

Exposures to Non-Qualifying CCPs
- Banks must apply the Standardized Approach for credit risk in the main framework according to the category of the counterparty to their trade exposures
- Banks must also apply a risk weight of 1250% to their default fund contributions to a non-qualifying CCP

7.   **Internal Models**

This section deals with the IMM Approach to calculating default risks. – see section 6.1.A.

Enhanced counterparty credit risk management requirements

Stress testing

- Applicable to IMM banks
- New requirement enhancing counterparty credit risk management
- Explicit requirements defined for stress testing, revised model validation standards and new supervisory guidance for sound back-testing practices of CCR
- Engagement of senior management

114. Paragraph 36 of Annex 4[1] will be revised as follows to increase the robustness of banks' own estimates of alpha.

> 36. To this end, banks must ensure that the numerator and denominator of alpha are computed in a consistent fashion with respect to the modeling methodology, parameter specifications and portfolio composition. The approach used must be based on the bank's internal economic capital approach, be well documented and be subject to independent validation. In addition, banks must review their estimates on at least a quarterly basis, and more frequently when the composition of the portfolio varies over time. Banks must assess the model risk and supervisors should be alert to the significant variation in estimates of alpha that arises from the possibility for mis-specification in the models used for the numerator, especially where convexity is present.

115. The qualitative requirements set forth in Annex 4[1] for stress testing that banks must perform when using the internal model method have been expanded and made more explicit. More specifically, the existing paragraph 56, Annex 4[1], of the Basel II text will be replaced with the following:

> 56. Banks must have a comprehensive stress testing program for counterparty credit risk. The stress testing program must include the following elements:

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[1]Annex 5 of this document.

> - Banks must ensure complete trade capture and exposure aggregation across all forms of counterparty credit risk (not just OTC derivatives) at the counterparty-specific level in a sufficient time frame to conduct regular stress testing.

- For all counterparties, banks should produce, at least monthly, exposure stress testing of principal market risk factors (e.g. interest rates, FX, equities, credit spreads, and commodity prices) in order to proactively identify, and when necessary, reduce outsized concentrations to specific directional sensitivities.
- Banks should apply multifactor stress testing scenarios and assess material non-directional risks (i.e. yield curve exposure, basis risks, etc.) at least quarterly. Multiple-factor stress tests should, at a minimum, aim to address scenarios in which a) severe economic or market events have occurred; b) broad market liquidity has decreased significantly; and c) the market impact of liquidating positions of a large financial intermediary. These stress tests may be part of bank-wide stress testing.
- Stressed market movements have an impact not only on counterparty exposures, but also on the credit quality of counterparties. At least quarterly, banks should conduct stress testing applying stressed conditions to the joint movement of exposures and counterparty creditworthiness.
- Exposure stress testing (including single factor, multifactor and material non-directional risks) and joint stressing of exposure and creditworthiness should be performed at the counterparty-specific, counterparty group (e.g. industry and region), and aggregate bank-wide CCR levels.
- Stress tests results should be integrated into regular reporting to senior management. The analysis should capture the largest counterparty-level impacts across the portfolio, material concentrations within segments of the portfolio (within the same industry or region), and relevant portfolio and counterparty specific trends.
- The severity of factor shocks should be consistent with the purpose of the stress test. When evaluating solvency under stress, factor shocks should be severe enough to capture historical extreme market environments and/or extreme but plausible stressed market conditions. The impact of such shocks on capital resources should be evaluated, as well as the impact on capital requirements and earnings. For the purpose of day-to-day portfolio monitoring, hedging, and management of concentrations, banks should also consider scenarios of lesser severity and higher probability.
- Banks should consider reverse stress tests to identify extreme, but plausible, scenarios that could result in significant adverse outcomes.
- Senior management must take a lead role in the integration of stress testing into the risk management framework and risk culture of the bank and ensure that the results are meaningful and proactively used to manage counterparty credit risk. At a minimum, the results of stress testing for significant exposures should be compared to guidelines that express the bank's risk appetite and elevated for discussion and action when excessive or concentrated risks are present.

Model validation and backtesting

116. On model validation, the following paragraph (currently in paragraph 42) will be moved after paragraph 40 of Annex 4:

> 40bis. An EPE model must also include transaction-specific information in order to capture the effects of margining. It must take into account both the current amount of margin and margin that would be passed between counterparties in the future. Such a model must account for the nature of margin agreements (unilateral or bilateral), the frequency of margin calls, the margin period of risk, the thresholds of unmargined exposure the bank is willing to accept, and the minimum transfer amount. Such a model must either model the mark-to-market change in the value of collateral posted or apply this Framework's rules for collateral.

117. The current Basel II requirements for backtesting will be replaced with the following:

> 42. It is important that supervisory authorities are able to assure themselves that banks using models have counterparty credit risk management systems that are conceptually sound and implemented with integrity. Accordingly the supervisory authority will specify a number of qualitative criteria that banks would have to meet before they are permitted to use a models-based approach. The extent to which banks meet the qualitative criteria may influence the level at which supervisory authorities will set the multiplication factor referred to in paragraph 32 (Alpha) above. Only those banks in full compliance with the qualitative criteria will be eligible for application of the minimum multiplication factor. The qualitative criteria include:
>
> - The bank must conduct a regular programme of backtesting, ie an ex-post comparison of the risk measures[1] generated by the model against realized risk measures, as well as comparing hypothetical changes based on static positions with realized measures.
> - The bank must carry out an initial validation and an on-going periodic review of its IMM model and the risk measures generated by it. The validation and review must be independent of the model developers.

[1] "Risk measures" refers not only to Effective EPE, the risk measure used to derive regulatory capital, but also to the other risk measures used in the calculation of Effective EPE such as the exposure distribution at a series of future dates, the positive exposure distribution at a series of future dates, the market risk factors used to derive those exposures and the values of the constituent trades of a portfolio.

> - The board of directors and senior management should be actively involved in the risk control process and must regard credit and counterparty credit risk control as an essential aspect of the business to which significant resources need to be devoted. In this regard, the daily reports prepared by the independent risk control unit must be reviewed by a level of management with sufficient seniority and

authority to enforce both reductions of positions taken by individual traders and reductions in the bank's overall risk exposure.

- The bank's internal risk measurement exposure model must be closely integrated into the day-to-day risk management process of the bank. Its output should accordingly be an integral part of the process of planning, monitoring and controlling the bank's counterparty credit risk profile.
- The risk measurement system should be used in conjunction with internal trading and exposure limits. In this regard, exposure limits should be related to the bank's risk measurement model in a manner that is consistent over time and that is well understood by traders, the credit function and senior management.
- Banks should have a routine in place for ensuring compliance with a documented set of internal policies, controls and procedures concerning the operation of the risk measurement system. The bank's risk measurement system must be well documented, for example, through a risk management manual that describes the basic principles of the risk management system and that provides an explanation of the empirical techniques used to measure counterparty credit risk.
- An independent review of the risk measurement system should be carried out regularly in the bank's own internal auditing process. This review should include both the activities of the business trading units and of the independent risk control unit. A review of the overall risk management process should take place at regular intervals (ideally no less than once a year) and should specifically address, at a minimum:
  - The adequacy of the documentation of the risk management system and process;
  - The organization of the risk control unit;
  - The integration of counterparty credit risk measures into daily risk management;
  - The approval process for counterparty credit risk models used in the calculation of counterparty credit risk used by front office and back office personnel;
  - The validation of any significant change in the risk measurement process;
  - The scope of counterparty credit risks captured by the risk measurement model;
  - The integrity of the management information system;
  - The accuracy and completeness of position data;
  - The verification of the consistency, timeliness and reliability of data sources used to run internal models, including the independence of such data sources;
  - The accuracy and appropriateness of volatility and correlation assumptions;
  - The accuracy of valuation and risk transformation calculations; and
  - The verification of the model's accuracy as described below in paragraphs 43-46.

- The on-going validation of counterparty credit risk models, including backtesting, must be reviewed periodically by a level of management with sufficient authority to decide the course of action that will be taken to address weaknesses in the models.

43. Banks must document the process for initial and on-going validation of their IMM model to a level of detail that would enable a third party to recreate the analysis. Banks must also document the calculation of the risk measures generated by the models to a level of detail that would allow a third party to re-create the risk measures. This documentation must set out the frequency with which backtesting analysis and any other on-going validation will be conducted, how the validation is conducted with respect to data flows and portfolios and the analyses that are used.

44. Banks must define criteria with which to assess their EPE models and the models that input into the calculation of EPE and have a written policy in place that describes the process by which unacceptable performance will be determined and remedied.

45. Banks must define how representative counterparty portfolios are constructed for the purposes of validating an EPE model and its risk measures.

46. When validating EPE models and its risk measures that produce forecast distributions, validation must assess more than a single statistic of the model distribution.

46(i) As part of the initial and on-going validation of an IMM model and its risk measures, the following requirements must be met:
- A bank must carry out backtesting using historical data on movements in market risk factors prior to supervisory approval. Backtesting must consider a number of distinct prediction time horizons out to at least one year, over a range of various start (initialisation) dates and covering a wide range of market conditions.
- Banks must backtest the performance of their EPE model and the model's relevant risk measures as well as the market risk factor predictions that support EPE. For collateralized trades, the prediction time horizons considered must include those reflecting typical margin periods of risk applied in collateralized/margined trading, and must include long time horizons of at least 1 year.
- The pricing models used to calculate counterparty credit risk exposure for a given scenario of future shocks to market risk factors must be tested as part of the initial and on-going model validation process. These pricing models may be different from those used to calculate Market Risk over a short horizon. Pricing models for options must account for the nonlinearity of option value with respect to market risk factors.
- An EPE model must capture transaction specific information in order to aggregate exposures at the level of the netting set. Banks must

verify that transactions are assigned to the appropriate netting set within the model.

- Static, historical backtesting on representative counterparty portfolios must be a part of the validation process. At regular intervals as directed by its supervisor, a bank must conduct such backtesting on a number of representative counterparty portfolios. The representative portfolios must be chosen based on their sensitivity to the material risk factors and correlations to which the bank is exposed. In addition, IMM banks need to conduct backtesting that is designed to test the key assumptions of the EPE model and the relevant risk measures, eg the modeled relationship between tenors of the same risk factor, and the modeled relationships between risk factors.

- Significant differences between realized exposures and the forecast distribution could indicate a problem with the model or the underlying data that the supervisor would require the bank to correct. Under such circumstances, supervisors may require additional capital to be held while the problem is being solved.

- The performance of EPE models and its risk measures must be subject to good backtesting practice. The backtesting programme must be capable of identifying poor performance in an EPE model's risk measures.

- Banks must validate their EPE models and all relevant risk measures out to time horizons commensurate with the maturity of trades for which exposure is calculated using an internal modeling method.

- The pricing models used to calculate counterparty exposure must be regularly tested against appropriate independent benchmarks as part of the on-going model validation process.

- The on-going validation of a bank's EPE model and the relevant risk measures include an assessment of recent performance.

- The frequency with which the parameters of an EPE model are updated needs to be assessed as part of the validation process.

- Under the IMM, a measure that is more conservative than the metric used to calculate regulatory EAD for every counterparty, may be used in place of alpha times Effective EPE with the prior approval of the supervisor. The degree of relative conservatism will be assessed upon initial supervisory approval and at the regular supervisory reviews of the EPE models. The bank must validate the conservatism regularly.
- The on-going assessment of model performance needs to cover all counterparties for which the models are used.

- The validation of IMM models must assess whether or not the bank level and netting set exposure calculations of EPE are appropriate.

49(i). The bank must have an independent risk control unit that is responsible for the design and implementation of the bank's counterparty credit risk management system. The unit should produce and analyze daily reports on the output of the bank's risk measurement model, including an evaluation of the relationship between measures of counterparty credit exposure and trading limits. The unit must be independent from the business trading units and should report directly to senior management of the bank.

8. Other Major Enhancement to Basel III Regarding Enhanced Risk Coverage

8.1 Addressing reliance on external credit ratings and minimizing cliff effects

The following is a summary of this component.

- A major consequence under Basel II was to rely excessively on external ratings for regulatory capital requirements

- This resulted in the neglect of bank's own independent internal assessment of risks to a certain degree
- Rating agencies have an incentive to produce ''good ratings''
- Given the Basel II rules banks have an incentive to seek ratings just above the ''cliff''
- For e.g. the Standardized Approach prescribes a higher risk weight to corporate exposures that are rated below BB- (150%) than for unrated exposures (100%)- This provides incentives to banks not to get ratings for companies that are likely to be rated below BB-
- Applicable under Standardized Approach

Further elaboration on the above are given below.

8.1.1 Standardised inferred rating treatment for long-term exposures

- Relates to determining of an inferred rating under Standardized Approach Para 99 of Basel II framework

''Issuer vs issues assessment para 99 ''if either the issuer or a single issue has a low quality assessment (mapping into a risk weight equal or higher than that which applies to unrated claims), an unassessed claim on the same counterparty will be assigned the same risk weight as is applicable to the low quality assessment.

For e.g. if a Corporate issuer has subordinated debt rated single -B and a bank holds an unrated senior exposure to that issuer, the unrated senior exposure must be assigned to the risk weight category corresponding to the single –B rating (eg the 150% risk weight), even if there are other rated senior exposures of the issuer (eg AA)

In specific,

118. Para. 99 of the Basel II text would be modified as follows:

99. Where a bank invests in a particular issue that has an issue-specific assessment, the risk weight of the claim will be based on this assessment. Where the bank's claim is not an investment in a specific assessed issue, the following general principles apply.

- In circumstances where the borrower has a specific assessment for an issued debt – but the bank's claim is not an investment in this particular debt – a high quality credit assessment (one which maps into a risk weight lower than that which applies to an unrated claim) on that specific debt may only be applied to the bank's unassessed claim if this claim ranks pari passu or senior to the claim with an assessment in all respects. If not, the credit assessment cannot be used and the unassessed claim will receive the risk weight for unrated claims.

- In circumstances where the borrower has an issuer assessment, this assessment typically applies to senior unsecured claims on that issuer. Consequently, only senior claims on that issuer will benefit from a high quality issuer assessment. Other unassessed claims of a highly assessed issuer will be treated as unrated. If either the issuer or a single issue has a low quality assessment (mapping into a risk weight equal to or higher than that which applies to unrated claims), an unassessed claim on the same counterparty that ranks pari passu or is subordinated to either the senior unsecured issuer assessment or the exposure assessment will be assigned the same risk weight as is applicable to the low quality assessment.

8.2. Incentive to avoid getting exposures rated

As a summary:
- Revised Para 733 of the Basel II framework (Supervisory Review Process Pillar 2)
- Banks should internally assess if the risk weights applied under the Standardized Approach are appropriate for their inherent risk.
- If it turns out that that the inherent risk is higher, then the bank should consider the higher degree of risk

119. Para. 733 of the Basel II text will read as follows:

733. Credit risk: Banks should have methodologies that enable them to assess the credit risk involved in exposures to individual borrowers or counterparties as well as at the portfolio level. Banks should assess exposures, regardless of whether they are rated or unrated, and determine whether the risk weights applied to such exposures, under the Standardized Approach, are appropriate for their inherent risk. In those instances where a bank determines that the inherent risk of such an exposure, particularly if it is unrated, is significantly higher than that implied by the risk weight to which it is assigned, the bank should consider the higher degree of credit risk in the evaluation of its overall capital adequacy. For more sophisticated banks, the credit review assessment of capital adequacy, at a minimum, should cover four areas: risk rating systems, portfolio analysis/aggregation, securitization/complex credit derivatives, and large exposures and risk concentrations.

8.3. Incorporation of IOSCO's Code of Conduct Fundamentals for Credit Rating Agencies

As a summary:

- SAMA to refer to IOSCO Code of Conduct Fundamentals for Credit Rating Agencies when determining ECAI eligibility

120. Paragraph 91 and 565(b) of the Basel II text will read as follows (paragraph 90 does not need additional changes):

1. The recognition process

90. SAMA is responsible for determining on a continuous basis whether an external credit assessment institution (ECAI) meets the criteria listed in the paragraph below. SAMA will accordingly refer to the IOSCO Code of Conduct Fundamentals for Credit Rating Agencies when determining ECAI eligibility. The assessments of ECAIs may be recognized on a limited basis, e.g. by type of claims or by jurisdiction. The supervisory process for recognizing ECAIs should be made public to avoid unnecessary barriers to entry.

2. Eligibility criteria

91. An ECAI must satisfy each of the following six criteria.

- objectivity: no change suggested
- Independence: no change suggested
- International access/Transparency: The individual assessments, the key elements underlining the assessments and whether the issuer participated in the assessment process should be publicly available on a non-selective basis, unless they are private assessments. In addition, the general procedures, methodologies and assumptions for arriving at assessments used by the ECAI should be publicly available.
- Disclosure: An ECAI should disclose the following information: its code of conduct; the general nature of its compensation arrangements with assessed entities; its assessment methodologies, including the definition of default, the time horizon, and the meaning of each rating; the actual default rates experienced in each assessment category; and the transitions of the assessments, e.g. the likelihood of AA ratings becoming A over time.
- Resources: no change suggested
- Credibility: no change suggested

3. Operational requirements for use of external credit assessments

565. The following operational criteria concerning the use of external credit assessments apply in the standardized and IRB approaches of the securitization framework:

(a) no change

(b) The external credit assessments must be from an eligible ECAI as recognized by SAMA in accordance with paragraphs 90 to 108 with the

following exception. In contrast with bullet three of paragraph 91, an eligible credit assessment, procedures, methodologies, assumptions, and the key elements underlining the assessments must be publicly available, on a non-selective basis and free of charge.[1] In other words, a rating must be published in an accessible form and included in the ECAI's transition matrix. Also, loss and cash flow analysis as well as sensitivity of ratings to changes in the underlying ratings assumptions should be publicly available. Consequently, ratings that are made available only to the parties to a transaction do not satisfy this requirement.

(c) to (f) no change

8.4. "Cliff effects" arising from guarantees and credit derivatives - Credit risk mitigation (CRM)

As a summary:
- Current CRM rules requires under Standardized Approach requires "eligible guarantors" to be externally rated "A-" or better or "internally rated" and associated with a PD equivalent to A- or better
- In order to mitigate the "cliff effects" that arises when the credit worthiness of a guarantor falls below the A-level of credit quality BCBS revised Para 195 (Standardized Approach) and Para 302 (FIRB Approach)
- BCBS proposed the elimination of the A-minimum requirement for guarantors in the Standardized Approach and the FIRB

Standardized Approach - Range of eligible guarantors (counter-guarantors)/protection providers

195. Credit protection given by the following entities will be recognized:

- sovereign entities, PSEs, banks, and securities firms with a lower risk weight than the counterparty.

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[1] Where the eligible credit assessment is not provided free of charge the ECAI should provide an adequate justification, within their own publicly available Code of Conduct, in accordance with the 'comply or explain' nature of the IOSCO Code of Conduct Fundamentals for Credit Rating Agencies.

- other entities that are externally rated except when credit protection is provided to a securitization exposure. This would include credit protection provided by parent, subsidiary and affiliate companies when they have a lower risk weight than the obligor.
- when credit protection is provided to a securitization exposure, other entities that currently are externally rated BBB- or better and that were externally rated A- or better at the time the credit protection was provided. This would include credit protection provided by parent, subsidiary and affiliate companies when they have a lower risk weight than the obligor.

Recognition under the Foundation IRB approach

302. For banks using the foundation approach for LGD, the approach to guarantees and credit derivatives closely follows the treatment under the standardized approach as specified in paragraphs 189 to 201. The range of eligible guarantors is the same as under the standardized approach except that companies that are internally rated may also be recognized under the foundation approach. To receive recognition, the requirements outlined in paragraphs 189 to 194 must be met.

8.5. Unsolicited ratings and recognition of ECAIs

As a summary:
- To address the risk that the credit assessments of unsolicited ratings may be inferior in quality to the general quality of solicited ratings and the potential risk that ECAIs used unsolicited ratings to put pressure on the entities to obtain solicited ratings
- Banks must use chosen ECAIs and their ratings consistently and will not be allowed to ''cherry pick'' the assessments and to arbitrarily change the use of ECAIs
- As a general rule, banks should use solicited ratings from eligible ECAIs

121. Accordingly, paragraph 94 and 108 of the Basel II text will be modified as follows:

94. Banks must use the chosen ECAIs and their ratings consistently for each type of claim, for both risk weighting and risk management purposes. Banks will not be allowed to "cherry-pick" the assessments provided by different ECAIs and to arbitrarily change the use of ECAIs.

108. As a general rule, banks should use solicited ratings from eligible ECAIs. SAMA may, however, allow banks to use unsolicited ratings in the same way as solicited ratings if it is satisfied that the credit assessments of unsolicited ratings are not inferior in quality to the general quality of solicited ratings. SAMA will advise should it permit banks to use consolidated rating. However, there may be the potential for ECAIs to use unsolicited ratings to put pressure on entities to obtain solicited ratings. Such behavior, when identified, will cause SAMA to consider whether to continue recognizing such ECAIs as eligible for capital adequacy purposes.

9. **Capital Buffer**

Basel III Framework proposes two type of Capital buffers.

1. Capital conservation buffer
2. Countercyclical buffer

This section outlines the operation of the capital conservation buffer, which is designed to ensure that banks build up capital buffers outside periods of stress which can be drawn down as losses are incurred. The requirement is based on simple capital conservation rules designed to avoid breaches of minimum capital requirements.

9.1 Capital Conservation Buffer

A. Best practice

- Outside of periods of stress, banks should hold buffers of capital above the regulatory minimum.
- When buffers have been drawn down, one way banks should look to rebuild them is through reducing discretionary distributions of earnings. This could include reducing dividend payments, share-backs and staff bonus payments. Banks may also choose to raise new capital from the private sector as an alternative to conserving internally generated capital.

The balance between these options should be discussed with supervisors as part of the capital planning process.

- It is clear that greater efforts should be made to rebuild buffers the more they have been depleted. Therefore, in the absence of raising capital in the private sector, the share of earnings retained by banks for the purpose of rebuilding their capital buffers should increase the nearer their actual capital levels are to the minimum capital requirement.
- It is not acceptable for banks which have depleted their capital buffers to use future predictions of recovery as justification for maintaining generous distributions to shareholders, other capital providers and employees. These stakeholders, rather than depositors, must bear the risk that recovery will not be forthcoming.

- It is also not acceptable for banks which have depleted their capital buffers to try and use the distribution of capital as a way to signal their financial strength. Not only is this irresponsible from the perspective of an individual bank, putting shareholders interests above depositors, it may also encourage other banks to follow suit. As a consequence, banks in aggregate can end up increasing distributions at the exact point in time when they should be conserving earnings.

- The framework reduces the discretion of banks which have depleted their capital buffers to further reduce them through generous distributions of earnings. In doing so, the framework will strengthen their ability to withstand adverse environments. Implementation of the framework through internationally agreed capital conservation rules will help increase sector resilience both going into a downturn, and provide the mechanism for rebuilding capital during the early stages of economic recovery. Retaining a greater proportion of earnings during a downturn will help ensure that capital remains available to support the ongoing business operations of banks through the period of stress. In this way the framework should help reduce procyclicality.

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B. The framework

A capital conservation buffer of 2.5%, comprised of Common Equity Tier 1, is established above the regulatory minimum capital requirement.[1] Capital distribution constraints will be imposed on a bank when capital levels fall within this range. Banks will be able to conduct business as normal when their capital levels fall into the conservation range as they experience losses. The constraints imposed only relate to distributions, not the operation of the bank.

The distribution constraints imposed on banks when their capital levels fall into the range increase as the banks' capital levels approach the minimum requirements. By design, the constraints imposed on banks with capital levels at the top of the range would be minimal. This reflects an expectation that banks' capital levels will from time to time fall into this range. The Basel Committee does not wish to impose constraints for entering the range that would be so restrictive as to result in the range being viewed as establishing a new minimum capital requirement.

The table below shows the minimum capital conservation ratios a bank must meet at various levels of the Common Equity Tier 1 (CET1) capital ratios. For example, a bank with a CET1 capital ratio in the range of 5.125% to 5.75% is required to conserve 80% of its earnings in the subsequent financial year (ie payout no more than 20% in terms of dividends, share buybacks and discretionary bonus payments). If the bank wants to make payments in excess of the constraints imposed by this regime, it would have the option of raising capital in the private sector equal to the amount above the constraint which it wishes to distribute. This would be discussed with the bank's supervisor as part of the capital planning process. The Common Equity Tier 1 ratio includes amounts used to meet the 4.5% minimum Common Equity Tier 1 requirement, but excludes any additional Common Equity Tier 1 needed to meet the 6% Tier 1 and 8% Total Capital requirements. For example, a bank with 8% CET1 and no Additional Tier 1 or Tier 2 capital would meet all minimum capital requirements, but would have a zero conservation buffer and therefore by subject to the 100% constraint on capital distributions.

[1] Common Equity Tier 1 must first be used to meet the minimum capital requirements (including the 6% Tier 1and 8% Total capital requirements if necessary), before the remainder can contribute to the capital conservation buffer.

Individual bank minimum capital conservation standards	
Common Equity Tier 1 Ratio	Minimum Capital Conservation Ratios (express as a percentage of earnings)
4.5% - 5.125%	100%
>5.125% - 5.75%	80%
>5.75% - 6.375	60%
>6.375% - 7.0%	40%
>7.0%	0%

Set out below are a number of other key aspects of the requirements:

(a) **Elements subject to the restriction on distributions**: Items considered to be distributions include dividends and share buybacks, discretionary payments on other Tier 1 capital instruments and discretionary bonus payments to staff. Payments that do not result in a depletion of Common Equity Tier 1, which may for example include certain scrip dividends, are not considered distributions.

(b) **Definition of earnings**: Earnings are defined as distributable profits calculated prior to the deduction of elements subject to the restriction on distributions. Earnings are calculated after the tax which would have been reported had none of the distributable items been paid. As such, any tax impact of making such distributions are reversed out. Where a bank does not have positive earnings and has a Common Equity Tier 1 ratio less than 7%, it would be restricted from making positive net distributions.

(c) **Solo or consolidated application**: The framework should be applied at the consolidated level, ie restrictions would be imposed on distributions out of the consolidated group. SAMA would have the option of applying the regime at the solo level to conserve resources in specific parts of the group.

(d) **Additional supervisory discretion**: Although the buffer must be capable of being drawn down, banks should not choose in normal times to operate in the buffer range simply to compete with other banks and win market share. To ensure that this does not happen, supervisors have the additional discretion to impose time limits on banks operating within the buffer range on a case-by-case basis. In any case, supervisors should ensure that the capital plans of banks seek to rebuild buffers over an appropriate timeframe.

C. Transitional arrangements
The capital conservation buffer will be phased in between 1 January 2016 and year end 2018 becoming fully effective on 1 January 2019. It will begin at 0.625% of RWAs on 1 January 2016 and increase each subsequent year by an additional 0.625 percentage points, to reach its final level of 2.5% of RWAs on 1 January 2019. Countries that experience excessive credit growth should consider accelerating the build up of the capital conservation buffer and the countercyclical buffer. SAMA has the discretion to impose shorter transition periods and will do so where appropriate.

Banks that already meet the minimum ratio requirement during the transition period but remain below the 7% Common Equity Tier 1 target (minimum plus conservation buffer) should maintain prudent earnings retention policies with a view to meeting the conservation buffer as soon as reasonably possible.

The division of the buffer into quartiles that determine the minimum capital conservation ratios will begin on 1 January 2016. These quartiles will expand as the capital conservation buffer is phased in and will take into account any countercyclical buffer in effect during this period.

9.2. **Countercyclical buffer**

A. Introduction

Losses incurred in the banking sector can be extremely large when a downturn is preceded by a period of excess credit growth. These losses can destabilize the banking sector and spark a vicious circle, whereby problems in the financial system can contribute to a downturn in the real economy that then feeds back on to the banking sector. These interactions highlight the particular importance of the banking sector building up additional capital defences in periods where the risks of system-wide stress are growing markedly.

The countercyclical buffer aims to ensure that banking sector capital requirements take account of the macro-financial environment in which banks operate. It will be deployed by national jurisdictions when excess aggregate credit growth is judged to be associated with a build-up of system-wide risk to ensure the banking system has a buffer of capital to protect it against future potential losses. This focus on excess aggregate credit growth means that jurisdictions are likely to only need to deploy the buffer on an infrequent basis. The buffer for internationally-active banks will be a weighted average of the buffers deployed across all the jurisdictions to which it has credit exposures. This means that they will likely find themselves subject to a small buffer on a more frequent basis, since credit cycles are not always highly correlated across jurisdictions.

The countercyclical buffer regime consists of the following elements:

(a) SAMA will monitor credit growth and other indicators that may signal a build up of system-wide risk and make assessments of whether credit growth is excessive and is leading to the build up of system-wide risk. Based on this assessment they will put in place a countercyclical buffer requirement when circumstances warrant. This requirement will be released when system-wide risk crystallizes or dissipates.

(b) Internationally active banks will look at the geographic location of their private sector credit exposures and calculate their bank specific countercyclical capital buffer requirement as a weighted average of the requirements that are being applied in jurisdictions to which they have credit exposures.

(c) The countercyclical buffer requirement to which a bank is subject will extend the size of the capital conservation buffer. Banks will be subject to restrictions on distributions if they do not meet the requirement.

B. National countercyclical buffer requirements
Each Basel Committee member jurisdiction will identify an authority with the responsibility to make decisions on the size of the countercyclical capital buffer. Consequently, if SAMA judges a period of excess credit growth leading to the build up of system-wide risk, it will consider, together with any other macroprudential tools at its disposal by putting in place a countercyclical buffer requirement. This will vary between zero and 2.5% of risk weighted assets, depending on its judgment as to the extent of the build up of system-wide risk.[1]

The document entitled Guidance for national authorities operating the countercyclical capital buffer, sets out the principles that national authorities have agreed to follow in making buffer decisions. This document provides information that should help banks to understand and anticipate the buffer decisions made by national authorities in the jurisdictions to which they have credit exposures.

To give banks time to adjust to a buffer level, a jurisdiction will pre-announce its decision to raise the level of the countercyclical buffer by up to 12 months.[2] Decisions by a jurisdiction to decrease the level of the countercyclical buffer will take effect immediately. The pre-announced buffer decisions and the actual buffers in place for all Committee member jurisdictions will be published on the BIS website.

C. Bank specific countercyclical buffer

Banks will be subject to a countercyclical buffer that varies between zero and 2.5% to total risk weighted assets.[3] The buffer that will apply to each bank will reflect the geographic composition of its portfolio of credit exposures. Banks must meet this buffer with Common Equity Tier 1 or other fully loss absorbing capital[4] or be subject to the restrictions on distributions set out in the next Section.

[1] SAMA can implement a range of additional macroprudential tools, including a buffer in excess of 2.5% for banks in Saudi Arabia, if this is deemed appropriate in Saudi Arabia. However, the international reciprocity provisions set out in this regime treat the maximum countercyclical buffer as 2.5%.

[2] Banks outside of Saudi Arabia with credit exposures to counterparties in Saudi Arabia will also be subject to the increased buffer level after the pre-announcement period in respect of these exposures. However, in cases where the pre-announcement period of a jurisdiction is shorter than 12 months, the home authority of such banks should seek to match the preannouncement period where practical, or as soon as possible (subject to a maximum preannouncement period of 12 months), before the new buffer level comes into effect.

[3] As with the capital conservation buffer, the framework will be applied at the consolidated level. In addition, SAMA may apply the regime at the solo level to conserve resources in specific parts of the group.

[4] The Committee is still reviewing the question of permitting other fully loss absorbing capital beyond Common Equity Tier 1 and what form it would take. Until the Committee has issued further guidance, the countercyclical buffer is to be met with Common Equity Tier 1 only.

Internationally active banks will look at the geographic location of their private sector credit exposures (including non-bank financial sector exposures) and calculate their countercyclical capital buffer requirement as a weighted average of the buffers that are being applied in jurisdictions to which they have an exposure. Credit exposures in this case include all private sector credit exposures that attract a credit risk capital charge or the risk weighted equivalent trading book capital charges for specific risk, IRC and securitization.

The weighting applied to the buffer in place in each jurisdiction will be the bank's total credit risk charge that relates to private sector credit exposures in that jurisdiction[1], divided by the bank's total credit risk charge that relates to private sector credit exposures across all jurisdictions.

For the VaR for specific risk, the incremental risk charge and the comprehensive risk measurement charge, banks should work with their supervisors to develop an approach that would translate these charges into individual instrument risk weights that would then be allocated to the geographic location of the specific counterparties that make up the charge. However, it may not always be possible to break down the charges in this way due to the charges being calculated on a portfolio by portfolio basis. In such cases, the charge for the relevant portfolio should be allocated to the geographic regions of the constituents of the portfolio by calculating the proportion of the portfolio's total exposure at default (EAD) that is due to the EAD resulting from counterparties in each geographic region.

D. Extension of the capital conservation buffer

The countercyclical buffer requirement to which a bank is subject is implemented through an extension of the capital conservation buffer described in section III.

The table below shows the minimum capital conservation ratios a bank must meet at various levels of the Common Equity Tier 1 capital ratio.[2] When the countercyclical capital buffer is zero in all of the regions to which a bank has private sector credit exposures, the capital levels and restrictions set out in the table are the same as those set out in section III.

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[1] When considering the jurisdiction to which a private sector credit exposure relates, banks should use, where possible, an ultimate risk basis; i.e. it should use the country where the guarantor of the exposure resides, not where the exposure has been booked.

[2] Consistent with the conservation buffer, the Common Equity Tier 1 ratio in this context includes amounts used to meet the 4.5% minimum Common Equity Tier 1 requirement, but excludes any additional Common Equity Tier 1 needed to meet the 6% Tier 1 and 8% Total Capital requirements.

Individual bank minimum capital conservation standards	
Common Equity Tier 1 (including other fully loss absorbing capital)	Minimum Capital Conservation Ratios (express as a percentage of earnings)
Within first quartile of buffer	100%
Within second quartile of buffer	80%
Within third quartile of buffer	60%
Within fourth quartile of buffer	40%
Above top of buffer	0%

148. For illustrative purposes, the following table sets out the conservation ratios a bank must meet at various levels of Common Equity Tier 1 capital if the bank is subject to a 2.5% countercyclical buffer requirement.

Individual bank minimum capital conservation standards, when a bank is subject to a 2.5% countercyclical requirement	
Common Equity Tier 1 (including other fully loss absorbing capital)	Minimum Capital Conservation Ratios (express as a percentage of earnings)
4.5% - 5.75%	100%
>5.75% - 7.0%	80%
>7.0% - 8.25	60%
>8.25% - 9.5%	40%
>9.5%	0%

E. Frequency of calculation and disclosure

Banks must ensure that their countercyclical buffer requirements are calculated and publically disclosed with at least the same frequency as their minimum capital requirements. The buffer should be based on the latest relevant jurisdictional countercyclical buffers that are available at the date that they calculate their minimum capital requirement. In addition, when disclosing their buffer requirement, banks must also disclose the geographic breakdown of their private sector credit exposures used in the calculation of the buffer requirement.

F. Transitional arrangements

The countercyclical buffer regime will be phased-in in parallel with the capital conservation buffer between 1 January 2016 and year end 2018 becoming fully effective on 1 January 2019. This means that the maximum countercyclical buffer requirement will begin at 0.625% of RWAs on 1 January 2016 and increase each subsequent year by an additional 0.625 percentage points, to reach its final maximum of 2.5% of RWAs on 1 January 2019. Countries that experience excessive credit growth during this transition period will consider accelerating the build up of the capital conservation buffer and the countercyclical buffer. In addition, jurisdictions may choose to implement larger countercyclical buffer requirements. In such cases the reciprocity provisions of the regime will not apply to the additional amounts or earlier time-frames.

Ratio Calculation – Standardized Approach
Basel III
Quarterly Capital Adequacy Ratios
Standardized Approach

NOTE: This section is only for information purposes as the end result of implementing Basel III. Banks will have to complete the Basel III Prudential Returns package sent separately in order to obtain the actual ratios. Further, the minimum BCBS Basel III CAR requirements are given in attachment # 1.

1.	**Basel III Actual Ratios**	**Ratios %**
1.1	Actual Common Equity Tier 1 (as a percentage of risk weighted assets), to be calculated as row 29[6] divided by row 60[6] (expressed as a percentage) refer to page 16	%
1.2	Actual Tier 1 (as a percentage of risk weighted assets), to be calculated as row 45[6] divided by row 60[6] (expressed as a percentage) refer to page 16	%

		Ratios
1.3	Actual Total capital (as a percentage of risk weighted assets), to be calculated as row 59[1] divided by row 60[1] (expressed as a percentage) refer to page 17	%
2.	**Basel III Minimum Capital Ratio Requirements[1] and excess/(deficit) of Actual Ratio for the following ratios %:**	**Ratios**
2.1	Minimum Common Equity Tier 1 Capital Ratio[1]	%
	Excess/(Deficit) of Actual 1.1 over above 2.1	%
2.2	**Capital Conservation Buffer[1]**	%
2.3	Minimum Common Equity Tier 1 ratio plus Capital Conservation buffer (2.1+2.2)[1]	%
	Excess/(Deficit) of actual (1.1) over above 2.3	%
2.4	Minimum Tier 1 Capital Ratio[1]	%
	Excess of Actual/(Deficit) of 1.2 over 2.4	%
2.5	Minimum Total Capital Ratio	8%
	Excess of Actual/(Deficit) of 1.3 over 2.5 (8%)	%
2.6	Minimum Total Capital ratio plus Conservation buffer (2.5+2.2)[1]	%
	Excess of Actual/(Deficit) of 1.3 over 2.6	%
2.7	Minimum Total Capital ratio plus all buffers concerning conservation[1], countercyclical and DSIBs	%
	Excess/(Deficit) of actual Total Capital Ratio (1.3) over Minimum Total Capital Ratio + Conservation Buffer (2.6) plus countercyclical buffer (3.2) plus DSIBs (3.3)	%
3.	**Basel III Buffers including capital buffer concerning Conservation, Countercyclical and Domestic SIB (DSIBs) Buffers %**	
3.1	Capital Conservation ratio[1,5]	Nil%
3.2	Countercyclical ratio[4]	Nil%
3.3	Domestic SIBSs ratio[2,3]	Nil%

[1]Refer to minimum required ratios contingent on the phase-in requirements (Annex 1)
[2]SAMA to provide Nil for now.
[3]D-SIB not relevant to Saudi banks at the present.
[4]For DSIBs and countercyclical buffer, SAMA has nil for each.
[5]Capital Conservation buffers are nil until 2016.
[6]All reference to Rows are to the attached Prudential Returns (P15-P17).

BASEL III
C. PILLAR 2 REQUIREMENTS

Pillar 2

Add requirements to improve the operational performance of the collateral department

A summary is as follows:
- ~~Applicable to IMM banks~~
- BCBS strengthened the standards for collateral management (Pillar 2)
- Requirement added to improve the operational performance of the collateral department for IMM banks
- BCBS supports the creation of a *"Collateral Management Unit"* (CMU)

Enhancements

106. To implement the requirements designed to improve the collateral department operations, two new paragraphs, 51(i) and 51(ii), will be

incorporated into Annex 4[1] and paragraph 777(x), Part 3: The Second Pillar – Supervisory Review Process, will be revised as follows:

51(i). Banks applying the internal model method must have a collateral management unit that is responsible for calculating and making margin calls, managing margin call disputes and reporting levels of independent amounts, initial margins and variation margins accurately on a daily basis. This unit must control the integrity of the data used to make margin calls, and ensure that it is consistent and reconciled regularly with all relevant sources of data within the bank. This unit must also track the extent of reuse of collateral (both cash and non-cash) and the rights that the bank gives away to its respective counterparties for the collateral that it posts. These internal reports must indicate the categories of collateral assets that are reused, and the terms of such reuse including instrument, credit quality and maturity. The unit must also track concentration to individual collateral asset classes accepted by the banks. Senior management must allocate sufficient resources to this unit for its systems to have an appropriate level of operational performance, as measured by the timeliness and accuracy of outgoing calls and response time to incoming calls. Senior management must ensure that this unit is adequately staffed to process calls and disputes in a timely manner even under severe market crisis, and to enable the bank to limit its number of large disputes caused by trade volumes.

51(ii). The bank's collateral management unit must produce and maintain appropriate collateral management information that is reported on a regular basis to senior management. Such internal reporting should include information on the type of collateral (both cash and non-cash) received and posted, as well as the size, aging and cause for margin call disputes. This internal reporting should also reflect trends in these figures.

SAMA's circular concerning the implementation of Pillar 2 under Basel II.5 will continue to apply and represent SAMA's Pillar 2 capital requirement under Basel III.

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[1]Annex 5 of this document

~~The additional requirement under Basel III are not applicable to SAMA as currently they refer to IMM approach only. Consequently, SAMA will inform the banks where relevant.~~

777(x). The bank must conduct an independent review of the CCR management system regularly through its own internal auditing process. This review must include both the activities of the business credit and trading units and of the independent CCR control unit. A review of the overall CCR management process must take place at regular intervals (ideally not less than once a year) and must specifically address, at a minimum:

- the adequacy of the documentation of the CCR management system and process;
- the organization of the collateral management unit;
- the organization of the CCR control unit;

- the integration of CCR measures into daily risk management;
- the approval process for risk pricing models and valuation systems used by front and back-office personnel;
- the validation of any significant change in the CCR measurement process;
- the scope of counterparty credit risks captured by the risk measurement model;
- the integrity of the management information system;
- the accuracy and completeness of CCR data;
- the accurate reflection of legal terms in collateral and netting agreements into exposure measurements;
- the verification of the consistency, timeliness and reliability of data sources used to run internal models, including the independence of such data sources;
- the accuracy and appropriateness of volatility and correlation assumptions;
- the accuracy of valuation and risk transformation calculations; and
- the verification of the model's accuracy through frequent backtesting.

BASEL III
D. PILLAR 3 REQUIREMENTS

Pillar 3 Requirements

SAMA implemented Basel III Pillar 3 requirements will be implemented shortly.

Disclosure requirements

91. To help improve transparency of regulatory capital and improve market discipline, banks are required to disclose the following:

- a full reconciliation of all regulatory capital elements back to the balance sheet in the audited financial statements;

- separate disclosure of all regulatory adjustments and the items not deducted from Common Equity Tier 1 according to section 4.4 of this SAMA guideline

- a description of all limits and minima, identifying the positive and negative elements of capital to which the limits and minima apply;

- a description of the main features of capital instruments issued; banks which disclose ratios involving components of regulatory capital (e.g. "Equity Tier 1", "Core Tier 1" or "Tangible Common Equity" ratios) must accompany such disclosures with a comprehensive explanation of how these ratios are calculated.

92. Banks are also required to make available on their websites the full terms and conditions of all instruments included in regulatory capital. The Basel Committee will issue more detailed Pillar 3 disclosure requirements in 2011.

93. During the transition phase banks are required to disclose the specific components of capital, including capital instruments and regulatory adjustments that are benefiting from the transitional provisions.

ANNEXES

Annex # 1:   Phase in arrangements

Annex # 2:   Criteria for classification as Common Shares for regulatory capital purposes

Annex # 3:   Instruments issued by the bank that meet the Additional Tier 1 criteria

Annex # 4:   Instruments issued by the bank that meet the Tier 2 criteria

Annex # 5:   Treatment of Counterparty Credit Risk and Cross-Product Netting

Annex # 1

Calibration of the capital framework

Phase-In-Arrangement

	2011	2012	2013	2014	2015	2016	2017	2018	1 January 2019
Leverage Ratio	Supervisory monitoring		Parallel run 1 Jan 2013 – 1 Jan 2017 Disclosures start 1 Jan 2015					Migration to Pillar 1	

Minimum Common Equity Capital (CEC) Ratio			3.5%	4.0%	4.5%	4.5%	4.5%	4.5%	4.5%
Capital Conservation Buffer						0.625%	1.25%	1.875%	2.50%
Minimum Common Equity plus capital conservation buffer			3.5%	4.0%	4.5%	5.125%	5.75%	6.375%	7.0%
Phase-in of deductions from CET1 (including amounts exceeding the limit for DTAs, MSRs and financials)				20%	40%	60%	80%	100%	100%
Minimum Tier 1 Capital			4.5%	5.5%	6.0%	6.0%	6.0%	6.0%	6.0%
Minimum Total Capital			8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Minimum Total Capital plus conservation buffer			8.0%	8.0%	8.0%	8.625%	9.25%	9.875%	10.5%
Capital instruments that no longer qualify as non-core Tier 1 capital or Tier 2 capital		Phased out over 10 years horizon beginning 2013							
Liquidity coverage ratio[1]		Observation period begins			Introduce minimum standard				
Net stable funding ratio		Observation period begins						Introduce minimum standard	

[1]Reporting to regulatory authorities from January 2012.

Note: All dates as of 1 January.

Annex-1A

Calibration of the capital framework
Capital requirements and buffers (all numbers in percent)

	Common Equity Tier 1	Tier 1 Capital	Total Capital
Minimum	4.5	6.0	8.0
Conservation buffer	2.5		
Minimum plus conservation buffer	7.0	8.5	10.5
Countercyclical buffer range*	0 – 2.5		

**Criteria for Classification as Common Shares for
Regulatory Capital purposes[a]**

1. Represents the most subordinated claim in liquidation of the bank.

2. Entitled to a claim on the residual assets that is proportional with its share of issued capital, after all senior claims have been repaid in liquidation (ie has an unlimited and variable claim, not a fixed or capped claim).

3. Principal is perpetual and never repaid outside of liquidation (setting aside discretionary repurchases or other means of effectively reducing capital in a discretionary manner that is allowable under relevant law).

4. The bank does nothing to create an expectation at issuance that the instrument will be bought back, redeemed or cancelled nor do the statutory or contractual terms provide any feature which might give rise to such an expectation.

5. Distributions are paid out of distributable items (retained earnings included). The level of distributions is not in any way tied or linked to the amount paid in at issuance and is not subject to a contractual cap (except to the extent that a bank is unable to pay distributions that exceed the level of distributable items).

6. There are no circumstances under which the distributions are obligatory. Non-payment is therefore not an event of default.

7. Distributions are paid only after all legal and contractual obligations have been met and payments on more senior capital instruments have been made. This means that there are no preferential distributions, including in respect of other elements classified as the highest quality issued capital.

Footnote a: The criteria also apply to non-joint stock companies, such as mutuals, cooperatives or savings institutions, taking into account their specific constitution and legal structure. The application of the criteria should preserve the quality of the instruments by requiring that they are deemed fully equivalent to common shares in terms of their capital quality as regards loss absorption and do not possess features which could cause the condition of the bank to be weakened as a going concern during periods of market stress. Supervisors will exchange information on how they apply the criteria to non-joint stock companies in order to ensure consistent implementation.

(Refer to Paragraphs 52: Basel III: A global regulatory framework for more resilient banks and banking systems - revised version (rev June 2011)

8. It is the issued capital that takes the first and proportionately greatest share of any losses as they occur. (In cases where capital instruments have a permanent write-down feature, this criterion is still deemed to be met by common shares.) Within the highest quality capital, each instrument absorbs losses on a going concern basis proportionately and *pari passu* with all the others.

9. The paid in amount is recognized as equity capital (ie not recognized as a liability) for determining balance sheet insolvency.

10. The paid in amount is classified as equity under the relevant accounting standards.

11. It is directly issued and paid-in and the bank can not directly or indirectly have funded the purchase of the instrument.

12. The paid in amount is neither secured nor covered by a guarantee of the issuer or related entity (a related entity can include a parent company, a sister company, a subsidiary or any other affiliate. A holding company is a related entity irrespective of whether it forms part of the consolidated banking group)[1] or subject to any other arrangement that legally or economically enhances the seniority of the claim.

13. It is only issued with the approval of the owners of the issuing bank, either given directly by the owners or, if permitted by applicable law, given by the Board of Directors or by other persons duly authorized by the owners.

14. It is clearly and separately disclosed on the bank's balance sheet.

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[1]Refer to 54-56, Tier 2 capital, Basel III: A global regulatory framework for more resilient banks and banking systems – revised version (rev June 2011).

Instruments issued by the bank that meet the Additional Tier 1 criteria

The following box sets out the minimum set of criteria for an instrument issued by the bank to meet or exceed in order for it to be included in Additional Tier 1 capital.

Criteria for inclusion in Additional Tier 1 capital

1. Issued and paid-in
2. Subordinated to depositors, general creditors and subordinated debt of the bank
3. Is neither secured nor covered by a guarantee of the issuer or related entity or other arrangement that legally or economically enhances the seniority of the claim vis-à-vis bank creditors
4. Is perpetual, ie there is no maturity date and there are no step-ups or other incentives to redeem

5. May be callable at the initiative of the issuer only after a minimum of five years:

   a. To exercise a call option a bank must receive prior supervisory approval; and
   b. A bank must not do anything which creates an expectation that the call will be exercised; and
   c. Banks must not exercise a call unless:

   i. They replace the called instrument with capital of the same or better quality and the replacement of this capital is done at conditions which are sustainable for the income capacity of the bank; (replacement issues can be concurrent with but not after the instrument is called); or
   ii. The bank demonstrates that its capital position is well above the minimum capital requirements after the call option is exercised. (minimum refers to the regulator's prescribed minimum requirement, which may be higher than the Basel III Pillar 1 minimum requirement)

6. Any repayment of principal (eg through repurchase or redemption) must be with prior supervisory approval and banks should not assume or create market expectations that supervisory approval will be given

7. Dividend/coupon discretion:

   a. the bank must have full discretion at all times to cancel distributions/payments (a consequence of full discretion at all times to cancel distributions/payments is that "dividend pushers" are prohibited. An instrument with a dividend pusher obliges the issuing bank to make a dividend/coupon payment on the instrument if it has made a payment on another (typically more junior) capital instrument or share. This obligation is inconsistent with the requirement for full discretion at all times. Furthermore, the term "cancel distributions/payments" means extinguish these payments. It does not permit features that require the bank to make distributions/payments in kind.)
   b. cancellation of discretionary payments must not be an event of default
   c. banks must have full access to cancelled payments to meet obligations as they fall due
   d. cancellation of distributions/payments must not impose restrictions on the bank except in relation to distributions to common stockholders.

8. Dividends/coupons must be paid out of distributable items
9. The instrument cannot have a credit sensitive dividend feature, that is a dividend/coupon that is reset periodically based in whole or in part on the banking organization's credit standing.

10. The instrument cannot contribute to liabilities exceeding assets if such a balance sheet test forms part of national insolvency law.
11. Instruments classified as liabilities for accounting purposes must have principal loss absorption through either (i) conversion to common shares at an objective pre-specified trigger point or (ii) a write-down mechanism which allocates losses to the instrument at a pre-specified trigger point. The write-down will have the following effects:

    a. Reduce the claim of the instrument in liquidation;
    b. Reduce the amount re-paid when a call is exercised; and
    c. Partially or fully reduce coupon/dividend payments on the instrument.

12. Neither the bank nor a related party over which the bank exercises control or significant influence can have purchased the instrument, nor can the bank directly or indirectly have funded the purchase of the instrument.
13. The instrument cannot have any features that hinder recapitalization, such as provisions that require the issuer to compensate investors if a new instrument is issued at a lower price during a specified time frame
14. If the instrument is not issued out of an operating entity (An operating entity is an entity set up to conduct business with clients with the intention of earning a profit in its own right.) or the holding company in the consolidated group (e.g. a special purpose vehicle – "SPV"), proceeds must be immediately available without limitation to an operating entity or the holding company in the consolidated group in a form which meets or exceeds all of the other criteria for inclusion in Additional Tier 1 capital.

Stock surplus (share premium) resulting from the issue of instruments included in Additional Tier 1 capital;

Stock surplus (i.e. share premium) that is not eligible for inclusion in Common Equity Tier 1, will only be permitted to be included in Additional Tier 1 capital if the shares giving rise to the stock surplus are permitted to be included in Additional Tier 1 capital.

Instruments issued by the bank that meet the Tier 2 criteria

Criteria for inclusion in Tier 2 Capital

1. Issued and paid-in
2. Subordinated to depositors and general creditors of the bank
3. Is neither secured nor covered by a guarantee of the issuer or related entity or other arrangement that legally or economically enhances the seniority of the claim vis-à-vis depositors and general bank creditors

4. Maturity:

   a. minimum original maturity of at least five years
   b. recognition in regulatory capital in the remaining five years before maturity will be amortized on a straight line basis
   c. there are no step-ups or other incentives to redeem

5. May be callable at the initiative of the issuer only after a minimum of five years:

    a. To exercise a call option a bank must receive prior supervisory approval;
    b. A bank must not do anything that creates an expectation that the call will be exercised; (An option to call the instrument after five years but prior to the start of the amortization period will not be viewed as an incentive to redeem as long as the bank does not do anything that creates an expectation that the call will be exercised at this point.) and
    c. Banks must not exercise a call unless:

    i. They replace the called instrument with capital of the same or better quality and the replacement of this capital is done at conditions which are sustainable for the income capacity of the bank; or
    ii. The bank demonstrates that its capital position is well above the minimum capital requirements after the call option is exercised (minimum refers to the regulator's prescribed minimum requirement, which may be higher than the Basel III Pillar 1 minimum requirement.)

6. The investor must have no rights to accelerate the repayment of future scheduled payments (coupon or principal), except in bankruptcy and liquidation.
7. The instrument cannot have a credit sensitive dividend feature, that is a dividend/coupon that is reset periodically based in whole or in part on the banking organization's credit standing.
8. Neither the bank nor a related party over which the bank exercises control or significant influence can have purchased the instrument, nor can the bank directly or indirectly have funded the purchase of the instrument.
9. If the instrument is not issued out of an operating entity or the holding company in the consolidated group (e.g. a special purpose vehicle – "SPV"), proceeds must be immediately available without limitation to an operating entity (An operating entity is an entity set up to conduct business with clients with the intention of earning a profit in its own right) or the holding company in the consolidated group in a form which meets or exceeds all of the other criteria for inclusion in Tier 2 Capital.

Treatment of Counterparty Credit Risk and Cross-Product Netting

1. This rule identifies permissible methods for estimating the Exposure at Default (EAD) or the exposure amount for instruments with counterparty credit risk (CCR) under this Framework.[237] Banks may seek supervisory approval to make use of an internal modeling method meeting the requirements and specifications identified herein. As alternatives banks may also use the standardized method or the current exposure method.

I. Definitions and general terminology

2. This section defines terms that will be used throughout this text.

A. General terms

- **Counterparty Credit Risk (CCR)** is the risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows. An economic loss would occur if the transactions or portfolio of

transactions with the counterparty has a positive economic value at the time of default. Unlike a firm's exposure to credit risk through a loan, where the exposure to credit risk is unilateral and only the lending bank faces the risk of loss, CCR creates a bilateral risk of loss: the market value of the transaction can be positive or negative to either counterparty to the transaction. The market value is uncertain and can vary over time with the movement of underlying market factors.

B. Transaction types

- **Long Settlement Transactions** are transactions where a counterparty undertakes to deliver a security, a commodity, or a foreign exchange amount against cash, other financial instruments, or commodities, or vice versa, at a settlement or delivery date that is contractually specified as more than the lower of the market standard for this particular instrument and five business days after the date on which the bank enters into the transaction.
- **Securities Financing Transactions (SFTs)** are transactions such as repurchase agreements, reverse repurchase agreements, security lending and borrowing, and margin lending transactions, where the value of the transactions depends on market valuations and the transactions are often subject to margin agreements.
- **Margin Lending Transactions** are transactions in which a bank extends credit in connection with the purchase, sale, carrying or trading of securities. Margin lending transactions do not include other loans that happen to be secured by securities

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[1] This Annex # 5 is the same of Basel II of June 2006.

[237] In the present document, the terms "exposure at default" and "exposure amount" are used together in order to identify measures of exposure under both an IRB and a standardized approach for credit risk.

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collateral. Generally, in margin lending transactions, the loan amount is collateralized by securities whose value is greater than the amount of the loan.

C. Netting sets, hedging sets, and related terms

- **Netting Set** is a group of transactions with a single counterparty that are subject to a legally enforceable bilateral netting arrangement and for which netting is recognized for regulatory capital purposes under the provisions of paragraphs 96 (i) to 96 (v) of this Annex, this Framework text on credit risk mitigation techniques, or the Cross-Product Netting Rules set forth in this Annex. Each transaction that is not subject to a legally enforceable bilateral netting arrangement that is recognized for regulatory capital purposes should be interpreted as its own netting set for the purpose of these rules.
- **Risk Position** is a risk number that is assigned to a transaction under the CCR standardized method (set out in this Anne) using a regulatory algorithm.

- **Hedging Set** is a group of risk positions from the transactions within a single netting set for which only their balance is relevant for determining the exposure amount or EAD under the CCR standardized method.
- **Margin Agreement** is a contractual agreement or provisions to an agreement under which one counterparty must supply collateral to a second counterparty when an exposure of that second counterparty to the first counterparty exceeds a specified level.
- **Margin Threshold** is the largest amount of an exposure that remains outstanding until one party has the right to call for collateral.
- **Margin Period of Risk** is the time period from the last exchange of collateral covering a netting set of transactions with a defaulting counterpart until that counterpart is closed out and the resulting market risk is re-hedged.
- **Effective Maturity under the Internal Model Method** for a netting set with maturity greater than one year is the ratio of the sum of expected exposure over the life of the transactions in a netting set discounted at the risk-free rate of return divided by the sum of expected exposure over one year in a netting set discounted at the risk free rate. This effective maturity may be adjusted to reflect rollover risk by replacing expected exposure with effective expected exposure for forecasting horizons under one year. The formula is given in paragraph 38.
- **Cross-Product Netting** refers to the inclusion of transactions of different product categories within the same netting set pursuant to the Cross-Product Netting Rules set out in this Annex.
- **Current Market Value (CMV)** refers to the net market value of the portfolio of transactions within the netting set with the counterparty. Both positive and negative market values are used in computing CMV.

D. Distributions

- **Distribution of Market Values** is the forecast of the probability distribution of net market values of transactions within a netting set for some future date (the forecasting horizon) given the realized market value of those transactions up to the present time.

- **Distribution of Exposures** is the forecast of the probability distribution of market values that is generated by setting forecast instances of negative net market values equal to zero (this takes account of the fact that, when the bank owes the counterparty money, the bank does not have an exposure to the counterparty).

- **Risk-Neutral Distribution** is a distribution of market values or exposures at a future time period where the distribution is calculated using market implied values such as implied volatilities.

- **Actual Distribution** is a distribution of market values or exposures at a future time period where the distribution is calculated using historic or

realized values such as volatilities calculated using past price or rate changes.

E. Exposure measures and adjustments

- **Current Exposure** is the larger of zero, or the market value of a transaction or portfolio of transactions within a netting set with a counterparty that would be lost upon the default of the counterparty, assuming no recovery on the value of those transactions in bankruptcy. Current exposure is often also called Replacement Cost.

- **Peak Exposure** is a high percentile (typically 95% or 99%) of the distribution of exposures at any particular future date before the maturity date of the longest transaction in the netting set. A peak exposure value is typically generated for many future dates up until the longest maturity date of transactions in the netting set.

- **Expected Exposure** is the mean (average) of the distribution of exposures at any particular future date before the longest-maturity transaction in the netting set matures. An expected exposure value is typically generated for many future dates up until the longest maturity date of transactions in the netting set.

- **Effective Expected Exposure** at a specific date is the maximum expected exposure that occurs at that date or any prior date. Alternatively, it may be defined for a specific date as the greater of the expected exposure at that date, or the effective exposure at the previous date. In effect, the Effective Expected Exposure is the Expected Exposure that is constrained to be non-decreasing over time.

- **Expected Positive Exposure (EPE)** is the weighted average over time of expected exposures where the weights are the proportion that an individual expected exposure represents of the entire time interval. When calculating the minimum capital requirement, the average is taken over the first year or, if all the contracts in the netting set mature before one year, over the time period of the longest-maturity contract in the netting set.

- **Effective Expected Positive Exposure (Effective EPE)** is the weighted average over time of effective expected exposure over the first year, or, if all the contracts in the netting set mature before one year, over the time period of the longest-maturity contract in the netting set where the weights are the proportion that an individual expected exposure represents of the entire time interval.

- **Credit Valuation Adjustment** is an adjustment to the mid-market valuation of the portfolio of trades with a counterparty. This adjustment reflects the market value of the credit risk due to any failure to perform on contractual agreements with a counterparty. This adjustment may

reflect the market value of the credit risk of the counterparty or the market value of the credit risk of both the bank and the counterparty.

- **One-Sided Credit Valuation Adjustment** is a credit valuation adjustment that reflects the market value of the credit risk of the counterparty to the firm, but does not reflect the market value of the credit risk of the bank to the counterparty.

F. CCR-related risks

- **Rollover Risk** is the amount by which expected positive exposure is understated when future transactions with a counterpart are expected to be conducted on an ongoing basis, but the additional exposure generated by those future transactions is not included in calculation of expected positive exposure.
- **General Wrong-Way Risk** arises when the probability of default of counterparties is positively correlated with general market risk factors.
- **Specific Wrong-Way Risk** arises when the exposure to a particular counterpart is positively correlated with the probability of default of the counterparty due to the nature of the transactions with the counterparty.

II. Scope of application

3. The methods for computing the exposure amount under the standardized approach for credit risk or EAD under the internal ratings-based (IRB) approach to credit risk described in this Annex are applicable to SFTs and OTC derivatives.

4. Such instruments generally exhibit the following abstract characteristics:

- The transactions generate a current exposure or market value.
- The transactions have an associated random future market value based on market variables.
- The transactions generate an exchange of payments or an exchange of a financial instrument (including commodities) against payment.
- The transactions are undertaken with an identified counterparty against which a unique probability of default can be determined[238].

5. Other common characteristics of the transactions to be covered may include the following:

- Collateral may be used to mitigate risk exposure and is inherent in the nature of some transactions.
- Short-term financing may be a primary objective in that the transactions mostly consist of an exchange of one asset for another (cash or securities) for a relatively short period of time, usually for the business purpose of financing. The two sides of the transactions are not the result

of separate decisions but form an indivisible whole to accomplish a defined objective.

- Netting may be used to mitigate the risk.
- Positions are frequently valued (most commonly on a daily basis), according to market variables.
- Remargining may be employed.

6. An exposure value of zero for counterparty credit risk can be attributed to derivative contracts or SFTs that are outstanding with a central counterparty (e.g. a clearing house). This does not apply to counterparty credit risk exposures from derivative transactions and SFTs that have been rejected by the central counterparty. Furthermore, an exposure value of zero can be attributed to banks' credit risk exposures to central counterparties that result from the derivative transactions, SFTs or spot transactions that the bank has outstanding with the central counterparty. This exemption extends in particular to credit exposures from clearing deposits and from collateral posted with the central counterparty. A central counterparty is an entity that interposes itself between counterparties to contracts traded within one or more financial markets, becoming the legal counterparty such that it is the buyer to every seller and the seller to every buyer. In order to qualify for the above exemptions, the central counterparty CCR exposures with all participants in its arrangements must be fully collateralized on a daily basis, thereby providing protection for the central counterparty's CCR exposures. Assets held by a central counterparty as a custodian on the bank's behalf would not be subject to a capital requirement for counterparty credit risk exposure.

[238] Transactions for which the probability of default is defined on a pooled basis are not included in this treatment of CCR.

7. Under all of the three methods identified in this Annex, when a bank purchases credit derivative protection against a banking book exposure, or against a counterparty credit risk exposure, it will determine its capital requirement for the hedged exposure subject to the criteria and general rules for the recognition of credit derivatives, i.e. substitution or double default rules as appropriate. Where these rules apply, the exposure amount or EAD for counterparty credit risk from such instruments is zero.

8. The exposure amount or EAD for counterparty credit risk is zero for sold credit default swaps in the banking book where they are treated in the framework as a guarantee provided by the bank and subject to a credit risk charge for the full notional amount.

9. Under all three methods identified in this Annex, the exposure amount or EAD for a given counterparty is equal to the sum of the exposure amounts or EADs calculated for each netting set with that counterparty.

III. Cross-product netting rules[239]

10. Banks that receive approval to estimate their exposures to CCR using the internal model method may include within a netting set SFTs, or both SFTs and OTC derivatives subject to a legally valid form of bilateral netting that satisfies the following legal and operational criteria for a Cross-Product Netting Arrangement (as defined below). The bank must also have satisfied any prior approval or other procedural requirements that SAMA determines to implement for purposes of recognizing a Cross Product Netting Arrangement.

Legal Criteria

11. The bank has executed a written, bilateral netting agreement with the counterparty that creates a single legal obligation, covering all included bilateral master agreements and transactions ("Cross-Product Netting Arrangement"), such that the bank would have either a claim to receive or obligation to pay only the net sum of the positive and negative (i) closeout values of any included individual master agreements and (ii) mark-to-market values of any included individual transactions (the "Cross-Product Net Amount"), in the event a counterparty fails to perform due to any of the following: default, bankruptcy, liquidation or similar circumstances.

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[239] These Cross-Product Netting Rules apply specifically to netting across SFTs, or to netting across both SFTs and OTC derivatives, for purposes of regulatory capital computation under IMM. They do not revise or replace the rules that apply to recognition of netting within the OTC derivatives, repo-style transaction, and margin lending transaction product categories under the 1988 Accord, as amended, or in this Framework. The rules in the 1988 Accord and this Framework continue to apply for purposes of regulatory capital recognition of netting within product categories under IMM or other relevant methodology.

12. The bank has written and reasoned legal opinions that conclude with a high degree of certainty that, in the event of a legal challenge, relevant courts or administrative authorities would find the firm's exposure under the Cross-Product Netting Arrangement to be the Cross-Product Net Amount under the laws of all relevant jurisdictions. In reaching this conclusion, legal opinions must address the validity and enforceability of the entire Cross-Product Netting Arrangement under its terms and the impact of the Cross-Product Netting Arrangement on the material provisions of any included bilateral master agreement.

- The laws of "all relevant jurisdictions" are: (i) the law of the jurisdiction in which the counterparty is chartered and, if the foreign branch of a counterparty is involved, then also under the law of the jurisdiction in which the branch is located, (ii) the law that governs the individual transactions, and (iii) the law that governs any contract or agreement necessary to effect the netting.
- A legal opinion must be generally recognized as such by the legal community in the firm's home country or a memorandum of law that addresses all relevant issues in a reasoned manner.

13. The bank has internal procedures to verify that, prior to including a transaction in a netting set, the transaction is covered by legal opinions that meet the above criteria.

14. The bank undertakes to update legal opinions as necessary to ensure continuing enforceability of the Cross-Product Netting Arrangement in light of possible changes in relevant law.

15. The Cross-Product Netting Arrangement does not include a walk away clause. A walk away clause is a provision which permits a non-defaulting counterparty to make only limited payments, or no payment at all, to the estate of the defaulter, even if the defaulter is a net creditor.

16. Each included bilateral master agreement and transaction included in the Cross- Product Netting Arrangement satisfies applicable legal requirements for recognition of (i) bilateral netting of derivatives contracts in paragraphs 96(i) to 96(v) of this Annex, or (ii) credit risk mitigation techniques in Part 2, Section II.D of this Framework.

17. The bank maintains all required documentation in its files.

Operational Criteria
18. The supervisory authority is satisfied that the effects of a Cross-Product Netting Arrangement are factored into the firm's measurement of a counterparty's aggregate credit risk exposure and that the bank manages its counterparty credit risk on such basis.

19. Credit risk to each counterparty is aggregated to arrive at a single legal exposure across products covered by the Cross-Product Netting Arrangement. This aggregation must be factored into credit limit and economic capital processes.

IV. Approval to adopt an internal modeling method to estimate EAD

20. A bank (meaning the individual legal entity or a group) that wishes to adopt an internal modeling method to measure exposure or EAD for regulatory capital purposes must seek approval from its supervisor. The internal modeling method is available both for banks that adopt the internal ratings-based approach to credit risk and for banks for which the standardized approach to credit risk applies to all of their credit risk exposures. The bank must meet all of the requirements given in Section V of this Annex and must apply the method to all of its exposures that are subject to counterparty credit risk, except for long settlement transactions.

21. A bank may also choose to adopt an internal modeling method to measure CCR for regulatory capital purposes for its exposures or EAD to only OTC derivatives, to only SFTs, or to both, subject to the appropriate recognition of netting specified above. The bank must apply the method to all relevant

exposures within that category, except for those that are immaterial in size and risk. During the initial implementation of the internal models method, a bank may use the standardized method or the current exposure method for a portion of its business. The bank must submit a plan to its supervisor to bring all material exposures for that category of transactions under the internal model method.

22. For all OTC derivative transactions and for all long settlement transactions for which a bank has not received approval from its supervisor to use the internal models method, the bank must use either the standardized method or the current exposure method. Combined use of the current exposure method and the standardized method is permitted on a permanent basis within a group. Combined use of the current exposure method and the standardized method within a legal entity is only permissible for the cases indicated in paragraph 90 of this Annex.

23. Exposures or EAD arising from long settlement transactions can be determined using any of the three methods identified in this document regardless of the methods chosen for treating OTC derivatives and SFTs. In computing capital requirements for long settlement transactions banks that hold permission to use the internal ratings-based approach may opt to apply the risk weights under this Framework's standardized approach for credit risk on a permanent basis and irrespective to the materiality of such positions.

24. After adoption of the internal model method, the bank must comply with the above requirements on a permanent basis. Only under exceptional circumstances or for immaterial exposures can a bank revert to either the current exposure or standardized methods for all or part of its exposure. The bank must demonstrate that reversion to a less sophisticated method does not lead to an arbitrage of the regulatory capital rules.

V. Internal Model Method: measuring exposure and minimum requirements

A. Exposure amount or EAD under the internal model method

25. CCR exposure or EAD is measured at the level of the netting set as defined in Sections I and III of this Annex. A qualifying internal model for measuring counterparty credit exposure must specify the forecasting distribution for changes in the market value of the netting set attributable to changes in market variables, such as interest rates, foreign exchange rates, etc. The model then computes the firm's CCR exposure for the netting set at
each future date given the changes in the market variables. For margined counterparties, the model may also capture future collateral movements. Banks may include eligible financial collateral as defined in paragraphs 146 and 703 of this Framework in their forecasting distributions for changes in the market value of the netting set, if the quantitative, qualitative and data requirements for internal model method are met for the collateral.

26. To the extent that a bank recognizes collateral in exposure amount or EAD via current exposure, a bank would not be permitted to recognize the benefits in its estimates of LGD. As a result, the bank would be required to use an LGD

of an otherwise similar uncollateralized facility. In other words, the bank would be required to use an LGD that does not include collateral that is already included in EAD.

27. Under the Internal Model Method, the bank need not employ a single model. Although the following text describes an internal model as a simulation model, no particular form of model is required. Analytical models are acceptable so long as they are subject to supervisory review, meet all of the requirements set forth in this section and are applied to all material exposures subject to a CCR-related capital charge as noted above, with the exception of long settlement transactions, which are treated separately, and with the exception of those exposures that are immaterial in size and risk.

28. Expected exposure or peak exposure measures should be calculated based on a distribution of exposures that accounts for the possible non-normality of the distribution of exposures, including the existence of leptokurtosis ("fat tails"), where appropriate.

29. When using an internal model, exposure amount or EAD is calculated as the product of alpha times Effective EPE, as specified below:

$$EAD = \alpha \times \text{Effective EPE} \qquad (1)$$

30. Effective EPE ("Expected Positive Exposure") is computed by estimating expected exposure (EE_t) as the average exposure at future date t, where the average is taken across possible future values of relevant market risk factors, such as interest rates, foreign exchange rates, etc. The internal model estimates EE at a series of future dates $t1$, $t2$, $t3$…[240] Specifically, "Effective EE" is computed recursively as:

$$\text{Effective } EE_{tk} = \max(\text{Effective } EE_{tk-1}, EE_{tk}) \qquad (2)$$

where the current date is denoted as $t0$ and Effective EE_{t0} equals current exposure.

31. In this regard, "Effective EPE" is the average Effective EE during the first year of future exposure. If all contracts in the netting set mature before one year, EPE is the average of expected exposure until all contracts in the netting set mature. Effective EPE is computed as a weighted average of Effective EE:

$$\text{Effective EPE} = \sum_{k=1}^{\min(1 \text{ year, maturity})} \text{Effective } EE_{tk} \times \Delta t_k$$

where the weights $\Delta t_k = t_k - t_{k-1}$ allows for the case when future exposure is calculated at dates that are not equally spaced over time.

32. Alpha (α) is set equal to 1.4.

33. Supervisors have the discretion to require a higher alpha based on a firm's CCR exposures. Factors that may require a higher alpha include the low

granularity of counterparties; particularly high exposures to general wrong-way risk; particularly high correlation of market values across counterparties; and other institution-specific characteristics of CCR exposures.

B. Own estimates for alpha

34. Banks may seek approval from their supervisors to compute internal estimates of alpha subject to a floor of 1.2, where alpha equals the ratio of economic capital from a full simulation of counterparty exposure across counterparties (numerator) and economic capital based on EPE (denominator), assuming they meet certain operating requirements. Eligible banks must meet all the operating requirements for internal estimates of EPE and must demonstrate that their internal estimates of alpha capture in the numerator the material sources of stochastic dependency of distributions of market values of transactions or of portfolios of transactions across counterparties (e.g. the correlation of defaults across counterparties and between market risk and default).

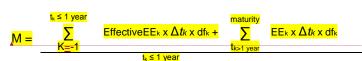35. In the denominator, EPE must be used as if it were a fixed outstanding loan amount.

[240] In theory, the expectations should be taken with respect to the actual probability distribution of future exposure and not the risk-neutral one. Supervisors recognize that practical considerations may make it more feasible to use the risk-neutral one. As a result, supervisors will not mandate which kind of forecasting distribution to employ.

36. To this end, banks must ensure that the numerator and denominator of alpha are computed in a consistent fashion with respect to the modeling methodology, parameter specifications and portfolio composition. The approach used must be based on the firm's internal economic capital approach, be well-documented and be subject to independent validation. In addition, banks must review their estimates on at least a quarterly basis, and more frequently when the composition of the portfolio varies over time. Banks must assess the model risk.

37. Where appropriate, volatilities and correlations of market risk factors used in the joint simulation of market and credit risk should be conditioned on the credit risk factor to reflect potential increases in volatility or correlation in an economic downturn. Internal estimates of alpha should take account of the granularity of exposures.

C. Maturity

38. If the original maturity of the longest-dated contract contained in the set is greater than one year, the formula for effective maturity (M) in paragraph 320 of this Framework is replaced with the following:

$$M = \frac{\displaystyle\sum_{K=1}^{t_k \le 1 \text{ year}} \text{EffectiveEE}_k \times \Delta t_k \times df_k + \sum_{t_k > 1 \text{ year}}^{\text{maturity}} EE_k \times \Delta t_k \times df_k}{\displaystyle\sum^{t_k \le 1 \text{ year}}}$$

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$$\sum_{K=-1} \text{EffectiveEE}_k \times \Delta t_k \times df_k$$

where df_k is the risk-free discount factor for future time period tk and the remaining symbols are defined above. Similar to the treatment under corporate exposures, M has a cap of five years.[241]

39. For netting sets in which all contracts have an original maturity of less than one year, the formula for effective maturity (M) in paragraph 320 of this Framework is unchanged and a floor of one year applies, with the exception of short-term exposures as described in paragraphs 321 to 323 of this Framework.

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[241]Conceptually, M equals the effective credit duration of the counterparty exposure. A bank that uses an internal model to calculate a one-sided credit valuation adjustment (CVA) can use the effective credit duration estimated by such a model in place of the above formula with prior approval of its supervisor.

D. Margin agreements

40. If the netting set is subject to a margin agreement and the internal model captures the effects of margining when estimating EE, the model's EE measure may be used directly in equation (2). Such models are noticeably more complicated than models of EPE for unmargined counterparties. As such, they are subject to a higher degree of supervisory scrutiny before they are approved, as discussed below.

41. A bank that can model EPE without margin agreements but cannot achieve the higher level of modeling sophistication to model EPE with margin agreements can use the following method for margined counterparties. The method is a simple and conservative approximation to Effective EPE and sets Effective EPE for a margined counterparty equal to the lesser of:

- The threshold, if positive, under the margin agreement plus an add-on that reflects the potential increase in exposure over the margin period of risk. The add-on is computed as the expected increase in the netting set's exposure beginning from current exposure of zero over the margin period of risk.[242] A supervisory floor of five business days for netting sets consisting only of repo style transactions subject to daily remargining and daily mark-to-market, and 10 business days for all other netting sets is imposed on the margin period of risk used for this purpose;

- Effective EPE without a margin agreement.

E. Model validation

42. Because counterparty exposures are driven by movements in market variables, the validation of an EPE model is similar to the validation of a Value-at-Risk (VaR) model that is used to measure market risk. Therefore, in principle, the qualitative standards in paragraph 718 (LXXIV) for the use of VaR models should be carried over to EPE models. However, an EPE model has additional elements that require validation:

- Interest rates, foreign exchange rates, equity prices, commodities, and other market risk factors must be forecast over long time horizons for measuring counterparty exposure. The performance of the forecasting model for market risk factors must be validated over a long time horizon. In contrast, VaR for market risk is measured over a short time horizon (typically, one to ten days).

[242]In other words, the add-on equals EE at the end of the margin period of risk assuming current exposure of zero. Since no roll-off of transactions would be occurring as part of this EE calculation, there would be no difference between EE and Effective EE.

- The pricing models used to calculate counterparty exposure for a given scenario of future shocks to market risk factors must be tested as part of the model validation process. These pricing models may be different from those used to calculate VaR over a short horizon. Pricing models for options must account for the nonlinearity of option value with respect to market risk factors.

- An EPE model must capture transaction-specific information in order to aggregate exposures at the level of the netting set. Banks must verify that transactions are assigned to the appropriate netting set within the model.

- An EPE model must also include transaction-specific information in order to capture the effects of margining. It must take into account both the current amount of margin and margin that would be passed between counterparties in the future. Such a model must account for the nature of margin agreements (unilateral or bilateral), the frequency of margin calls, the margin period of risk, the threshold of unmargined exposure the bank is willing to accept, and the minimum transfer amount. Such a model must either model the mark-to-market change in the value of collateral posted or apply this Framework's rules for collateral.

43. Static, historical backtesting on representative counterparty portfolios must be part of the model validation process. At regular intervals as directed by its supervisor, a bank must conduct such backtesting on a number of representative counterparty portfolios (actual or hypothetical). These

representative portfolios must be chosen based on their sensitivity to the material risk factors and correlations to which the bank is exposed.

44. Starting at a particular historical date, backtesting of an EPE model would use the internal model to forecast each portfolio's probability distribution of exposure at various time horizons. Using historical data on movements in market risk factors, backtesting then computes the actual exposures that would have occurred on each portfolio at each time horizon assuming no change in the portfolio's composition. These realized exposures would then be compared with the model's forecast distribution at various time horizons. The above must be repeated for several historical dates covering a wide range of market conditions (e.g. rising rates, falling rates, quiet markets, volatile markets). Significant differences between the realized exposures and the model's forecast distribution could indicate a problem with the model or the underlying data that the supervisor would require the bank to correct. Under such circumstances, supervisors may require additional capital. Unlike the backtesting requirement for VaR models prescribed in paragraph 718(Lxxiv) (b) and 718(xcviii), no particular statistical test is specified for backtesting of EPE models.

45. Under the internal model method, a measure that is more conservative than Effective EPE (e.g. a measure based on peak rather than average exposure) for every counterparty may be used in place of alpha times Effective EPE in equation (1) with the prior approval of the supervisor. The degree of relative conservatism will be assessed upon initial supervisory approval and subject to periodic validation.

46. Banks using an EPE model or a VaR model (as described in paragraphs 178 to 181of this Framework) must meet the above validation requirements.

F. Operational requirements for EPE models

47. In order to be eligible to adopt an internal model for estimating EPE arising from CCR for regulatory capital purposes, a bank must meet the following operational requirements. These include meeting the requirements related to the qualifying standards on CCR Management, a use test, stress testing, identification of wrong-way risk, and internal controls.

Qualifying standards on CCR Management

48. The bank must satisfy its supervisor that, in addition to meeting the operational requirements identified in paragraphs 49 to 69 below, it adheres to sound practices for CCR management, including those specified in paragraphs 777 (i) to 777 (xiv) of this Framework.

Use test

49. The distribution of exposures generated by the internal model used to calculate effective EPE must be closely integrated into the day-to-day CCR management process of the bank. For example, the bank could use the peak

exposure from the distributions for counterparty credit limits or expected positive exposure for its internal allocation of capital. The internal model's output must accordingly play an essential role in the credit approval, counterparty credit risk management, internal capital allocations, and corporate governance of banks that seek approval to apply such models for capital adequacy purposes. Models and estimates designed and implemented exclusively to qualify for the internal models method are not acceptable.

50. A bank must have a credible track record in the use of internal models that generate a distribution of exposures to CCR. Thus, the bank must demonstrate that it has been using an internal model to calculate the distributions of exposures upon which the EPE calculation is based that meets broadly the minimum requirements for at least one year prior to supervisory approval.

51. Banks employing the internal model method must have an independent control unit that is responsible for the design and implementation of the firm's CCR management system, including the initial and on-going validation of the internal model. This unit must control input data integrity and produce and analyse reports on the output of the firm's risk measurement model, including an evaluation of the relationship between measures of risk exposure and credit and trading limits. This unit must be independent from business credit and trading units; it must be adequately staffed; it must report directly to senior management of the firm.

The work of this unit should be closely integrated into the day-to-day credit risk management process of the firm. Its output should accordingly be an integral part of the process of planning, monitoring and controlling the firm's credit and overall risk profile.

52. The internal model used to generate the distribution of exposures must be part of a counterparty risk management framework that includes the identification, measurement, management, approval and internal reporting of counterparty risk.[243] This Framework must include the measurement of usage of credit lines (aggregating counterparty exposures with other credit exposures) and economic capital allocation. In addition to EPE (a measure of future exposure), a bank must measure and manage current exposures. Where appropriate, the bank must measure current exposure gross and net of collateral held. The use test is satisfied if a bank uses other counterparty risk measures, such as peak exposure or potential future exposure (PFE), based on the distribution of exposures generated by the same model to compute EPE.

53. A bank is not required to estimate or report EE daily, but to meet the use test it must have the systems capability to estimate EE daily, if necessary, unless it demonstrates to its supervisor that its exposures to CCR warrant some less frequent calculation. It must choose a time profile of forecasting horizons that adequately reflects the time structure of future cash flows and maturity of the contracts. For example, a bank may compute EE on a daily basis for the first ten days, once a week out to one month, once a month out to eighteen months, once a quarter out to five years and beyond five years in a manner that is consistent with the materiality and composition of the exposure.

54. Exposure must be measured out to the life of all contracts in the netting set (not just to the one year horizon), monitored and controlled. The bank must have procedures in place to identify and control the risks for counterparties where exposure rises beyond the one-year horizon. Moreover, the forecasted increase in exposure must be an input into the firm's internal economic capital model.

Stress testing

55. A bank must have in place sound stress testing processes for use in the assessment of capital adequacy. These stress measures must be compared against the measure of EPE and considered by the bank as part of its internal capital adequacy assessment process. Stress testing must also involve

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[243] This section draws heavily on the Counterparty Risk Management Policy Group's paper, *Improving Counterparty Risk Management Practices* (June 1999); a copy can be found online at http://www.mfainfo.org/washington/derivatives/Improving%20Counterparty%20risk.pdf.

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identifying possible events or future changes in economic conditions that could have unfavorable effects on a firm's credit exposures and assessment of the firm's ability to withstand such changes. Examples of scenarios that could be used are; (i) economic or industry downturns, (ii) market-place events, or (iii) decreased liquidity conditions.

56. The bank must stress test its counterparty exposures including jointly stressing market and credit risk factors. Stress tests of counterparty risk must consider concentration risk (to a single counterparty or groups of counterparties), correlation risk across market and credit risk (for example, a counterparty for which a large market move would result in a large exposure, a material deterioration in credit quality, or both), and the risk that liquidating the counterparty's positions could move the market. Such stress tests must also consider the impact on the firm's own positions of such market moves and integrate that impact in its assessment of counterparty risk.

Wrong-way risk
57. Banks must be aware of exposures that give rise to a greater degree of general wrong-way risk.

58. A bank is said to be exposed to "specific wrong-way risk" if future exposure to a specific counterparty is expected to be high when the counterparty's probability of default is also high. For example, a company writing put options on its own stock creates wrong-way exposures for the buyer that is specific to the counterparty. A bank must have procedures in place to identify, monitor and control cases of specific wrong way risk, beginning at the inception of a trade and continuing through the life of the trade.

Integrity of Modeling Process

59. Other operational requirements focus on the internal controls needed to ensure the integrity of model inputs; specifically, the requirements address the transaction data, historical market data, frequency of calculation, and valuation models used in measuring EPE.

60. The internal model must reflect transaction terms and specifications in a timely, complete, and conservative fashion. Such terms include, but are not limited to, contract notional amounts, maturity, reference assets, collateral thresholds, margining arrangements, netting arrangements, etc. The terms and specifications must reside in a secure database that is subject to formal and periodic audit. The process for recognizing netting arrangements must require signoff by legal staff to verify the legal enforceability of netting and be input into the database by an independent unit. The transmission of transaction terms and specifications data to the internal model must also be subject to internal audit and formal reconciliation processes must be in place between the internal model and source data systems to verify on an ongoing basis that transaction terms and specifications are being reflected in EPE correctly or at least conservatively.

61. The internal model must employ current market data to compute current exposures. When using historical data to estimate volatility and correlations, at least three years of historical data must be used and must be updated quarterly or more frequently if market conditions warrant. The data should cover a full range of economic conditions, such as a full business cycle. A unit independent from the business unit must validate the price supplied by the business unit. The data must be acquired independently of the lines of business, must be fed into the internal model in a timely and complete fashion, and maintained in a secure database subject to formal and periodic audit. Banks must also have a well-developed data integrity process to scrub the data of erroneous and/or anomalous observations. To the extent that the internal model relies on proxy market data, for example for new products where three years of historical data may not be available, internal policies must identify suitable proxies and the bank must demonstrate empirically that the proxy provides a conservative representation of the underlying risk under adverse market conditions. If the internal model includes the effect of collateral on changes in the market value of the netting set, the bank must have adequate historical data to model the volatility of the collateral.

62. The EPE model (and modifications made to it) must be subject to an internal model validation process. The process must be clearly articulated in firms' policies and procedures. The validation process must specify the kind of testing needed to ensure model integrity and identify conditions under which assumptions are violated and may result in an understatement of EPE. The validation process must include a review of the comprehensiveness of the EPE model, for example such as whether the EPE model covers all products that have a material contribution to counterparty risk exposures.

63. The use of an internal model to estimate EPE, and hence the exposure amount or EAD, of positions subject to a CCR capital charge will be conditional upon the explicit approval of the firm's supervisory authority. Home and host

country supervisory authorities of banks that carry out material trading activities in multiple jurisdictions will work co-operatively to ensure an efficient approval process.

64. In this Framework and in prior documents, the Committee has issued guidance regarding the use of internal models to estimate certain parameters of risk and determine minimum capital charges against those risks. Supervisors will require that banks seeking to make use of internal models to estimate EPE meet similar requirements regarding, for example, the integrity of the risk management system, the skills of staff that will rely on such measures in operational areas and in control functions, the accuracy of models, and the rigor of internal controls over relevant internal processes. As an example, banks seeking to make use of an internal model to estimate EPE must demonstrate that they meet the Committee's general criteria for banks seeking to make use of internal models to assess market risk exposures, but in the context of assessing counterparty credit risk.[244]

[244] See Part 2, Section VI D 1 (paragraphs 718 (LXX) to 718 (LXXIII).

65. Pillar 2 of this Framework provides general background and specific guidance to cover counterparty credit risks that may not be fully covered by the Pillar 1 process.

66. No particular form of model is required to qualify to make use of an internal model. Although this text describes an internal model as a simulation model, other forms of models, including analytic models, are acceptable subject to supervisory approval and review. Banks that seek recognition for the use of an internal model that is not based on simulations must demonstrate to their supervisors that the model meets all operational requirements.

67. For a bank that qualifies to net transactions, the bank must have internal procedures to verify that, prior to including a transaction in a netting set, the transaction is covered by a legally enforceable netting contract that meets the applicable requirements of paragraphs 96(I) to 96(v) of this Annex, this Framework text on credit risk mitigation techniques, or the Cross-Product Netting Rules set forth in this Annex.

68. For a bank that makes use of collateral to mitigate its CCR, the bank must have internal procedures to verify that, prior to recognizing the effect of collateral in its calculations, the collateral meets the appropriate legal certainty standards as set out in Part 2, Section II.D of this Framework.

VI. Standardized Method

69. Banks that do not have approval to apply the internal models method for the relevant OTC transactions may use the standardized method. The standardized method can be used only for OTC derivatives; SFTs are subject to the treatments set out under the Internal Model Method of this Annex or under the Part 2, Section II.D, of this Framework. The exposure amount (under the standardized approach for credit risk) or EAD is to be calculated separately for each netting set. It is determined as follows:

$$\text{exposure amount or EAD} = \beta \cdot \max\left(CMV - CMC; \sum_j \left| \sum_i RPT_{ij} - \sum_l RPC_{lj} \right| \times CCF_j\right)$$

CMV = current market value of the portfolio of transactions within the netting set with a counterparty gross of collateral, i.e. $CMV = \sum CMV$, where CMV_i is the current market value of transaction i.

CMC = current market value of the collateral assigned to the netting set, i.e. $CMC = \sum CMC$, where CMC_l is the current market value of collateral l.

i	=	index designating transaction.
l	=	index designating collateral.
j	=	index designating supervisory hedging sets. These hedging sets correspond to risk factors for which risk positions of opposite sign can be offset to yield a net risk position on which the exposure measure is then based.

RPT_{ij}	=	Risk position from *transaction* i with respect to hedging set j [245].
RPC_{lj}	=	Risk position from collateral l with respect to hedging set j.
CCF_j	=	Supervisory credit conversion factor with respect to the hedging set j [246].

β	=	Supervisory scaling parameter.

Collateral received from a counterparty has a positive sign; collateral posted to a counterparty has a negative sign.

Collateral that is recognized for the standardized approach is confined to the collateral that is eligible under paragraphs 146 and 703 of this Framework for credit risk mitigation.

70. When an OTC derivative transaction with linear risk profile (e.g. a forward, a future or a swap agreement) stipulates the exchange of a financial instrument (e.g. a bond, an equity, or a commodity) for a payment, the payment part is referred to as the payment leg. Transactions that stipulate the exchange of payment against payment (e.g. an interest rate swap or a foreign exchange forward) consist of two payment legs. The payment legs consist of the contractually agreed gross payments, including the notional amount of the transaction. Banks may disregard the interest rate risk from payment legs with a remaining maturity of less than one year from the following calculations. Banks may treat transactions that consist of two payment legs that are denominated in the same currency (e.g. interest rate swaps) as a single aggregate transaction. The treatment for payment legs applies to the aggregate transaction.

71. Transactions with linear risk profiles that have equity (including equity indices), gold, other precious metals or other commodities as the underlying financial instruments are mapped to a risk position in the respective equity (or equity index) or commodity (including gold and the other precious metals) hedging set. The payment leg of these transactions is mapped to an interest

rate risk position within the appropriate interest rate hedging set. If the payment leg is denominated in a foreign currency, the transaction is also mapped to a foreign exchange risk position in the respective currency.

72. Transactions with linear risk profiles that have a debt instrument (e.g. a bond or a loan) as the underlying instrument are mapped to an interest rate risk positions with one risk position for the debt instrument and another risk position for the payment leg. Transactions with linear risk profiles that stipulate the exchange of payment against payment (including foreign exchange forwards) are mapped to an interest rate risk position for each of

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[245]E.g. a short-term FX forward with one leg denominated in the firm's domestic currency will be mapped into three risk positions: 1. an FX risk position, 2. a foreign currency interest rate risk position, 3. a domestic currency risk position.

[246]Calibration has been made assuming at the money forwards or swaps and given a forecasting horizon of one year.

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the payment legs. If the underlying debt instrument is denominated in a foreign currency, the debt instrument is mapped to a foreign exchange risk position in the respective currency. If a payment leg is denominated in a foreign currency, the payment leg is also mapped to a foreign exchange risk position in this currency.[247] The exposure amount or EAD assigned to a foreign exchange basis swap transactions is zero.

73. For all but debt instruments, the size of a risk position from a transaction with linear risk profile is the effective notional value (market price multiplied by quantity) of the underlying financial instruments (including commodities) converted to the firm's domestic currency.

74. For debt instruments and the payment legs of all transactions, the size of the risk position is the effective notional value of the outstanding gross payments (including the notional amount) converted to the firm's domestic currency, multiplied by the modified duration of the debt instrument or payment leg, respectively.

75. The size of a risk position from a credit default swap is the notional value of the reference debt instrument multiplied by the remaining maturity of the credit default swap.

76. The size of a risk position from an OTC derivative with non-linear risk profile (including options and swaptions) is equal to the delta equivalent effective notional value of the financial instrument that underlies the transaction, except in the case of an underlying debt instrument.

77. For OTC derivative with non-linear risk profiles (including options and swaptions), for which the underlying is a debt instrument or a payment leg, the size of the risk position is equal to the delta equivalent effective notional value of the financial instrument or payment leg multiplied by the modified duration of the debt instrument or payment leg.

78. Banks may use the following formulas to determine the size and sign of a risk position:

a. for all but debt instruments:

effective notional value, or delta equivalent notional value =

$$\rho_{ref} \ \frac{\partial v}{\partial p}$$

where
ρ_{ref} price of the underlying instrument, expressed in the reference currency

[247] E.g. a short-term FX forward with one leg denominated in the firm's domestic currency will be mapped into three risk positions: 1. an FX risk position, 2. a foreign currency interest rate risk position, 3. a domestic currency risk position.

v   value of the financial instrument (in the case of an option: option price; in the case of a transaction with a linear risk profile: value of the underlying instrument itself)

p   price of the underlying instrument, expressed in the same currency as v
     b. for debt instruments and the payment legs of all transactions:

effective notional value multiplied by the modified duration, or delta equivalent in notional value multiplied by the modified duration

$$\frac{\partial v}{\partial r}$$

where

v   value of the financial instrument (in the case of an option: option price; in the case of a transaction with a linear risk profile: value of the underlying instrument itself or of the payment leg, respectively)
r   interest level

If v is denominated in a currency other than the reference currency, the derivative must be converted into the reference currency by multiplication with the relevant exchange rate.

79. The risk positions are to be grouped into hedging sets. For each hedging set, the absolute value amount of the sum of the resulting risk positions is computed. This sum is termed the "net risk position" and is represented as in the formulas in paragraph 70 of this Annex.

$$\left| \sum_i RPT_{ij} - \sum_l RPC_{lj} \right|$$

80. Interest rate positions arising from debt instruments of low specific risk are to be mapped into one of six hedging sets for each represented currency. A debt instrument is classified as being of low specific risk when it is subject to a 1.6 percent or lower capital charge according to paragraphs 710 to 711(ii). Interest rate positions arising from the payment legs are to be assigned to the same hedging sets as interest rate risk positions from debt instruments of low specific risk. Interest rate positions arising from money deposits received from the counterparty as collateral are also to be assigned to the same hedging sets as interest rate risk positions from debt instruments of low specific risk. The six hedging sets per currency are defined by a combination of two criteria:

(i) The nature of the referenced interest rate — either a sovereign (government) rate or some other rate.

(ii) The remaining maturity or rate-adjustment frequency — less than one year, between one and five years, or longer than five years.

Table 1

Hedging Sets for Interest Rate Risk Positions Per Currency

Remaining maturity or rate-adjustment frequency	Sovereign-referenced interest rates	Non-sovereign referenced interest rates
One year or less	X	X
Over one year to five years	X	X
Over five years	X	X

81. For underlying debt instruments (e.g. floating rate notes) or payment legs (e.g. floating rate legs of interest swaps) for which the interest rate is linked to a reference interest rate that represents a general market interest level (e.g. government bond yield, money market rate, swap rate), the rate-adjustment frequency is the length of the time interval up to the next re-adjustment of the reference interest rate. Otherwise, the remaining maturity is the remaining life of the underlying debt instrument, or, in the case of a payment leg, the remaining life of the transaction.

82. There is one hedging set for each issuer of a reference debt instrument that underlies a credit default swap.

83. There is one hedging set for each issuer of a debt instrument of high specific risk, i.e. debt instruments to which a capital charge of more than 1.60 percent applies under the standardized measurement method for interest rate risk in paragraph 710. The same applies to money deposits that are posted with a counterparty as collateral when that counterparty does not have debt

obligations of low specific risk outstanding. When a payment leg emulates a debt instrument of high specific risk (e.g. in the case of a total return swap with one leg that emulates a bond), there is also one hedging set for each issuer of the reference debt instrument. Banks may assign risk positions that arise from debt instruments of a certain issuer or from reference debt instruments of the same issuer that are emulated by payment legs or that underlie a credit default swap to the same hedging set.

84. Underlying financial instruments other than debt instruments (equities, precious metals, commodities, other instruments), are assigned to the same respective hedging sets only if they are identical or similar instruments. The similarity of instruments is established as follows:

- For equities, similar instruments are those of the same issuer. An equity index is treated as a separate issuer.
- For precious metals, similar instruments are those of the same metal. A precious metal index is treated as a separate precious metal.
- For commodities, similar instruments are those of the same commodity. A commodity index is treated as a separate commodity.
- For electric power, delivery rights and obligations that refer to the same peak or off peak load time interval within any 24 hour interval are similar instruments.

85. The credit conversion factor that is applied to a net risk position from a hedging set depends on the supervisory hedging set category as given in paragraphs 86 to 88 of this
Annex.

86. The credit conversion factors for underlying financial instruments other than debt instruments and for foreign exchange rates are given in Table 2.

Table 2

Exchange Rates	Gold	Equity	Precious Metals (except gold)	Electric Power	Other Commodities (excluding precious metals
2.5%	5.0%	7.0%	8.5%	4%	10.0%

87. The credit conversion factor for risk positions from debt instruments are as follows:

- 0.6 percent for risk positions from a debt instrument or reference debt instrument of high specific risk.
- 0.3 percent for risk position from a reference debt instrument that underlies a credit default swap and that is of low specific risk.
- 0.2 percent otherwise.

88. Underlying instruments of OTC derivatives that are not in any of the categories above are assigned to separate individual hedging sets for each category of underlying instrument. A credit conversion factor of 10 percent is applied to the notional equivalent amount.

89. There may be transactions with a non-linear risk profile for which the bank cannot determine the delta with a model that the supervisor has approved for the purposes for determining the minimum capital requirements for market risk (instrument models approved for the purposes of the standardized approach for market risk, or instrument models approved as part of the firm's admission to the internal modeling approach for market risk). In the case of payment legs and transactions with debt instruments as underlying, there may
be transactions for which the bank cannot determine the modified duration with such a model. For these transactions, the supervisor will determine the size of the risk positions and the applicable credit conversion factors conservatively. Alternatively, supervisors may require the use of the current exposure method. Netting will not be recognized: in other words, the exposure amount or EAD is to be determined as if there were a netting set that comprises just the individual transaction.

90. The supervisory scaling parameter β (beta) is set at 1.4.

VII. Current Exposure Method

91. Banks that do not have approval to apply the internal models method may use the current exposure method as identified in paragraphs 186, 187 and 317 of this Framework. The current exposure method is to be applied to OTC derivatives only; SFTs are subject to the treatments set out under the Internal Model Method of this Annex or under the Part 2, Section II.D, of this Framework.

92. (Deleted)

92(i) Under the Current Exposure Method, banks must calculate the current replacement cost by marking contracts to market, thus capturing the current exposure without any need for estimation, and then adding a factor (the "add-on") to reflect the potential future exposure over the remaining life of the contract. It has been agreed that, in order to calculate the credit equivalent amount of these instruments under this current exposure method, a bank would sum:

- The total replacement cost (obtained by "marking to market") of all its contracts with positive value; and
- An amount for potential future credit exposure calculated on the basis of the total notional principal amount of its book, split by residual maturity as follows:

	Interest Rates	FX and Gold	Equities	Precious Metals except Gold	Other Commodities
One year or less	0.0%	1.0%	6.0%	7.0%	10.0%

Over one year to five years	0.5%	5.0%	8.0%	7.0%	12.0%
Over five years	1.5%	7.5%	10.0%	8.0%	15.0%

Notes:

1. For contracts with multiple exchanges of principal, the factors are to be multiplied by the number of remaining payments in the contract.

2. For contracts that are structured to settle outstanding exposure following specified payment dates and where the terms are reset such that the market value of the contract is zero on these specified dates, the residual maturity would be set equal to the time until the next reset date. In the case of interest rate contracts with remaining maturities of more than one year that meet the above criteria, the add-on factor is subject to a floor of 0.5%.

3. Forwards, swaps, purchased options and similar derivative contracts not covered by any of the columns of this matrix are to be treated as "other commodities".

4. No potential future credit exposure would be calculated for single currency floating/floating interest rate swaps; the credit exposure on these contracts would be evaluated solely on the basis of their mark-to-market value.

92(ii). Supervisors will take care to ensure that the add-ons are based on effective rather than apparent notional amounts. In the event that the stated notional amount is leveraged or enhanced by the structure of the transaction, banks must use the effective notional amount when determining potential future exposure.

93. Banks can obtain capital relief for collateral as defined in paragraphs 146 and 703 of this Framework. The methodology for the recognition of eligible collateral follows that of the applicable approach for credit risk.

94. The counterparty credit risk exposure amount or EAD for single name credit derivative transactions in the trading book will be calculated using the potential future exposure add-on factors set out in paragraph 707 of this Framework.

95. To determine capital requirements for hedged banking book exposures, the treatment for credit derivatives in this Framework applies to qualifying credit derivative instruments.

96. Where a credit derivative is an nth-to-default transaction (such as a first-to-default transaction), the treatment specified in paragraph 708 of this Framework applies.

Bilateral netting

96(i). Careful consideration has been given to the issue of **bilateral netting**, i.e. weighting the net rather than the gross claims with the same counterparties arising out of the full range of forwards, swaps, options and similar derivative

contracts.[1] The Committee is concerned that if a liquidator of a failed counterparty has (or may have) the right to unbundle netted contracts, demanding performance on those contracts favorable to the failed counterparty and defaulting on unfavorable contracts, there is no reduction in counterparty risk.

[1] Payments netting, which is designed to reduce the operational costs of daily settlements, will not be recognized in the capital framework since the counterparty's gross obligations are not in any way affected.

96(ii). Accordingly, it has been agreed for capital adequacy purposes that:

(a) Banks may net transactions subject to novation under which any obligation between a bank and its counterparty to deliver a given currency on a given value date is automatically amalgamated with all other obligations for the same currency and value date, legally substituting one single amount for the previous gross obligations.

(b) Banks may also net transactions subject to any legally valid form of bilateral netting not covered in (a), including other forms of novation.

(c) In both cases (a) and (b), a bank will need to satisfy SAMA that it has:[1]

   (i)   A netting contract or agreement with the counterparty which creates a single legal obligation, covering all included transactions, such that the bank would have either a claim to receive or obligation to pay only the net sum of the positive and negative mark-to-market values of included individual transactions in the event a counterparty fails to perform due to any of the following: default, bankruptcy, liquidation or similar circumstances;

  (ii) Written and reasoned legal opinions that, in the event of a legal challenge, the relevant courts and administrative authorities would find the bank's exposure to be such a net amount under:

- The law of the jurisdiction in which the counterparty is chartered and, if the foreign branch of a counterparty is involved, then also under the law of the jurisdiction in which the branch is located;
- The law that governs the individual transactions; and
- The law that governs any contract or agreement necessary to effect the netting.
  SAMA, after consultation when necessary with other relevant supervisors, must be satisfied that the netting is enforceable under the laws of each of the relevant jurisdictions;[2]

(iii) Procedures in place to ensure that the legal characteristics of netting arrangements are kept under review in the light of possible changes in relevant law.

96(iii). Contracts containing walkaway clauses will not be eligible for netting for the purpose of calculating capital requirements pursuant to this Framework. A walkaway clause is a provision which permits a non-defaulting counterparty to make only limited payments, or no payment at all, to the estate of a defaulter, even if the defaulter is a net creditor.

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[1] In cases where an agreement as described in 96(ii) (a) has been recognized prior to July 1994, the supervisor will determine whether any additional steps are necessary to satisfy itself that the agreement meets the requirements set out below.

[2] Thus, if any of these supervisors is dissatisfied about enforceability under its laws, the netting contract or agreement will not meet this condition and neither counterparty could obtain supervisory benefit.

96(iv). Credit exposure on bilaterally netted forward transactions will be calculated as the sum of the net mark-to-market replacement cost, if positive, plus an add-on based on the notional underlying principal. The add-on for netted transactions (A_{Net}) will equal the weighted average of the gross add-on

(A_{Gross})[1] and the gross add-on adjusted by the ratio of net current replacement cost to gross current replacement cost (NGR). This is expressed through the following formula:

$$A_{Net}=0.4*A_{Gross}+0.6*NGR*A_{Gross}$$

where :

NGR=level of net replacement cost/level of gross replacent cost for transactions subject to legally enforceable netting agreements[2]

96(v). The scale of the gross add-ons to apply in this formula will be the same as those for non-netted transactions as set out in paragraphs 91 to 96 of this Annex. The Committee will continue to review the scale of add-ons to make sure they are appropriate. For purposes of calculating potential future credit exposure to a netting counterparty for forward foreign exchange contracts and other similar contracts in which notional principal is equivalent to cash flows, notional principal is defined as the net receipts falling due on each value date in each currency. The reason for this is that offsetting contracts in the same currency maturing on the same date will have lower potential future exposure as well as lower current exposure.

Risk weighting

96(vi). Once the bank has calculated the credit equivalent amounts they are to be **weighted** according to the category of counterparty in the same way as in the main framework, including concessionary weighting in respect of exposures backed by eligible guarantees and collateral. The Committee will keep a close eye on the credit quality of participants in these markets and reserves the right

to raise the weights if average credit quality deteriorates or if loss experience increases.

[1] A$_{Gross}$ equals the sum of individual add-on amounts (calculated by multiplying the notional principal amount by the appropriate add-on factors set out in paragraph 92(i) of this Annex) of all transactions subject to legally enforceable netting agreements with one counterparty.

[2] SAMA may permit a choice of calculating the NGR on a counterparty by counterparty or on an aggregate basis for all transactions subject to legally enforceable netting agreements. If supervisors permit a choice of methods, the method chosen by an institution is to be used consistently. Under the aggregate approach, net negative current exposures to individual counterparties cannot be used to offset net positive current exposures to others, i.e. for each counterparty the net current exposure used in calculating the NGR is the maximum of the net replacement cost or zero. Note that under the aggregate approach, the NGR is to be applied individually to each legally enforceable netting agreement so that the credit equivalent amount will be assigned to the appropriate counterparty risk weight category.

Annex # 6

The 15% of common equity limit on specified items

1. This Annex is meant to clarify the calculation of the 15% limit on significant investments in the common shares of unconsolidated financial institutions (banks, insurance and other financial entities); mortgage servicing rights, and deferred tax assets arising from temporary differences (collectively referred to as specified items).

2. The recognition of these specified items will be limited to 15% of Common Equity Tier 1 (CET1) capital, after the application of all deductions. To determine the maximum amount of the specified items that can be recognized*, banks and supervisors should multiply the amount of CET1** (after all deductions, including after the deduction of the specified items in full) by 17.65%. This number is derived from the proportion of 15% to 85% (ie 15%/85% = 17.65%).

3. As an example, take a bank with €85 of common equity (calculated net of all deductions, including after the deduction of the specified items in full).

4. The maximum amount of specified items that can be recognized by this bank in its calculation of CET1 capital is €85 x 17.65% = €15. Any excess above €15 must be deducted from CET1. If the bank has specified items (excluding amounts deducted after applying the individual 10% limits) that in aggregate sum up to the 15% limit, CET1 after inclusion of the specified items, will amount to €85 + €15 = €100. The percentage of specified items to total CET1 would equal 15%.

* The actual amount that will be recognized may be lower than this maximum, either because the sum of the three specified items are below the 15% limit set out in this annex, or due to the application of the 10% limit applied to each item.

** At this point this is a "hypothetical" amount of CET1 in that it is used only for the purposes of determining the deduction of the specified items.

<div align="right"><u>Annex # 7</u></div>

<div align="center"><u>Minority interest illustrative example</u></div>

This Annex illustrates the treatment of minority interest and other capital issued out of subsidiaries to third parties, which is set out in paragraphs 62 to 64.

Illustrative example

A banking group consists of two legal entities that are both banks. Bank P is the parent and Bank S is the subsidiary and their unconsolidated balance sheets are set out below.

Bank P balance sheet		Bank S balance sheet	
Assets		**Assets**	
Loans to customers	100	Loans to customers	150
Investment in CET1 of Bank S	7		
Investment in the AT1 of Bank S	4		
Investment in the T2 of Bank S	2		
Liabilities and equity		**Liabilities and equity**	
Depositors	70	Depositors	127
Tier 2	10	Tier 2	8
Additional Tier 1	7	Additional Tier 1	5
Common equity	26	Common equity	10

The balance sheet of Bank P shows that in addition to its loans to customers, it owns 70% of the common shares of Bank S, 80% of the Additional Tier 1 of Bank S and 25% of the Tier 2 capital of Bank S. The ownership of the capital of Bank S is therefore as follows:

Capital issued by Bank S			
	Amount issued to parent (Bank P)	**Amount issued to third parties**	**Total**
Common Equity Tier 1 (CET1)	7	3	10
Additional Tier 1 (AT1)	4	1	5
Tier 1 (T1)	11	4	15

Tier 2 (T2)	2	6	8
Total capital (TC)	13	10	23

The consolidated balance sheet of the banking group is set out below:

Consolidated balance sheet	
Assets	
Loans to customers	250
Liabilities and equity	
Depositors	197
Tier 2 issued by subsidiary to third parties	6
Tier 2 issued by parent	10
Additional Tier 1 issued by subsidiary to third parties	1
Additional Tier 1 issued by parent	7
Common equity issued by subsidiary to third parties (ie minority interest)	3
Common equity issued by parent	26

For illustrative purposes Bank S is assumed to have risk weighted assets of 100. In this example, the minimum capital requirements of Bank S and the subsidiary's contribution to the consolidated requirements are the same since Bank S does not have any loans to Bank P. This means that it is subject to the following minimum plus capital conservation buffer requirements and has the following surplus capital:

Minimum and surplus capital of Bank S		
	Minimum plus capital conservation buffer	Surplus
CET1	7.0 (= 7.0% of 100)	3.0 (=10 – 7.0)
T1	8.5 (= 8.5% of 100)	6.5 (=10 + 5 – 8.5)
TC	10.5 (= 10.5% of 100)	12.5 (=10 + 5 + 8 – 10.5)

The following table illustrates how to calculate the amount of capital issued by Bank S to
include in consolidated capital, following the calculation procedure set out in paragraphs 62
to 65:

Bank S: amount of capital issued to third parties included in consolidated capital					
	Total amount issued (a)	Amount issued t third parties (b)	Surplus (c)	Surplus attributable to third parties (ie amount excluded from Consolidated capital) (d) =(c) * (b)/(a)	Amount included in consolidated capital (e) = (b) – (d)
CET1	10	3	3.0	0.90	2.10
T1	15	4	6.5	1.73	2.27
TC	23	10	12.5	5.43	4.57

The following table summarizes the components of capital for the consolidated group based on the amounts calculated in the table above. Additional Tier 1 is calculated as the difference between Common Equity Tier 1 and Tier 1 and Tier 2 is the difference between Total Capital and Tier 1.

	Total amount issued by	Amount issued by	Total amount issued by

	parent (all of which is to be included in consolidated capital)	subsidiaries to third parties to be included in consolidated capital	parent and subsidiary to be included in consolidated capital
CET1	26	2.10	28.10
AT1	7	0.17	7.17
T1	33	2.27	35.27
T2	10	2.30	12.30
TC	43	4.57	45.57

Annex # 8

List of BCBS Documents for References in the Implementation of Basel III

Implementation of Basel III requires the aggregation of RWA under Basel II, Basel II.5 and Basel III.

A. **Basel III**

1. Basel III: A Global Regulatory Framework for More Resilient Banks and Banking System – December 2010 (revised June 2011) issued through SAMA Circular # BCS 27885 dated 12 November 2011.

2. Leverage Ratio (Basel III) issued through SAMA Circular # BCS 5610 dated 13 February 2011

3. Liquidity Ratios (Basel III) issued through SAMA Circular # BCS 28266 dated 19 November 2011

4. Pillar 3 for Basel III: SAMA Circular covering disclosure requirements and Guidance notes to be issued shortly.

5. Capital requirements for Bank's exposures to Central Counterparties of July 2012 issued through SAMA Circular # BCS 25092 dated 1433/11/20 (Hijri)

6. Final Elements of the Reforms to Raise the Quality of Regulatory Capital – Loss Absorbency at the Point of Non- Viability issued through SAMA Circular # BCS 5611 dated 13 February 2011.

B. **Basel II.5**

7. Basel II.5: SAMA Circular # BCS 25478 dated 21 October covering Pillar 1, Pillar 2 and Pillar 3 components.

C. **Basel II**

8. International Convergence of Capital Measurement and Capital Standards of June 2004[1] issued through the following SAMA Circulars.

Standardized Approach

- Pillar 1 Draft Guidelines issued through SAMA Circular dated 6 June 2006
- Basel II Prudential Returns Consultative Draft # 2 issued through SAMA Circular # BCS 180 dated 22 March 2007
- Capital Adequacy Requirements for Market Risk issued through SAMA Circular # BCS 355 dated 29 December 2004.
- Pillar 2 Document issued through SAMA Circular # BCS 581 dated 22 September 2008
- Pillar 3 Document issued through SAMA Circular # BCS 378 dated 24 May 2007

[1] Update to BCBS Document of June 2006 through Basel II.5 SAMA Circular # BCS 25478 dated 21 October covering Pillar 1, Pillar 2 and Pillar 3 components.

Annex # 9

National Discretions
Basel III – Basel Committee members excluding EU

Para's	Description of items	
52	Consider appropriate audit, verification or review procedures	Yes
61	Apply a limit lower than 0.6% to excess provisions	No
78-89	FAQ14 consolidation alternative to deduction	No
80 FN 27	Permit banks to use a conservative estimate instead of look-through	Yes
80	Permit banks to exclude investments made in the context of resolution	Yes
84 FN 31	Permit banks to use a conservative estimate instead of look-through	Yes
84	Permit banks to exclude investments made in the context of resolution	Yes
99	Apply para 104 instead of 98 non-IMM CVA charge	No
121	Allow banks to use unsolicited ratings	No
132 (c)	Apply at solo level	Yes
132 (d)	Impose time limits on draw down of buffers	Yes
133	Impose shorter transitional periods	No
142 FN 50	Apply at solo level	Yes
	PON Press release 1 (a) Apply Statutory approach	No