

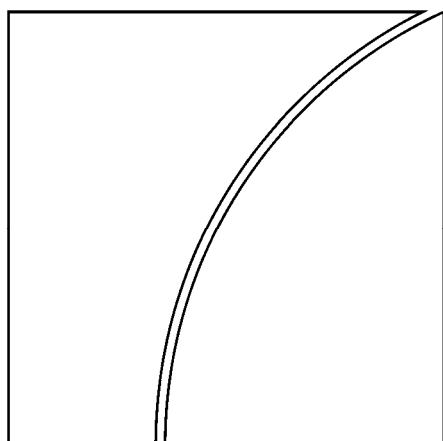
# Basel Committee on Banking Supervision

Consultative Document

## Strengthening the resilience of the banking sector

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## Abbreviations

ABCP	Asset-backed commercial paper
AVC	Asset value correlation
CCF	Credit conversion factor
CCPs	Central counterparties
CCR	Counterparty credit risk
CDS	Credit default swap
CRM	Credit risk mitigation
CVA	Credit valuation adjustment
DvP	Delivery-versus-payment
EAD	Exposure at default
ECAI	External credit assessment institution
EL	Expected Loss
EPE	Expected positive exposure
FIRB	Foundation internal ratings-based approach
IMM	Internal model method
IRB	Internal ratings-based
IRC	Incremental risk charge
LGD	Loss given default
MtM	Mark-to-market
OBS	Off-balance sheet
PD	Probability of default
PSE	Public sector entity
PvP	Payment-versus-payment
RBA	Ratings-based approach
SFT	Securities financing transaction
SPV	Special purpose vehicle
VaR	Value-at-risk



# Strengthening the Resilience of the Banking Sector

## I. Executive summary

### 1. Overview of the Basel Committee's reform programme and the market failures it addresses

1. This consultative document presents the Basel Committee's<sup>1</sup> proposals to strengthen global capital and liquidity regulations with the goal of promoting a more resilient banking sector. The objective of the Basel Committee's reform package is to improve the banking sector's ability to absorb shocks arising from financial and economic stress, whatever the source, thus reducing the risk of spillover from the financial sector to the real economy.

2. The proposals set out in this paper are a key element of the Committee's comprehensive reform package to address the lessons of the crisis. Through its reform package, the Committee also aims to improve risk management and governance as well as strengthen banks' transparency and disclosures.<sup>2</sup> Moreover, the reform package includes the Committee's efforts to strengthen the resolution of systemically significant cross-border banks.<sup>3</sup> The Committee's reforms are part of the global initiatives to strengthen the financial regulatory system that have been endorsed by the Financial Stability Board (FSB) and the G20 Leaders.

3. A strong and resilient banking system is the foundation for sustainable economic growth, as banks are at the centre of the credit intermediation process between savers and investors. Moreover, banks provide critical services to consumers, small and medium-sized enterprises, large corporate firms and governments who rely on them to conduct their daily business, both at a domestic and international level.

4. One of the main reasons the economic and financial crisis became so severe was that the banking sectors of many countries 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. 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 reintermediation of large off-balance sheet exposures that had built up in the shadow banking system. The crisis was further amplified by a procyclical deleveraging process and by the interconnectedness of systemic institutions through an array of complex transactions. During the most severe episode of the crisis, the market lost confidence in the solvency and liquidity of many banking institutions. The weaknesses in the banking sector were transmitted to the rest of the financial system and the real economy, resulting in a massive contraction of liquidity and credit availability. Ultimately the public sector had to step

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<sup>1</sup> The Basel Committee on Banking Supervision is a committee of banking supervisory authorities which was established by the central bank Governors of the Group of Ten countries in 1975. It consists of senior representatives of bank supervisory authorities and central banks from Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. It usually meets at the Bank for International Settlements (BIS) in Basel, Switzerland, where its permanent Secretariat is located.

<sup>2</sup> See *Enhancements to the Basel II framework* (July 2009), available at [www.bis.org/publ/bcbs157.htm](http://www.bis.org/publ/bcbs157.htm).

<sup>3</sup> See *Report and recommendations of the Cross-border Bank Resolution Group* (September 2009), available at [www.bis.org/publ/bcbs162.htm](http://www.bis.org/publ/bcbs162.htm).

in with unprecedented injections of liquidity, capital support and guarantees, exposing the taxpayer to large losses.

5. The effect on banks, financial systems and economies at the epicentre of the crisis was immediate. However, the crisis also spread to a wider circle of countries around the globe. For these countries the transmission channels were less direct, resulting from a severe contraction in global liquidity, cross border credit availability and demand for exports. Given the scope and speed with which the current and previous crises have been transmitted around the globe, it is critical that all countries raise the resilience of their banking sectors to both internal and external shocks.

6. To address the market failures revealed by the crisis, the Committee is introducing a number of fundamental reforms to the international regulatory framework. The reforms strengthen bank-level, or microprudential, regulation, which will help raise the resilience of individual banking institutions to periods of stress. The reforms also have a macroprudential focus, addressing system wide risks that can build up across the banking sector as well as the procyclical amplification of these risks over time. Clearly these two micro and macroprudential approaches to supervision are interrelated, as greater resilience at the individual bank level reduces the risk of system wide shocks.

7. Building on the agreements reached at the 6 September 2009 meeting<sup>4</sup> of the Basel Committee's governing body<sup>5</sup>, the key elements of the proposals the Committee is issuing for consultation are the following:

- First, the quality, consistency, and transparency of the capital base will be raised. This will ensure that large, internationally active banks are in a better position to absorb losses on both a going concern and gone concern basis. For example, under the current Basel Committee standard, banks could hold as little as 2% common equity to risk-based assets, before the application of key regulatory adjustments.<sup>6</sup>
- Second, the risk coverage of the capital framework will be strengthened. In addition to the trading book and securitisation reforms announced in July 2009, the Committee is proposing to strengthen the capital requirements for counterparty credit risk exposures arising from derivatives, repos, and securities financing activities. These enhancements will strengthen the resilience of individual banking institutions and reduce the risk that shocks are transmitted from one institution to the next through the derivatives and financing channel. The strengthened counterparty capital requirements also will increase incentives to move OTC derivative exposures to central counterparties and exchanges.
- Third, the Committee will introduce a leverage ratio as a supplementary measure to the Basel II risk-based framework<sup>7</sup> with a view to migrating to a Pillar 1 treatment based on appropriate review and calibration. This will help contain the build up of excessive leverage in the banking system, introduce additional safeguards against

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<sup>4</sup> See the press release, *Comprehensive response to the global banking crisis* (7 September 2009), available at [www.bis.org/press/p090907.htm](http://www.bis.org/press/p090907.htm)

<sup>5</sup> The Committee's governing body is comprised of central bank governors and (non-central bank) heads of supervision from its member countries.

<sup>6</sup> The term "regulatory adjustments" is used throughout this document to cover both former and newly-proposed deductions and prudential filters.

<sup>7</sup> See *Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework - Comprehensive Version* (June 2006), available at [www.bis.org/publ/bcbs128.htm](http://www.bis.org/publ/bcbs128.htm).

attempts to game the risk based requirements, and help address model risk. To ensure comparability, the details of the leverage ratio will be harmonised internationally, fully adjusting for any remaining differences in accounting. The ratio will be calibrated so that it serves as a credible supplementary measure to the risk-based requirements, taking into account the forthcoming changes to the Basel II framework.

- Fourth, the Committee is introducing a series of measures to promote the build up of capital buffers in good times that can be drawn upon in periods of stress. A countercyclical capital framework will contribute to a more stable banking system, which will help dampen, instead of amplify, economic and financial shocks. In addition, the Committee is promoting more forward looking provisioning based on expected losses, which captures actual losses more transparently and is also less procyclical than the current “incurred loss” provisioning model.
  - Fifth, the Committee is introducing a global minimum liquidity standard for internationally active banks that includes a 30-day liquidity coverage ratio requirement underpinned by a longer-term structural liquidity ratio. The framework also includes a common set of monitoring metrics to assist supervisors in identifying and analysing liquidity risk trends at both the bank and system wide level. These standards and monitoring metrics complement the Committee’s *Principles for Sound Liquidity Risk Management and Supervision* issued in September 2008.
8. The Committee also is reviewing the need for additional capital, liquidity or other supervisory measures to reduce the externalities created by systemically important institutions.
9. Market pressure has already forced the banking system to raise the level and quality of the capital and liquidity base. The proposed changes will ensure that these gains are maintained over the long run, resulting in a banking sector that is less leveraged, less procyclical and more resilient to system wide stress.
10. As announced in the 7 September 2009 press release, the Committee is initiating a comprehensive impact assessment of the capital and liquidity standards proposed in this consultative document. The impact assessment will be carried out in the first half of 2010. On the basis of this assessment, the Committee will then review the regulatory minimum level of capital in the second half of 2010, taking into account the reforms proposed in this document to arrive at an appropriately calibrated total level and quality of capital. The calibration will consider all the elements of the Committee’s reform package and will not be conducted on a piecemeal basis. The fully calibrated set of standards will be developed by the end of 2010 to be phased in as financial conditions improve and the economic recovery is assured, with the aim of implementation by end-2012.<sup>8</sup> Within this context, the Committee also will consider appropriate transition and grandfathering arrangements. Taken together, these measures will promote a better balance between financial innovation, economic efficiency, and sustainable growth over the long run.
11. The remainder of this section summarises the key reform proposals of this consultative document. Section II presents the detailed proposals. The reforms to global liquidity standards are presented in the accompanying document *International framework for liquidity risk measurement, standards and monitoring*, which is also being issued for consultation and impact assessment. The Committee welcomes comments on all aspects of

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<sup>8</sup> The July 2009 requirements for the trading book, resecuritisations and exposures to off-balance sheet conduits are to be implemented by the end of 2010.

these consultative documents by 16 April 2010. Comments should be submitted by email (baselcommittee@bis.org) or post (Secretariat of the Basel Committee on Banking Supervision, Bank for International Settlements, CH-4002 Basel, Switzerland). All comments will be published on the Bank for International Settlements' website unless a commenter specifically requests anonymity.

## **2. Strengthening the global capital framework**

12. The Basel Committee is raising the resilience of the banking sector by strengthening the regulatory capital framework, building on the three pillars of the Basel II Capital Accord. The reforms raise the quality of the regulatory capital base and enhance the risk coverage of the capital framework. They are underpinned by a leverage ratio that is intended to constrain excess leverage in the banking system and provide an extra layer of protection against model risk and measurement error. Finally, the Committee is introducing a number of macroprudential elements into the capital framework to help contain systemic risks arising from procyclicality and from the interconnectedness of financial institutions.

### **(a) Raising the quality, consistency and transparency of the capital base**

13. It is critical that banks' risk exposures are backed by a high quality capital base. As mentioned, under the current standard, banks could hold as little as 2% common equity to risk-based assets before applying regulatory adjustments. In particular, key regulatory adjustments (such as the deduction of goodwill) are not covered in the current minimum requirement. As a consequence, it has been possible for some banks under the current standard to display strong Tier 1 ratios with limited tangible common equity. However, the crisis demonstrated that credit losses and writedowns come out of retained earnings, which is part of banks' tangible common equity base. It also revealed the inconsistency in the definition of capital across jurisdictions and the lack of disclosure that would have enabled the market to fully assess and compare the quality of capital between institutions.

14. The Committee therefore is announcing for consultation a series of measures to raise the quality, consistency, and transparency of the regulatory capital base. In particular, it is strengthening that component of the Tier 1 capital base which is fully available to absorb losses on a going concern basis, thus contributing to a reduction of systemic risk emanating from the banking sector.

15. To this end, the predominant form of Tier 1 capital must be common shares and retained earnings. This standard is reinforced through a set of principles that also can be tailored to the context of non-joint stock companies to ensure they hold comparable levels of high quality Tier 1 capital. Deductions from capital and prudential filters have been harmonised internationally and generally applied at the level of common equity or its equivalent in the case of non-joint stock companies. The remainder of the Tier 1 capital base must be comprised of instruments that are subordinated, have fully discretionary non-cumulative dividends or coupons and have neither a maturity date nor an incentive to redeem. Innovative hybrid capital instruments with an incentive to redeem through features like step-up clauses, currently limited to 15% of the Tier 1 capital base, will be phased out. The Committee will calibrate the minimum requirements for the overall level of capital, Tier 1 capital, and the predominant form of Tier 1 capital as part of the impact assessment.<sup>9</sup> In addition, Tier 2 capital instruments will be harmonised and so-called Tier 3 capital

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<sup>9</sup> See the Basel Committee's 27 October 1998 document *Instruments eligible for inclusion in Tier 1 Capital* available on the BIS website at [www.bis.org/press/p981027.htm](http://www.bis.org/press/p981027.htm)

instruments, which were only available to cover market risks, eliminated. Finally, 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.

16. The Committee proposes to introduce these changes in a manner that does not prove disruptive for the capital instruments that are currently outstanding. It also continues to review the role that contingent capital and convertible capital instruments should play in the regulatory capital framework. The Committee intends to discuss specific proposals at its July 2010 meeting on the role of convertibility, including as a possible entry criterion for Tier 1 and/or Tier 2 to ensure loss absorbency, and on the role of contingent and convertible capital more generally both within the regulatory capital minimum and as buffers.

17. Section II.1 of this consultative document presents the Committee's proposals on the quality, consistency and transparency of the capital base.

**(b) Enhancing risk coverage**

18. One of the key lessons of the crisis has been the need to strengthen the risk coverage of the capital framework. Failure to capture major on- and off-balance sheet risks, as well as derivative related exposures, was a key destabilising factor over the past two and a half years.

19. In response to these shortcomings, the Committee in July 2009 completed a number of critical reforms to the Basel II framework.<sup>10</sup> These reforms will raise capital requirements for the trading book and complex securitisation exposures, a major source of losses for many internationally active banks. The enhanced treatment introduces a stressed value-at-risk (VaR) capital requirement based on a 12-month period of significant financial stress. In addition, the Committee has introduced higher capital requirements for so-called resecuritisations in both the banking and the trading book. The reforms also raise the standards of the Pillar 2 supervisory review process and strengthen Pillar 3 disclosures. The Pillar 1 and 3 enhancements must be implemented by the end of 2010; the Pillar 2 risk management standards became immediately effective.

20. This consultative document presents proposals to strengthen the capital requirements for counterparty credit exposures arising from banks' derivatives, repo and securities financing activities. These reforms will raise the capital buffers backing these exposures, reduce procyclicality and provide additional incentives to move OTC derivative contracts to central counterparties, thus helping reduce systemic risk across the financial system. They also provide incentives to strengthen the risk management of counterparty credit exposures.

21. To this end, the Committee is putting forward the following proposals:

- Going forward, 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.

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<sup>10</sup> These reforms are set out in the Committee's *Enhancements to the Basel II framework and Revisions to the Basel II market risk framework* (July 2009), available at [www.bis.org/press/p090713.htm](http://www.bis.org/press/p090713.htm).

- Banks will be subject to a capital charge for mark-to-market losses (ie credit valuation adjustment – CVA – risk) associated with a deterioration in the credit worthiness of a counterparty. While the current Basel II standard covers the risk of a counterparty default, it does not address such CVA risk, which has been a greater source of losses than those arising from outright defaults.
- The Committee is strengthening 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 are being proposed to strengthen collateral risk management practices.
- To address the systemic risk arising from the interconnectedness of banks and other financial institutions through the derivatives markets, the Committee is supporting the efforts of the Committee on Payments and Settlement Systems to establish strong standards for central counterparties and exchanges. Banks' collateral and mark-to-market exposures to central counterparties meeting these strict criteria will qualify for a zero percent risk weight. These criteria, together with strengthened capital requirements for bilateral OTC derivative exposures, will create strong incentives for banks to move exposures to such central counterparties. Moreover, to address the systemic risk within the financial sector, the Committee also is proposing to raise the risk weights on exposures to financial institutions relative to the non-financial corporate sector, as financial exposures are more highly correlated than non-financial ones. It is conducting further analysis of the appropriate calibration as part of the impact assessment.
- The Committee is raising counterparty credit risk management standards in a number of areas, including for the treatment of so-called wrong-way risk, ie cases where the exposure increases when the credit quality of the counterparty deteriorates. It also will issue shortly additional guidance for the sound backtesting of counterparty credit exposures.

22. Section II.2 of this consultative document presents the Committee's proposals for strengthening counterparty credit risk capital requirements and risk management standards.

23. Finally, the Committee assessed a number of measures to mitigate the reliance on external ratings of the Basel II framework that are presented in Section II.2 of this consultative document. The measures include requirements for banks to perform their own internal assessments of externally rated securitisation 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 securitisation framework and the reliance on external ratings under the standardised and securitisation frameworks.

**(c) *Supplementing the risk-based capital requirement with a leverage ratio***

24. One of the underlying features of the crisis was the build up of excessive on- and off-balance sheet leverage in the banking system. The build up of leverage also has been a feature of previous financial crises, for example leading up to September 1998. During the most severe part of the crisis, the banking sector was forced by the market to reduce its leverage in a manner that amplified downward pressure on asset prices, further exacerbating the positive feedback loop between losses, declines in bank capital, and the contraction in credit availability. The Committee therefore is introducing a leverage ratio requirement that is intended to achieve the following objectives:

- put a floor under the build-up of leverage in the banking sector, thus helping to mitigate the risk of the destabilising deleveraging processes which can damage the financial system and the economy; and
- introduce additional safeguards against model risk and measurement error by supplementing the risk based measure with a simple, transparent, independent measure of risk that is based on gross exposures.

25. The leverage ratio will be calculated in a comparable manner across jurisdictions, adjusting for any remaining differences in accounting standards. Certain off-balance sheet items would be included using a flat 100% credit conversion factor. There will be appropriate testing of its interaction with the risk-based measure. The Committee has designed the leverage ratio to be a credible supplementary measure to the risk-based requirement with a view to migrating to a Pillar 1 treatment based on appropriate review and calibration.

26. Section II.3. of the consultative document presents the Committee's proposals on the leverage ratio.

27. The Committee welcomes comments on the design of the leverage ratio, how to ensure an appropriate calibration relative to the risk-weighted requirement, and how best to adjust for remaining differences in accounting frameworks.

**(d) *Reducing procyclicality and promoting countercyclical buffers***

28. One of the most destabilising elements of the crisis has been the procyclical amplification of financial shocks throughout the banking system, financial markets and the broader economy. The tendency of market participants to behave in a procyclical manner has been amplified through a variety of channels, including through accounting standards for both mark-to-market assets and held-to-maturity loans, margining practices, and through the build up and release of leverage among financial institutions, firms, and consumers. The Basel Committee is introducing a number of measures to make banks more resilient to such procyclical dynamics. These measures will help ensure that the banking sector serves as a shock absorber, instead of a transmitter of risk to the financial system and broader economy.

29. In addition to the leverage ratio discussed in the previous section, the Committee is introducing a series of measures to address procyclicality and raise the resilience of the banking sector in good times. These measures have the following key objectives:

- dampen any excess cyclicity of the minimum capital requirement;
- promote more forward looking provisions;
- conserve capital to build buffers at individual banks and the banking sector that can be used in stress; and
- achieve the broader macroprudential goal of protecting the banking sector from periods of excess credit growth.

*Cyclicality of the minimum requirement*

30. The Basel II framework has increased the risk sensitivity and coverage of the regulatory capital requirement. Indeed, one of the most procyclical dynamics has been the failure of risk management and capital frameworks to capture key exposures – such as complex trading activities, resecuritisations and exposures to off-balance sheet vehicles – in advance of the crisis. However, it is not possible to achieve greater risk sensitivity across institutions at a given point in time without introducing a certain degree of cyclicity in minimum capital requirements over time. The Committee was aware of this trade-off during the design of the Basel II framework and introduced a number of safeguards to address

excess cyclical of the minimum requirement. They include the requirement to use long term data horizons to estimate probabilities of default, the introduction of so called downturn loss-given-default (LGD) estimates and the appropriate calibration of the risk functions, which convert loss estimates into regulatory capital requirements. The Committee also required that banks conduct stress tests that consider the downward migration of their credit portfolios in a recession.

31. In addition, the Committee has put in place a comprehensive data collection initiative to assess the impact of the Basel II framework on its member countries over the credit cycle. Should the cyclical of the minimum requirement be greater than supervisors consider appropriate, the Committee will consider additional measures to dampen such cyclical.

32. The Committee has reviewed a number of additional measures that supervisors could take to achieve a better balance between risk sensitivity and the stability of capital requirements, should this be viewed as necessary. In particular, the range of possible measures includes an approach by the Committee of European Banking Supervisors (CEBS) to use the Pillar 2 process to adjust for the compression of probability of default (PD) estimates in internal ratings-based (IRB) capital requirements during benign credit conditions by using the PD estimates for a bank's portfolios in downturn conditions.<sup>11</sup> Addressing the same issue, the UK Financial Services Authority (FSA) has proposed an approach aimed at providing non-cyclical PDs in IRB requirements through the application of a scalar that converts the outputs of a bank's underlying PD models into through the cycle estimates.<sup>12</sup>

33. The Committee welcomes comments on the degree of cyclical experienced by banks over the economic cycle, which portfolios have been most affected, and views on the best approaches to address any excess cyclical, including whether such adjustments should be achieved through the Pillar 1 or Pillar 2 process. The Committee also welcomes input on the trade-offs associated with different proposals to dampen the cyclical of the regulatory capital requirement.

34. The Committee is conducting an impact study on two specific proposals. The first is based on the use of the highest average PD estimate applied by a bank historically to each of its exposure classes as a proxy for a downturn PD; the second is based on the use of an average of historic PD estimates for each exposure class. Over the forthcoming period the Committee will work on evaluating these and alternative proposals with a view to developing an appropriate approach; as well as evaluating whether any additional measures are needed to reduce cyclical on capital requirements outside of the IRB framework.

#### *Forward looking provisioning*

35. The Committee is promoting stronger provisioning practices through three related initiatives. First, it is advocating a change in the accounting standards towards an expected loss (EL) approach. The Committee strongly supports the initiative of the IASB to move to an EL approach. The goal is to improve the decision usefulness and relevance of financial reporting for stakeholders, including prudential regulators. It has issued publicly and made available to the IASB a set of high level guiding principles that should govern the reforms to

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<sup>11</sup> See CEBS's *Position paper on a countercyclical capital buffer* (July 2009), available at [www.c-ebs.org/getdoc/715bc0f9-7af9-47d9-98a8-778a4d20a880/CEBS-position-paper-on-a-countercyclical-capital-b.aspx](http://www.c-ebs.org/getdoc/715bc0f9-7af9-47d9-98a8-778a4d20a880/CEBS-position-paper-on-a-countercyclical-capital-b.aspx).

<sup>12</sup> See UK FSA's note *Variable Scalar Approaches to Estimating Through the cycle PDs* (February 2009), available at [www.fsa.gov.uk/pubs/international/variable\\_scalars.pdf](http://www.fsa.gov.uk/pubs/international/variable_scalars.pdf).

the replacement of IAS 39.<sup>13</sup> The Committee is reviewing the IASB's Exposure Draft for an EL-based approach and will assist the IASB in developing a final standard that puts these principles into practice. The Committee will promote an EL approach that captures actual losses more transparently and is also less procyclical than the current "incurred loss" approach.

36. Second, it is updating its supervisory guidance to be consistent with the move to such an EL approach. Such guidance will assist supervisors in promoting strong provisioning practices under the desired EL approach.

37. Third, it is addressing disincentives to stronger provisioning in the regulatory capital framework.

#### *Capital conservation*

38. The Committee is proposing a framework to promote the conservation of capital and the build-up of adequate buffers above the minimum that can be drawn down in periods of stress.

39. At the onset of the financial crisis, a number of banks continued to make large distributions in the form of dividends, share buy backs and generous compensation payments even though their individual financial condition and the outlook for the sector were deteriorating. Much of this activity was driven by a collective action problem, where reductions in distributions were perceived as sending a signal of weakness. However, these actions made individual banks and the sector as a whole less resilient. More recently, many banks have returned to profitability but have not done enough to rebuild their capital buffers to support new lending activity. Taken together, this dynamic has increased the procyclicality of the system.

40. To address this market failure, the Committee is proposing to introduce a framework that will give supervisors stronger tools to promote capital conservation in the banking sector. Implementation of the framework through internationally agreed capital conservation standards will help increase sector resilience going into a downturn and will provide the mechanism for rebuilding capital during the economic recovery. Moreover, the proposed framework is sufficiently flexible to allow for a range of supervisory and bank responses consistent with the proposed standard.

#### *Excess credit growth*

41. As witnessed during the financial crisis, losses incurred in the banking sector during a downturn preceded by a period of excess credit growth can be extremely large. These can destabilise the banking sector, which in turn can bring about or exacerbate a downturn in the real economy. This in turn can further destabilise the banking sector. These inter-linkages highlight the particular importance of the banking sector building up its capital defences in periods when credit has grown to excessive levels. As capital is more expensive than other forms of funding, the building up of these defences should have the additional benefit of helping to moderate credit growth.

42. The Basel Committee is developing concrete proposals for a regime which would adjust the capital buffer range, established through the capital conservation proposal outlined

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<sup>13</sup> See *Guiding principles for the revision of accounting standards for financial instruments issued by the Basel Committee* (August 2009), available at [www.bis.org/press/p090827.htm](http://www.bis.org/press/p090827.htm).

in the previous section, when there are signs that credit has grown to excessive levels. This will ensure that banks build up countercyclical capital buffers, increasing their ability to absorb losses in a downturn.

43. The proposal is currently at an earlier stage of development and further work is needed to fully specify the details of how it would operate. The Committee will review a fully fleshed out approach at its July 2010 meeting.

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44. These four measures are designed to complement each other. The initiatives on provisioning focus on strengthening the banking system against expected losses, while the capital measures focus on unexpected losses. Among the capital measures, there is a distinction between addressing the cyclical nature of the minimum and building additional buffers above that minimum. Indeed, strong capital buffers above the minimum requirement have proven to be critical, even in the absence of a cyclical minimum. Finally, it is proposed that the requirement to address excess credit growth be set at zero in normal times and only grow during periods of excessive credit availability. However, even in the absence of a credit bubble, supervisors expect the banking sector to build a buffer above the minimum to protect it against plausibly severe shocks, which could emanate from many sources. The Committee will continue to review the appropriate integration of these measures. Moreover, through the impact assessment and calibration work discussed below, the Committee will ensure that the sum of these measures does not result in banks holding excessive capital buffers beyond what is necessary to maintain a resilient banking sector.

45. The Committee invites comment on all four proposals to address procyclicality, which are presented in Section II.4. of the consultative document.

**(e) Addressing systemic risk and interconnectedness**

46. While procyclicality amplified shocks over the time dimension, the interconnectedness of many large banks and other financial institutions transmitted negative shocks across the financial system and economy. The failure or impairment of certain financial institutions can have negative consequences for other firms and the real economy. For example, a failed bank's creditors can incur losses. And prior to failure, a bank can take actions that help to alleviate its problems but can generate costs for other financial institutions.

47. The policy options to ensure banks were subject to regulatory requirements that reflected the risks they posed to the financial system and the real economy were underdeveloped prior to the crisis. The Committee is therefore developing practical approaches to assist supervisors in measuring the importance of banks to the stability of the financial system and the real economy and reviewing policy options to reduce the probability and impact of failure of systemically important banks. It is evaluating the pros and cons of a capital surcharge for systemically important banks. It also is considering a liquidity surcharge and other supervisory tools as other possible policy options.

48. In addition, refinements to the Basel II risk weighting functions can be made to directly address the risks created by systemically important banks (see for example the proposal in Section II.2 to increase the asset value correlation for exposures to large financial institutions relative to those for non-financial corporate exposures as well as the treatment of OTC derivatives exposures not cleared through a central counterparty).

49. The Committee's initiatives in this area will contribute to a broader effort by the FSB to address the risks of systemically important financial institutions. The Committee will review specific proposals on this issue in the first half of 2010.

### 3. Introducing a global liquidity standard

50. Strong capital requirements are a necessary condition for banking sector stability but by themselves are not sufficient. A strong liquidity base reinforced through robust supervisory standards is of equal importance. To date, however, there are no internationally harmonised standards in this area. The Basel Committee is therefore building out its liquidity framework by introducing internationally harmonised global liquidity standards. As with the global capital standards, the liquidity standards will establish minimum requirements and will promote an international level playing field to help prevent a competitive race to the bottom.

51. During the early "liquidity phase" of the financial crisis, many banks – despite adequate capital levels – still experienced difficulties because they did not manage their liquidity in a prudent manner. The crisis again drove home the importance of liquidity to the functioning of financial markets and the banking sector. Prior to the crisis, asset markets were buoyant and funding was readily available at low cost. The rapid reversal in market conditions illustrated how quickly liquidity can evaporate and that illiquidity can last for an extended period of time. The banking system came under severe stress, which necessitated central bank action to support both the functioning of money markets and, in some cases, individual institutions.

52. The difficulties experienced by some banks were due to lapses in basic principles of liquidity risk management. In response, as the foundation of its liquidity framework, the Committee in 2008 published *Principles for Sound Liquidity Risk Management and Supervision*.<sup>14</sup> The Sound Principles provide detailed guidance on the risk management and supervision of funding liquidity risk and should help promote better risk management in this critical area, but only if there is full implementation by banks and supervisors. As such, the Committee will coordinate rigorous follow up by supervisors to ensure that banks adhere to these fundamental principles.

53. To complement these principles, the Committee has further strengthened its liquidity framework by developing two *minimum* standards for funding liquidity. One of the standards is a 30-day liquidity coverage ratio which is intended to promote short-term resilience to potential liquidity disruptions. The liquidity coverage ratio will help ensure that global banks have sufficient high-quality liquid assets to withstand a stressed funding scenario specified by supervisors. The second standard is a longer-term structural ratio to address liquidity mismatches and provide incentives for banks to use stable sources to fund their activities.

54. An additional component of the liquidity framework is a set of monitoring metrics to improve cross-border supervisory consistency. These metrics are designed to assist supervisors in recognising and analysing bank-specific and system-wide liquidity risk trends. The metrics will supplement supervisors' evaluation of the minimum standards.

55. Further details on the liquidity standard and monitoring metrics are set out in the Committee's *International framework for liquidity risk measurement, standards and monitoring*, which is published for comment together with this consultative document.

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<sup>14</sup> Available at [www.bis.org/publ/bcbs144.htm](http://www.bis.org/publ/bcbs144.htm).

56. The Committee welcomes comments on the composition of the stock of liquid assets under the liquidity coverage ratio and the calibration of the stress tests. In particular, it welcomes views on the definition of liquid assets, which is intended to be sufficiently conservative to create strong incentives for banks to maintain prudent funding liquidity profiles, while minimising the negative impact on the financial system or broader economy. The Committee will review the effect of various options for the design of the liquidity buffer and the severity of the stress tests as part of its quantitative impact assessment work.

#### **4. Impact assessment and calibration**

57. The Committee is initiating a comprehensive impact assessment of the proposed enhancements to the global capital requirements and the new liquidity standard. The objective is to ensure that the new standards introduce greater resiliency of individual banks and the banking sector to periods of stress, while promoting sound credit and financial intermediation activity.

58. The anchor of this analysis will be the impact of the changes to the definition of capital and the enhancements to risk coverage (ie the July 2009 changes to the trading book, resecuritisations and exposures to off-balance sheet conduits, as well as the enhanced counterparty credit risk requirements contained in this proposal). This will set the foundation for determining whether any adjustment will be required to achieve the overall minimum requirement. The calibration of the risk-based ratio will focus on establishing a credible minimum after cumulating the effects of the bottom up changes. Among other things, this will involve a comparison of the bottom-up changes to the framework to a top-down assessment of the overall level of minimum capital requirements the system should hold. The top-down assessment will cover the buffers above the minimum requirements, both related to capital conservation and any additions resulting from excessive credit growth. It will also consider the effect of possible measures to address the cyclicity of the minimum requirement. Finally, the impact assessment will review the appropriate calibration of the leverage ratio, and the interaction between the leverage ratio and the risk based requirement. As noted, the purpose of the leverage ratio is to serve as a credible backstop to the risk-based requirement.

59. Based on this analysis, the Committee will issue by end 2010 a fully calibrated, comprehensive set of proposals covering all elements discussed in this consultative document. As requested by the G20, the standards will be phased in as financial conditions improve and the economic recovery is assured, with an aim of implementation by end-2012. As part of this phase in process, the Committee will consider appropriate transitional and grandfathering arrangements.

## II. Strengthening the global capital framework

### 1. Raising the quality, consistency and transparency of the capital base

#### (a) Introduction

60. One of the highest priority issues on the Basel Committee's regulatory reform agenda for the banking sector is the need to strengthen the quality, consistency and transparency of the regulatory capital base. This objective has been endorsed by the FSB and the G20 Leaders. While it is critical that the regulatory capital framework captures the key risks to which a bank and the banking sector are exposed, it is equally important that these risks are backed by a high quality buffer of capital which is capable of absorbing losses when the risks identified materialise.

61. The global banking system entered the crisis with capital which was of insufficient quality. Banks had to rebuild their capital bases in the midst of the crisis at the point when it was most difficult to do so. The result was the need for massive government support of the banking sector in many countries and a deepening of the economic downturn.

62. The existing definition of capital suffers from certain fundamental flaws:

1. **Regulatory adjustments generally are not applied to common equity.** These adjustments are currently generally applied to total Tier 1 capital or to a combination of Tier 1 and Tier 2. They are not generally applied to the common equity component of Tier 1. This allows banks to report high Tier 1 ratios, despite the fact that they may have low levels of common equity when considered net of regulatory adjustments. It is this common equity base which best absorbs losses on a going concern basis.
2. **There is no harmonised list of regulatory adjustments.** The way these adjustments are applied across Basel Committee countries varies substantially, undermining the consistency of the regulatory capital base.
3. **Weak transparency.** The disclosure provided by banks about their regulatory capital bases is frequently deficient. Often there is insufficient detail on the components of capital, making an accurate assessment of its quality or a meaningful comparison with other banks difficult. Furthermore, reconciliation to the reported accounts is often absent.

63. These shortcomings resulted in the banking sector entering the crisis with a definition of capital that was neither harmonised nor transparent, and it allowed a number of banks to report high Tier 1 ratios but with low levels of common equity net of regulatory adjustments. As the crisis deepened, banks faced growing losses and write downs which directly reduced the retained earnings component of common equity, calling into question fundamental solvency. Many market participants therefore lost confidence in the Tier 1 measure of capital adequacy. They instead focused on measures such as tangible common equity (which nets out elements like goodwill from common equity, as these are not realisable in insolvency).

64. The following sections set out proposals to strengthen the definition of capital, focusing on its overall quality, consistency and transparency. These proposals will help ensure that banks move to a higher capital standard that promotes long term stability and sustainable growth. Appropriate grandfathering and transitional arrangements will be established which will ensure that this process is completed without aggravating near term stress.

**(b) Rationale and objective**

65. There are certain overarching objectives which have guided the development of the proposed new definition of capital.

*Tier 1 capital must help a bank to remain a going concern*

66. Common equity is recognised as the highest quality component of capital. It is subordinated to all other elements of funding, absorbs losses as and when they occur, has full flexibility of dividend payments and has no maturity date. It is the primary form of funding which helps ensure that banks remain solvent. The framework must ensure that all instruments included in capital as common stock<sup>15</sup> truly meet the standards intended by the Committee. There can be no features which add additional leverage or which could cause the condition of the bank to be weakened as a going concern during periods of market stress.

67. It is critical that for non-common equity elements to be included in Tier 1 capital, they must also absorb losses while the bank remains a going concern. Qualifying instruments must contribute in a meaningful way to ensuring the going concern status of the bank and they must be capable of absorbing losses in practice without exacerbating a bank's condition in a crisis. Certain innovative features which over time have been introduced to Tier 1 to lower its cost, have done so at the expense of its quality. These elements will need to be phased out.

68. Furthermore, banks must not over-rely on non-common equity elements of capital and so the extent to which these can be included in Tier 1 capital must be limited. Finally the regime should accommodate the specific needs of non-joint stock companies, such as mutuals and cooperatives, which are unable to issue common stock.

*Regulatory adjustments must be applied to the appropriate component of capital*

69. Generally, regulatory adjustments must be applied at the level of common equity. There are two reasons for this: 1) if an element of the balance sheet is of insufficient quality to be included in the calculation of Tier 1 capital, then it is also not adequate to be included in the calculation of its highest quality component: common equity; and 2) regulatory adjustments should be applied to that component of capital which is affected by the recognition of the relevant element on the balance sheet, which is generally retained earnings. Taken together, these measures will help ensure that banks cannot show strong Tier 1 capital ratios while having low levels of tangible common equity.

*Regulatory capital must be simple and harmonised across jurisdictions*

70. The number of tiers and sub-tiers of capital must be limited. The definitions of Tier 1 and Tier 2 capital should correspond to capital which absorbs losses on a going concern basis and capital which absorbs losses on a gone concern basis, respectively. In addition, the minimum set of regulatory adjustments must be harmonised internationally.

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<sup>15</sup> Common stock or ordinary shares will typically be defined under national law. A single institution may be permitted to issue more than one class of common stock, and some may have certain debt-like features such as preferential or indicative dividends.

*The components of regulatory capital must be clearly disclosed*

71. Finally, the components of regulatory capital must be clearly disclosed and reconciled with the published financial accounts. This will ensure that market participants and supervisors will be in a position to compare the capital adequacy of banks across jurisdictions.

**(c) Key elements of proposal**

*Overview*

72. The following key changes to the definition of capital are proposed:

- The quality and consistency of the common equity element of Tier 1 capital will be significantly improved, with regulatory adjustments generally applied to this element.
- The required features for instruments to be included in Tier 1 capital outside of the common equity element will be strengthened.
- Tier 2 will be simplified. There will be one set of entry criteria, removing sub-categories of Tier 2
- Tier 3 will be abolished to ensure that market risks are met with the same quality of capital as credit and operational risks.
- The transparency of capital will be improved, with all elements of capital required to be disclosed along with a detailed reconciliation to the reported accounts.
- Without prejudging the outcome of the calibration work in 2010, the system of limits applied to elements of capital will be revised to ensure that common equity forms a greater proportion of Tier 1 than is permitted at present. The current limitation on Tier 2 capital (it cannot exceed Tier 1) will be removed and replaced with explicit minimum Tier 1 and total capital requirements.

*Tier 1 - common equity less regulatory adjustments*

73. For banks structured as joint stock companies the predominant form of Tier 1 capital must be common shares and retained earnings. Regulatory adjustments will be harmonised internationally and generally applied at the level of common equity.

74. To ensure their quality and consistency, common shares will need to meet a set of entry criteria before being permitted to be included in the predominant form of Tier 1 capital. These entry criteria will also be used to identify instruments of equivalent quality which non joint stock companies, such as mutuals and cooperatives, can include in the predominant form of Tier 1 capital.

*Tier 1 – other elements*

75. To be included in Tier 1, instruments will need to be sufficiently loss absorbent on a going-concern basis.

76. To be considered loss absorbent on a going concern basis, all instruments included in Tier 1 will, among other things, need to be subordinated, have fully discretionary non-cumulative dividends or coupons and neither have a maturity date nor an incentive to redeem. In addition, as part of the impact assessment, the Committee will consider the appropriate treatment in the non-predominant element of Tier 1 capital of instruments which have tax deductible coupons.

77. “Innovative” features such as step-ups, which over time have eroded the quality of Tier 1, will be phased out. The use of call options on Tier 1 capital will be subject to strict governance arrangements which ensure that the issuing bank is not expected to exercise a call on a capital instrument unless it is in its own economic interest to do so. Payments on Tier 1 instruments will also be considered a distribution of earnings under the capital conservation buffer proposal (see Section II.4.c.). This will improve their loss absorbency on a going concern basis by increasing the likelihood that dividends and coupons will be cancelled in times of stress.

### *Tier 2*

78. Tier 2 capital will be simplified. There will be one set of entry criteria, removing sub-categories of Tier 2. Under the proposal all Tier 2 capital will need to meet the minimum standard of being subordinated to depositors and general creditors and have an original maturity of at least 5 years. Recognition in regulatory capital will be “amortised” on a straight line basis during the final 5 years to maturity.

### *Tier 3*

79. Tier 3 capital will be abolished. This will ensure that capital used to meet market risk requirements will be of the same quality of composition as capital used to meet credit and operational risk requirements.

### *Transparency*

80. To improve transparency and market discipline, banks will be required to disclose the following:

- a full reconciliation of regulatory capital elements back to the balance sheet in the audited financial statements;
- separate disclosure of all regulatory adjustments;
- 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; and
- banks which disclose ratios involving components of regulatory capital (eg “Equity Tier 1”, “Core Tier 1” or “Tangible Common Equity” ratios) to accompany these with a comprehensive explanation of how these ratios are calculated.

81. In addition to the full transparency requirements, a bank will need to make available the full terms and conditions of all instruments included in regulatory capital on its website. The existing requirement for the main features of capital instruments to be easily understood and publically disclosed will be retained.

### *Limits*

82. The current system of limits is complex and makes the maximum level of Tier 2 capital a function of how much Tier 1 capital the bank has issued. To address this situation the following system of limits and minima will apply:

- Separate explicit minima will be established for the common equity component of Tier 1 (after the application of regulatory adjustments), total Tier 1 and total capital.
- The predominant form of Tier 1 must be its common equity component (after the application of regulatory adjustments).

- The restriction that Tier 2 cannot exceed Tier 1 will be removed.

83. The data collected in the impact assessment will be used to calibrate the above minimum required levels and ensure a consistent interpretation of the predominance standard.

#### *Grandfathering and transitional provisions*

84. Given the significant changes proposed to the definition of capital, the Committee recommends that members consider the possibility of allowing the grandfathering of instruments which have already been issued by banks prior to the publication of this consultative document. The impact assessment will be used to consider recommendations for an appropriate grandfathering period for instruments and an appropriate phase in period for the new capital standards.

#### **(d) Detailed proposal**

85. This section sets out the detailed proposed rules which will govern the definition of capital. To give context to these proposals the following box summarises the structure of regulatory capital under the proposed rules.

#### *Proposed harmonised structure of capital<sup>16</sup>*

##### **Elements of capital**

Total regulatory capital will consist of the sum of the following elements:

1. Tier 1 Capital (going-concern capital)
  - a. Common Equity<sup>17</sup>
  - b. Additional Going-Concern Capital
2. Tier 2 Capital (gone-concern capital)

For each of the three categories above (1a, 1b and 2) there will be a single set of criteria which instruments are required to meet before inclusion in the relevant category.

##### **Limits and minima**

All elements above are net of regulatory adjustments and are subject to the following restrictions:

- Common Equity, Tier 1 Capital and Total Capital must always exceed explicit minima of x%, y% and z% of risk-weighted assets, respectively, to be calibrated following the impact assessment.
- The predominant form of Tier 1 Capital must be Common Equity

<sup>16</sup> It is proposed that the scope of application of the harmonised definition of capital be the same as for the Basel II capital requirements (ie the rules apply to banks and consolidated banking groups including bank holding companies).

<sup>17</sup> Throughout this section the term “Common Equity” means common shares (or the equivalent for non-joint stock companies) plus retained earnings and other comprehensive income net of the associated regulatory adjustments. The treatment of unrealised gains will be reviewed by the Basel Committee during 2010.

86. The detailed proposals are set out in the following sections:

- Criteria governing inclusion in the Common Equity component of Tier 1 capital
- Criteria governing the inclusion in Tier 1 Additional Going Concern Capital
- Criteria governing the inclusion in Tier 2 Capital
- Regulatory adjustments applied to the elements of capital and clarification of the treatment of stock surplus and minority interest
- Limits and minima applied to the components of capital
- Disclosure requirements

**(e) Criteria governing inclusion in the Common Equity component of Tier 1**

87. For an instrument to be included in the predominant form of Tier 1 capital it must meet all of the criteria which follow. The vast majority of internationally active banks are structured as joint stock companies<sup>18</sup> 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 the predominant form of Tier 1, they must be identical to voting common shares of the issuing bank in all respects except the absence of voting rights.

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**Criteria for classification as common shares for regulatory capital purposes<sup>19</sup>**

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1. Represents the most subordinated claim in liquidation of the bank.<sup>20</sup>

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  2. Entitled to a claim of 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).

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  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 national law).

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  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.

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  5. Distributions are paid out of distributable items (retained earnings included). The level of distributions are not in any way tied or linked to the amount paid in at
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<sup>18</sup> 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 internationally active banks.

<sup>19</sup> 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.

<sup>20</sup> Throughout the criteria the term "bank" is used to mean bank, banking group or other entity (eg holding company) whose capital is being measured.

	issuance and are not subject to a 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 obligation 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.
8.	It is the issued capital that takes the first and proportionately greatest share of any losses as they occur. Within the highest quality capital, each instrument absorbs losses on a going concern basis proportionately and <i>pari passu</i> with all the others.
9.	The paid in amount is recognised as equity capital (ie not recognised 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-up.
12.	The paid in amount is neither secured nor covered by a guarantee of the issuer or related entity 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 authorised by the owners.
14.	It is clearly and separately disclosed on the bank's balance sheet.

*Criteria for inclusion in Tier 1 Additional Going Concern Capital*

88. This element of capital allows instruments other than common shares to be included in Tier 1 capital. Their inclusion will be limited by the requirement that the predominant form of Tier 1 Capital must be Common Equity. To maintain the integrity of Tier 1 capital any instrument included must at least:

1. Help the bank avoid payment default through payments being discretionary;
2. Help the bank avoid balance sheet insolvency by the instrument not contributing to liabilities exceeding assets if such a balance sheet test forms part of applicable national insolvency law; and
3. Be able to bear losses while the firm remains a going concern.

89. Based on this high level view, the following box sets out the proposed minimum set of criteria for an instrument to meet or exceed in order for it to be included in Tier 1 Additional Going Concern Capital.

### **Criteria for inclusion in Tier 1 Additional Going Concern 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 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; or
    - ii. The bank demonstrates that its capital position is well above the minimum capital requirements after the call option is exercised.
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
  - 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 organisation's current 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 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 recapitalisation, 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 or the holding company in the consolidated group (eg 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 Tier 1 Additional Going Concern Capital

**Additional requirements**

- The criteria above will also apply to instruments which appear in the consolidated accounts as minority interest.
- This element of capital will be net of the appropriate corresponding deductions related to holding of non-common equity capital instruments in other financial institutions.

*Criteria for inclusion in Tier 2 (gone concern capital)*

90. The objective of Tier 2 is to provide loss absorption on a gone-concern basis. Based on this objective, the following box sets out the proposed minimum set of criteria for an instrument to meet or exceed in order for it to be included in Tier 2 capital.

**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 5 years
  - b. recognition in regulatory capital in the remaining 5 years before maturity will be amortised on a straight line basis
  - c. there are no 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; or
- ii. The bank demonstrates that its capital position is well above the minimum capital requirements after the call option is exercised.

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 may not have a credit sensitive dividend feature, that is a dividend that is reset periodically based in whole or in part on the banking organisation's current credit standing
8. The bank or a related party cannot have knowingly purchased, or 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 (eg an 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 Tier 2 Capital

#### **Additional requirements**

- These criteria will also apply to instruments which appear in the consolidated accounts as minority interest.
- This element of capital will be net of the appropriate corresponding deductions related to holding of non-common equity capital instruments in other financial institutions.

91. In addition to the Tier 1 and Tier 2 criteria set out in the sections above, the Committee continues to review the role that contingent capital, convertible capital instruments and instruments with write-down features should play in a regulatory capital framework, both in the context of the entry criteria for regulatory capital and their use as buffers over the minimum requirement. The Committee will discuss concrete proposals in this area at its July 2010 meeting

92. The Committee would welcome feedback on whether the safeguards introduced on the use of call options will avoid the problem evident in the crisis that in some jurisdictions banks felt compelled to exercise call options, due to the potential negative market reaction that would have resulted if the call was not exercised. The Committee would also welcome views on whether additional safeguards such as a lock-in mechanism is necessary to ensure that Tier 2 capital does not need to be repaid during a period of stress.

#### *Regulatory adjustments applied to regulatory capital*

93. This section sets out the proposed regulatory adjustments to be applied to regulatory capital. In most cases these adjustments are applied to the Common Equity component (ie the predominant element of Tier 1). In addition, the treatment of stock surplus and minority interest are clarified. Variants to the proposed treatment of minority interest and

certain regulatory adjustments, such as deferred tax assets, intangibles and investments in other financial entities, will be assessed as part of the impact assessment

### **Stock surplus**

Stock surplus (ie share premium) will only be permitted to be included in the Common Equity component of Tier 1 if the shares giving rise to the stock surplus are also permitted to be included in the Common Equity component of Tier 1.

Stock surplus relating to shares excluded from the Common Equity component of Tier 1, eg preference shares, must be included in the same element of capital as the shares to which it relates.

94. The proposal will ensure that banks are not given credit in the Common Equity component of Tier 1 when they issue shares outside of the Common Equity component of Tier 1 which have a low nominal value and high stock surplus. In this sense the proposal ensures that there is no loop hole for including instruments other than common shares in the Common Equity component of Tier 1.

### **Minority interest**

Minority interest will not be eligible for inclusion in the Common Equity component of Tier 1.

95. The proposal addresses the concern that while minority interest can support the risks in the subsidiary to which it relates, it is not available to support risks in the group as a whole and in some circumstances may represent an interest in a subsidiary with little or no risk.

### **Unrealised gains and losses on debt instruments, loans and receivables, equities, own use properties and investment properties**

No adjustment should be applied to remove from the Common Equity component of Tier 1 unrealised gains or losses recognised on the balance sheet.

96. The proposal addresses concerns that the existing policy adopted in certain jurisdictions of filtering out certain unrealised losses has undermined confidence in Tier 1 capital. It helps ensure that the Common Equity component of Tier 1 is fully available to absorb losses (both realised and unrealised). The Committee will continue to review the appropriate treatment of unrealised gains.

### **Goodwill and other intangibles**

Goodwill and other intangibles should be deducted from the Common Equity component of Tier 1. The amount deducted should be net of any associated deferred tax liability which would be extinguished if the goodwill becomes impaired or derecognised under the relevant accounting standards.

97. The proposed deduction addresses the high degree of uncertainty that intangible assets would have a positive realisable value in periods of stress or insolvency. It is also necessary for comparability purposes and, in the case of goodwill, to avoid giving acquisitive banks a capital advantage over banks with the same real assets and liabilities which have grown organically.

### **Deferred tax assets**

Deferred tax assets which rely on future profitability of the bank to be realised should be deducted from the Common Equity component of Tier 1. The amount of such assets net of deferred tax liabilities should be deducted.

Deferred tax assets which do not rely on the future profitability of the bank to be realised (eg prepayments to tax authorities) should be assigned the relevant sovereign risk weighting.

98. Some deferred tax assets do not rely on the future profitability of the bank; local tax law varies considerably but an example could include prepayments to or carry-back of tax deductions from the local tax authority, which in effect are receivables from the local taxing authority. Such assets should simply be assigned the relevant sovereign risk weighting.

99. The more common deferred tax asset arises because a bank has incurred a loss for financial reporting/accounting purposes but not for tax reporting purposes. Typically, such amounts will only be realised through the reduction in future tax payments if the bank makes profits in the year that the loss is recognised for tax purposes. The proposal addresses the concern that undue reliance on these assets is not appropriate for prudential purposes, as they may provide no protection to depositors or governmental deposit insurance funds in insolvency and can be suddenly written off in a period of stress.

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

All of a bank's investments in its own common shares should be deducted from the Common Equity component of Tier 1 (unless already derecognised under the relevant accounting standards). In addition, any own stock which the bank could be contractually obliged to purchase should be deducted from its common equity. 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 only if the short positions involve no counterparty risk.
- Banks should look through holdings of index securities to deduct exposures to own shares.

100. The proposed 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 proposal seeks to remove the double counting which arises from direct holdings, indirect holdings via index funds and potential future holdings as a result of contractual obligations to purchase own shares. Finally for consistency purposes, as own shares must be paid up to be included in regulatory capital (to ensure there is no counterparty risk) the proposal does not permit banks to reduce the deduction related to exposures to own shares with short positions which involve counterparty risk.

### **Investments in the capital of certain banking, financial and insurance entities which are outside the regulatory scope of consolidation**

Banks should apply a "corresponding deduction approach" to investments in the capital of other banks, other financial institutions and insurance entities where these fall outside of the regulatory scope of consolidation. 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.

All holdings of capital which form part of a reciprocal cross holding agreement or are investments in affiliated institutions (eg sister companies) are to be deducted in full on a corresponding basis. For all other holdings, the corresponding deduction approach will apply when the holdings exceed certain thresholds. For holdings of common stock the thresholds work as follows:

- If the bank has holdings of common stock in a financial institution which exceed 10% of the common stock of the financial institution then the full amount of this holding (not just the amount above 10%) should be deducted from the bank's common equity.
- If the bank has holdings of common stock in other financial institutions which in aggregate exceed 10% of the bank's common equity (after applying all other regulatory adjustments to common equity) then the amount above 10% is required to be deducted.

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 only if the short positions involve no counterparty risk.
- Banks should look through holdings of index securities to deduct relevant exposures to financial institutions which exceed the threshold limits.

101. The purpose of the proposed deduction is to remove the double counting of capital in the banking sector and limit the degree of double counting in the wider financial system. Furthermore, it seeks to remove double counting within the appropriate tier of capital rather than at the total capital level. It will help ensure that when capital absorbs a loss at one financial institution this does not immediately result in the loss of capital in a bank which holds that capital. This will help increase the resilience of the banking sector to financial shocks and reduce systemic risk and procyclicality.

### **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 100% from the common equity component of Tier 1 capital.

102. Under the proposed approach, the capital regime would not differentiate between a bank which has a low stock of provisions relative to expected losses and a similar bank which has a stock of provisions<sup>21</sup> equal to expected losses. The current regime results in the bank with a low stock of provisions showing more Tier 1 capital, which could be acting as an incentive for banks to provision at low levels.

103. The data collected in the impact study should help aid consideration of the existing inclusion of provisions in Tier 2 under the Standardised and IRB approaches to credit risk, including the treatment of the cap (ie 1.25% and 0.6% of credit risk weighted assets under the standardised and IRB approaches, respectively).

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<sup>21</sup> Including a similar approach to write-offs.

### **Cash flow hedge reserve**

Remove the positive and negative cash flow hedge reserve from the Common Equity component of Tier 1 where it relates to the hedging of projected cash flows which are not recognised on the balance sheet.

104. The proposal specifically identifies the element of the cash flow hedge reserve which should be derecognised for prudential purposes. It removes the element which 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).

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

Filter out from the Common Equity component of Tier 1 all gains and losses resulting from changes in the fair value of liabilities which are due to a changes in the bank's own credit risk.

105. The existing filter established in the 8 June 2004 press release<sup>22</sup> only applies to gains and losses on liabilities which are fair valued as a result of the application of the fair value option. The proposal extends this filter to cover gains and losses due to changes in own credit risk on all liabilities which are fair valued. In addition, it clarifies that the filter should be applied at the common equity level instead at the Tier 1 level.

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

- Apply no filter to defined benefit pension fund liabilities.
- Deduct the value of any defined benefit pension fund asset from the Common Equity component of Tier 1. 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.

106. The proposal to fully recognise liabilities arising from defined benefit pension funds in the calculation of the Common Equity component of Tier 1 will help ensure that this element of capital retains the confidence of regulators and market participants to absorb losses on a going concern basis.

107. The proposal to require pension fund assets to be deducted from the Common Equity component of Tier 1 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 proposal 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.

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<sup>22</sup> Available at [www.bis.org/press/p040608.htm](http://www.bis.org/press/p040608.htm)

### **Remaining 50:50 deductions**

All remaining regulatory adjustments which are currently deducted 50% from Tier 1 and 50% from Tier 2, and which are not addressed elsewhere in the proposal, should receive a 1250% risk weight. These include:

- Certain securitisation 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.

108. In relation to certain assets, Basel II requires deductions to be made 50% from Tier 1 and 50% from Tier 2, or gives banks the option of applying a 1250% risk weight or deducting the asset 50:50. These are items listed in the box above. The 50:50 deductions complicate the definition of capital, particularly in the application of the limits and so the proposal is that they will receive a 1250% risk weight.

### **(f) Disclosure requirements**

Banks will be 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;
- 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 (eg "Equity Tier 1", "Core Tier 1" or "Tangible Common Equity" ratios) to accompany these with a comprehensive explanation of how these ratios are calculated.

In addition to the above, banks will be required to make available on their websites the full terms and conditions of all instruments included in regulatory capital.

109. These disclosures will help improve transparency of regulatory capital and improve market discipline.

## **2. Risk coverage**

110. The Committee is taking a number of steps to strengthen the risk coverage of the Basel II framework. In July 2009, it issued a set of proposals to raise banks' capital requirements for trading book exposures, resecuritisations and liquidity lines to ABCP conduits. These requirements take effect at the end of 2010.

111. The remainder of this section presents the Committee's proposals to strengthen the capital requirements and risk management standards for counterparty credit risk.

## **Counterparty credit risk**

### **(a) Introduction**

112. In its review of the treatment of counterparty credit risk (CCR), the Committee engaged in a wide-ranging effort to ascertain areas where capital requirements for CCR need to be strengthened.<sup>23</sup> In conducting this review, the Committee carefully considered:

- areas where the current treatment did not adequately capitalise for the risks during the crisis;
- the provision of incentives to move bi-lateral OTC derivative contracts to multilateral clearing through central counterparties;
- the provision of incentives to reduce operational risk arising from inadequate margining practices, back-testing and stress testing; and
- whether the changes would contribute to reducing procyclicality.

### **(b) Key problems identified**

113. The Committee identified several areas where capital for CCR proved to be inadequate. Some of the concerns about the capital treatment of CCR have broader consequences and the resulting recommendations may, in some cases, affect areas outside of counterparty credit risk. In these cases, counterparty credit risk was where the problems were most apparent.

114. More specifically, the Committee has determined that the regulatory capital treatment for counterparty credit risk was insufficient in the following areas:

- During the recent market crisis, a key observation was that defaults and deteriorations in the creditworthiness of trading counterparties occurred precisely at the time when market volatilities, and therefore counterparty exposures, were higher than usual. Thus, observed generalised wrong-way risk was not adequately incorporated into the framework.<sup>24</sup>
- Mark-to-market losses due to credit valuation adjustments (CVA) were not directly capitalised. Roughly two-thirds of CCR losses were due to CVA losses and only about one-third were due to actual defaults. The current framework addresses CCR as a default and credit migration risk, but does not fully account for market value losses short of default.
- Large financial institutions were more interconnected than currently reflected in the capital framework. As a result, when markets entered the downturn, banks' counterparty exposure to other financial firms also increased. The evidence suggests that the asset values of financial firms are, on a relative basis, more correlated than those of non-financial firms. As such, this higher degree of

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<sup>23</sup> Counterparty credit risk 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.

<sup>24</sup> General and specific wrong way risk are defined below in paragraph 127.

correlation with the market needs to be reflected in the asset value correlations. The Committee, based on its empirical work, found evidence that asset value correlations were at least 25% higher for financial firms than for non-financial firms.

- The close-out period for replacing trades with a counterparty with large netting sets or netting sets consisting of complex trades or illiquid collateral extended beyond the horizon required for the capital calculations.
- Initial margining typically was very low at the start of the crisis and increased rapidly during the turmoil. This had a destabilising effect on many market participants and sometimes caused or precipitated defaults. Capital based on Effective expected positive exposure (EPE)<sup>25</sup> did not provide sufficient incentive for adequate initial margins to be required at all points of the cycle.
- Central Counterparties (CCPs) were not widely used to clear trades.
- Securitisations were treated as if they had the same risk exposure as a similarly rated corporate debt instrument. In the aftermath of the crisis, securitisations have continued to exhibit much higher price volatility than similarly rated corporate debt. Under the Basel framework, the standardised haircuts currently treat corporate debt and securitisations in the same manner.

115. The crisis also revealed a number of shortcomings in banks' risk management of counterparty credit exposures, including in particular the areas of back-testing, stress testing and monitoring of wrong way risk.

- Back-testing: The difficulties in statistical interpretation of back-testing results for counterparty credit risk suggest that many firms did not appropriately consider problems that were identified by back-testing. The use of models with poor back-testing results contributed to an underestimation of actual losses.
- Stress testing: Stress testing of counterparty credit risk was not comprehensive; was run infrequently, sometimes on an ad hoc basis; and, in many banks, provided inadequate coverage of counterparties or the associated risks.
- Wrong way risk: Transactions with counterparties, such as the financial guarantors, whose credit quality is highly correlated with the exposure amount, contributed to the losses during the crisis.
- Use of own estimates of Alpha:<sup>26</sup> Where Alpha is set using an own estimate of economic capital (numerator) to economic capital based on EPE (denominator), there can be significant variation in such estimates arising from the mis-specification of the models used for the numerator, especially for exposures with non-linear risk profiles.

### **(c) Overview of Recommendations**

116. The Basel Committee is proposing a series of changes to the Basel II framework to strengthen CCR capital requirements, related risk management practices, and asset

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<sup>25</sup> 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.

<sup>26</sup> Alpha is a multiplier applied to Effective EPE to determine exposure at default. Alpha may be set using an own estimate with a floor of 1.2 instead of a fixed factor of 1.4.

correlations. These proposals are grounded in observations from the crisis, empirical work and industry surveys, and would:

- Require that the Effective EPE metric be calculated on data that includes a period of stress;
- Incorporate a simple capital add-on to better capture CVA risk that recognises a clearly defined set of hedges;
- Implement an explicit Pillar 1 capital charge for specific wrong-way risk;
- Apply a multiplier of 1.25 to the asset value correlation of exposures to regulated financial firms (with assets of at least \$25 billion) and to all exposures to unregulated financial firms (regardless of size). The Committee continues to conduct analysis to assess the appropriate calibration of the proposed multiplier and asset size threshold;
- Extend the margin period of risk to 20 days for OTC derivatives and securities financing transactions (SFTs) netting sets that are large (ie over 5,000 trades), have illiquid collateral, or represent hard-to-replace derivatives. The requirements would double the margin period of risk for netting sets which have recently experienced a material number of extended disputes;
- Update the “shortcut method” (used by banks that cannot model EPE with margin agreements) to recognise that some of the simplifying assumptions related to collateral management and margining did not reflect actual practice;
- Implement various improvements in the calculation of exposure at default (EAD) to promote more robust collateral management practices (eg failure to address the risk of downgrade triggers and the inability of some banks to model collateral jointly with exposures) and in the operations and risk analysis supporting the collateral management process (eg re-use of collateral);
- Create a separate supervisory haircut category for repo-style transactions using securitisation collateral and prohibit resecuritisations as eligible financial collateral for regulatory capital treatment purposes;
- Increase the incentives to use CCPs for OTC derivatives and recognise that collateral and mark-to-market exposures to CCPs could have a zero percent risk weight if they comply with the stricter CPSS/IOSCO recommendations for CCPs,<sup>27</sup>
- Enhance counterparty credit risk management requirements by 1) addressing general wrong-way risk, 2) making the qualitative requirements for stress testing more explicit, 3) revising the model validation standards, and 4) issuing supervisory guidance for sound back-testing practices of CCR; and
- Place additional constraints on firms’ own estimates of Alpha to avoid mis-specification of the risk and promote greater consistency across firms.

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<sup>27</sup> These recommendations by the Committee on Payment and Settlement Systems (CPSS) and the International Organization of Securities Commissions (IOSCO) are being updated. The Basel Committee will contribute to this update with the goal of establishing a single set of generally applicable CCP requirements for regulatory purposes.

(i) *Revised metric to better address counterparty credit risk, credit valuation adjustments and wrong-way risk*

117. The Committee notes that its recommendations will, in some cases, need to be adapted to properly apply to the standardised approach to credit risk and current exposure methods of calculating counterparty credit risk and that a review of the interaction of the three methods of calculating such risk will be required.

*Effective EPE with stressed parameters to address general wrong-way risk*

118. General wrong-way risk is the risk that 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 counterparty is positively correlated with the probability of default of the counterparty due to the nature of the transactions with that counterparty.

119. The significant general wrong-way risk that was evidenced during the recent market crisis calls for a strengthening of the point-in-time estimate of average future exposure, such as Effective EPE<sup>28</sup> as the basis for determining EAD for trading counterparties. While this metric has a number of shortcomings, the Committee, after consideration of several alternatives, is proposing to retain Effective EPE as the metric used for EAD, but to ensure that parameters, such as volatilities and correlations, are calibrated based on the more conservative of a historic period that includes stress or the most recent period of experience. The Committee notes that the calibration of the Alpha add-on factor already includes an adjustment for wrong-way risk.

120. The stressed period to be used for calibration under this proposal should be consistent with the Committee's recent revisions to the Market Risk framework for stressed VaR. Accordingly, the Committee is proposing that the stressed Effective EPE be based on model parameters calibrated over a three-year period that includes the one-year stressed period used for Stressed VaR for credit assets. This consistency with the market risk framework is in line with the Committee's view that over time CCR should, to the extent it involves market-related risks, be treated in an integrated manner with market risk. In its recent revisions to the Market Risk framework, banks will be required to use stressed calibrations to determine Pillar 1 requirements for the trading book. The use of the credit asset stress period is consistent with the objective to obtain EADs that are appropriate for a credit downturn.

121. In addition, given that the stressed period of risk could have occurred several years prior, the Committee is proposing that banks also calculate EAD using current market data and that this be compared with the EAD derived using the stressed parameters. When parameters are estimated historically, the current market data must be based on at least the most recent three-year period. Banks would then have to use the maximum of 1) the portfolio-level capital charge based on Effective EPE using current market data and 2) the portfolio-level capital charge based on Effective EPE using the three year period that includes the one year stressed period (ie that is used for the Stressed VaR calculation). Such an approach would result in the "use test" still being relevant and would capture changes in the current economic environment. Furthermore, use of Effective EPE with stressed

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<sup>28</sup> Effective Expected Positive Exposure 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.

parameters implicitly considers general wrong-way risk and reduces the cyclicity of the capital requirement.

122. In order to implement these changes, a new paragraph 25(i) would be inserted in Annex 4 of the Basel II framework and the existing paragraph 61 of Annex 4 would be revised as follows:

**25(i). Banks must use the maximum of the portfolio-level capital charge based on Effective EPE using current market data and the portfolio-level capital charge based on Effective EPE using the three year period that includes the one year stressed period that is used for the Stressed VaR calculation in the updated trading book rules for market risk.**

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. **The model must also employ data from a three-year period that includes the one-year stressed period that is used for the market risk Stressed VaR calculation for credit assets.** 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.

#### *Bond-equivalent of the counterparty exposure to capture CVA losses*

123. To better capture CVA losses, the Committee also is proposing to implement the “bond-equivalent of the counterparty exposure” approach. In practice, this proposal provides a capital add-on by using a bond equivalent as a proxy for CVA risk. It covers the 99% worst-case CVA profit and loss (P&L) as per the market risk framework as an addition to the existing treatment of default risk. This proposal is based on a representation of the P&L from CVA as being long a hypothetical bond issued by the counterparty where:

- the notional of the “bond” would be the total EAD of a counterparty (treated as fixed);
- the maturity of the “bond” would be the Effective Maturity (M) of the longest dated netting set of a counterparty; and
- the time horizon would be one year, as opposed to the market risk framework’s 10-day time horizon.

124. Given that the risks are very similar, an appropriate amount of regulatory capital for CVA can be determined using the market risk capital charge required for a hypothetical bond-equivalent position. Since the counterparty’s total EAD is used as the notional amount of the “bond” and it is based on future exposure, the EAD will factor in upfront some potential adverse future variations in exposure, which can be a source of CVA mark-to-market (MtM) losses. Moreover, given that the spread of the counterparty is used directly, the bond

equivalent approach fully reflects the spread risk of CVA, which has been the major source of CVA-related losses over the recent market turbulence. However, the extent of CVA losses might be understated by the fact that the value of the notional is held fixed when determining the capital charge. Nevertheless, the notional amount of the hypothetical bond will be updated as EAD changes whenever the capital charge is calculated for regulatory purposes. An advantage of this approach is that it can be implemented by firms using their current measurement systems. Subject to the emergence of more consistent industry practices, the Committee will review other internal approaches that more accurately reflect the risk from change in exposure.

125. Under the bond equivalent approach, single-name credit default swap (CDS) hedges that reference the counterparty to which the bank is exposed will be recognised. This should provide an incentive for banks to hedge the CVA risk, which many failed to do prior to the crisis. In addition, the market risk charge applied to the bond equivalent amount would not include the Incremental risk charge (IRC) because the default risk is already addressed by the revised trading book framework. That is, under this proposal, the general market risk charge is to be applied to the bond-equivalent amounts and associated single-name CDS hedges, separately from the rest of the market risk exposures, rather than incorporating these into the firm's overall VaR methodology and thereby allowing for other types of offsets. To implement the bond equivalent approach, the Committee is proposing to insert a new section VIII to Annex 4 of the Basel II framework as follows:

#### **VIII. Treatment of mark-to-market counterparty risk losses**

**96. In addition to the capital requirements for counterparty risk determined based on the standardised or internal ratings-based (IRB) approaches for credit risk, a bank must calculate an additional capital charge to cover mark-to-market unexpected counterparty risk losses. This additional charge must be calculated by treating counterparty exposures as bond-equivalents, and is determined by applying the applicable regulatory market risk charge to such bond-equivalents, after excluding the Incremental Risk Charge (IRC).**

**The additional capital charge should be calculated as the stand-alone market risk charge (excluding IRC) for a set of bonds and associated hedges. In this set there is one bond per OTC derivative counterparty, and this bond has the following characteristics:**

- **Notional of the bond: the current total EAD of the counterparty across all its OTC derivative netting sets. This EAD should be calculated according to the applicable Basel II CCR approach for OTC derivatives used by the firm, outlined in this Annex (CEM, Standardised or IMM).**
- **Maturity of the bond: the longest Effective Maturity across OTC derivative netting sets with this counterparty. The Effective Maturity should be calculated according to the applicable Basel II CCR approach for firms under the IMM or IRB approaches. Firms that are not using the IMM or IRB approaches can use the estimates of Effective Maturity outlined in Paragraph 320, or a fixed value to be used as the maturity of the bond.<sup>29</sup>**

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<sup>29</sup> **The fixed value to be used as the maturity of the bond will be calibrated as part of QIS exercise.**

- **Type of bond: zero-coupon.**
- **Spread used to discount the bond-equivalent: The spread used to calculate the Credit Valuation Adjustment (CVA) of the counterparty. Whenever the CDS spread of the counterparty is available this must be used. Whenever the CDS spread is not available, the proxy spread used to determine the CVA for fair-value accounting purposes must be used as the spread of the bond.**

**This market risk charge consists of both general and specific risks, including Stressed VaR but excluding the IRC. In applying this charge, both general interest rate and credit spread risks must be taken into account. If the firm has VaR approval for bonds then the charge should be calculated using the firm's authorised VaR model for such bonds. If not, the standardised general market risk charge should be used. The stress period to use for the Stressed VaR component of this market risk charge is the stress period that the firm uses for credit assets for market risk regulatory capital purposes.**

**The liquidity horizon to use for this market risk charge is one year, instead of the 10-day horizon used for market risk capital purposes. If the firm's VaR model does not calculate the one-year VaR directly, and in the case of the standardised approach, this one-year liquidity horizon should be calculated by multiplying the 10-day market risk charge by 5 (the square root of 25).**

**This capital charge should be calculated in a standalone manner on the portfolio composed of the set of bond-equivalents described above and their eligible hedges. No offset against other instruments on the firm's balance sheet should be reflected. For this capital charge, the only eligible hedges that can be recognised are single-name CDSs, single-name contingent CDSs or other equivalent hedging instruments directly referencing the counterparty. For contingent CDSs, the notional should be treated as fixed and equal to its current value. Other types of hedges should not be offset against the bond-equivalents within this charge, and these other hedges should be treated as any other instrument in the firm's exposures for regulatory capital purposes.**

#### *Wrong-way risk*

126. Transactions with counterparties, such as the financial guarantors, whose credit quality was correlated with the exposure amount contributed to the losses during the crisis. Current rules require monitoring of specific wrong way risk. However, no standard practice method for monitoring this type of risk has been developed among banks. These shortcomings in industry practices resulted in many firms entering into transactions with substantial exposure to wrong way risk. The Committee believes that the monitoring of this risk is important and that it should be tracked as part of ongoing credit assessments, as well as through regular reporting to senior management.

127. Wrong-way risk is typically defined as an exposure to a counterparty that is adversely correlated with the credit quality of that counterparty. In Basel II terms, wrong way risk arises when there is a positive expected correlation between EAD and PD to a given counterparty. There are two types of wrong-way risk, specific wrong-way risk and general wrong-way risk.

- Specific wrong-way risk typically arises from poorly constructed transactions. For example, consider a counterparty that provides its own shares as collateral. A long put option position on that counterparty's shares would put the bank at risk. A sharp drop in counterparty share price would increase the exposure to that counterparty at the same time the ability of the counterparty to meet its obligation decreases.

- General wrong-way risk is a term used to describe all other possible sources of positive correlation between an exposure and the probability of default. The June 2006 Basel II text states that general wrong-way risk “arises when the probability of default of counterparties is positively correlated with general market risk factors.”

128. Generally, wrong-way risk is accounted for in the Basel framework through the Alpha factor in the counterparty credit risk formula, which is a multiplier applied to the exposure amount. However, banks are required to 1) identify exposures that give rise to a greater degree of general wrong-way risk and 2) have procedures in place to monitor and control cases of specific wrong way risk, beginning at the inception of a trade and continuing through the life of the transaction (See paragraphs 57 and 58 of Annex 4).

129. During the recent crisis, there was significant evidence of banks’ being exposed to substantial wrong-way risk, particularly arising from the purchase of credit protection via credit default swaps from monoline insurers.

130. In periods of stress, as correlations increase, general wrong-way risk will present a problem for risk models. Regulations must ensure that banks’ risk models properly accounting for the possibility of increased general wrong-way risk that may accompany a period of stress.

131. The Committee concluded that it is extremely difficult to address general wrong-way risk through explicit capital charges and that implicit coverage of this risk through the Alpha multiplier is currently the best available option. In addition, the other changes proposed by the Committee, such as increasing the asset value correlations for financial firms and the use of stressed Effective EPE, should improve the coverage of general wrong-way risk. Nevertheless, to improve the identification and monitoring of wrong-way risk, the Committee is proposing to revise paragraph 57 of Basel II’s Annex 4 as follows:

57. Banks must identify exposures that give rise to a greater degree of general wrong-way risk. ***Stress testing and scenario analyses should 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 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 where specific wrong-way risk has been identified*

132. The same limitations that prohibit an explicit capital charge for general wrong-way risk do not apply to a capital charge for specific wrong-way risk. In the Committee’s view, specific wrong-way risk can and should be explicitly recognised and measured by banks, and, in fact, application of such a capital charge was previously recommended by the industry in 2001.<sup>30</sup>

133. Thus, the Committee is proposing to apply a capital charge for each counterparty for which there exists an explicit legal relationship that gives rise to measurable wrong-way risk.

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<sup>30</sup> See [www.isda.org/c\\_and\\_a/pdf/RGresserLetter-Sept701.pdf](http://www.isda.org/c_and_a/pdf/RGresserLetter-Sept701.pdf) for ISDA’s letter to the Basel Committee’s Models Task Force

Banks are already required to identify such legal relationships for the purposes of calculating the probability of default. More specifically, for single-name credit default swaps where there exists a legal connection between the counterparty and the underlying issuer, the Committee is proposing that the notional of the CDS be used as the EAD of the counterparty. In addition, for equity derivatives referencing a single company where there exists a legal connection between the counterparty and the underlying company, the Committee is proposing that the value of the derivative under the assumption of default of the underlying entity be used as the EAD of the counterparty.

134. Thus, in order to implement the proposed requirement that the EAD calculation reflect a higher EAD value for counterparties where specific wrong way risk has been identified, paragraph 423 of the main Basel text and paragraphs 29 and 58 of Annex 4 would 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. 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).***

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 said to be 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. ***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 equals the notional amount of the contract. For equity derivatives 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 derivative under the assumption of default of the underlying entity.***

(ii) *A multiplier for the asset value correlation for large financial institutions*

135. During the crisis, financial institutions’ credit quality deteriorated in a highly correlated manner and they proved to be relatively more sensitive to systemic risk than non-financial firms. As a result, financial institutions were more correlated than reflected in the current Basel II IRB framework. The work conducted by the Committee indicates that asset value correlations (AVCs) for financial firms were, in relative terms, 25% or more higher than for non-financial firms, and the Committee is of the view that this higher degree of correlation with the market needs to be reflected in the IRB capital framework. For this reason, the Committee is proposing that a multiplier of 1.25 be applied to the AVC of financial firms. Under this proposal, the AVCs between financial firms would range from 15% to 30%, as

opposed to the 12-to-24% range currently set forth in the Basel II framework. The Committee is conducting further analysis on the appropriate calibration of this proposed multiplier.

136. The definition of financial firms would be broadly defined to include banks, broker-dealers, insurance companies, and highly leveraged entities, such as hedge funds and financial guarantors, since all of these firms exhibited heightened sensitivity during the crisis. Exposures to smaller banks, broker/dealers and insurance companies did not exhibit this sensitivity to the same extent. As a result, the Committee is proposing to limit the application of the multiplier to exposures to banks, broker/dealers and insurance companies with assets of \$25 billion or more. It is conducting additional analysis to verify the appropriate calibration of the proposed threshold. Under this proposal, exposures to unregulated financial intermediaries, including highly leveraged entities that derive the majority of their revenues from financial activities, such as hedge funds and financial guarantors, would always be subject to the higher AVCs, regardless of asset size. The Committee is seeking comments from the industry and other stakeholders on the appropriate definitions for regulated and unregulated financial intermediaries, and will seek to capture consistent data using different possible definitions during the 2010 impact assessment.

137. While the higher AVC was evident in counterparty exposures, the effect was not limited to such exposures, but extended to other exposures between financial institutions such as interbank lending, which also experienced system wide stress. Furthermore, default on any of these financial exposures leads to default on all other such exposures. For this reason, the Committee proposes that the multiplier on the AVC parameter be applied to all financial exposures under the IRB approach, subject to the above \$25 billion limit.

138. The Committee is aware that the proposed 25% increase in AVC could result in a percentage increase in capital requirements that is actually higher due to the nonlinear relation between capital and the AVC. The effect is more pronounced for the low PD and high AVC counterparties for whom capital could increase by approximately 35%.

139. In order to implement the AVC multiplier, paragraph 272 of the Basel framework would be revised as follows:

272. Throughout this section, PD and LGD are measured as decimals, and EAD is measured as currency (eg euros), except where explicitly noted otherwise. For exposures not in default, the formula for calculating risk-weighted assets is:<sup>31, 32</sup>

$$\text{Correlation (R)} = 0.12 \times (1 - \text{EXP}(-50 \times \text{PD})) / (1 - \text{EXP}(-50)) + 0.24 \times [1 - (1 - \text{EXP}(-50 \times \text{PD})) / (1 - \text{EXP}(-50))]$$

$$\text{Maturity adjustment (b)} = (0.11852 - 0.05478 \times \ln(\text{PD}))^2$$

$$\text{Capital requirement}^{33} \text{ (K)} = \frac{[\text{LGD} \times \text{N}[(1 - \text{R})^{-0.5} \times \text{G}(\text{PD}) + (\text{R} / (1 - \text{R}))^{0.5} \times \text{G}(0.999)] - \text{PD} \times \text{LGD}] \times (1 - 1.5 \times \text{b})^{-1} \times (1 + (\text{M} - 2.5) \times \text{b})$$

<sup>31</sup> Ln denotes the natural logarithm.

<sup>32</sup> N(x) denotes the cumulative distribution function for a standard normal random variable (ie 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.

Risk-weighted assets (RWA) =  $K \times 12.5 \times \text{EAD}$

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 multiplicative factor of 1.25 applies to the formula used to compute the correlation for exposures to financial intermediaries that are regulated banks, broker/dealers and insurance companies with assets of at least \$25 billion, and for exposures to other (unregulated) financial intermediaries, including highly leveraged entities that generate the majority of their revenues from financial activities, such as hedge funds and financial guarantors. Exposures to regulated banks, broker/dealers and insurance companies that have assets below the \$25 billion threshold would, for the purpose of calculating the asset value correlation, be exempt from using the adjustment and receive the same treatment as other non-financial firms. Unregulated financial intermediaries would include [TO BE DEFINED], but would exclude [TO BE DEFINED]. Illustrative risk weights are shown in Annex 5.***

140. The Committee welcomes comments on the definition of unregulated financial institutions. The Committee believes that further work on the absolute level of AVCs and on the assumption of an inverse relation between PDs and AVCs is required.

*(iii) Collateralised counterparties and margin period of risk*

141. The Committee has evaluated the suitability of the existing requirements for collateral under the Basel II Internal Model Method (IMM) framework in light of the recent market crisis and has identified several areas where these requirements need to be modified or where new requirements are warranted. The proposed changes set forth below constitute modifications to the existing regime either through recalibrations or enhanced standards, and do not result in fundamental departures from the framework.

142. The recent market crisis has shown that close-outs can amount to longer risk horizons than the supervisory floors of 10 days for OTC derivatives and 5 days for SFTs, and highlighted factors that are not captured by the current framework. Fundamentally, the liquidity of trades, the cost of hedging open positions, the size of netting sets and the length of disputes were observed to be the key causes for longer close-out risk horizons. Notwithstanding these drivers, many close-outs were completed rapidly during this volatile period, but often at the cost of accepting price discounts. While the Committee believes that the current supervisory floors should be retained, there are some specific circumstances where the floors should be increased to capture the illiquidity of collateral and trades, the length of margin call disputes, as well as the costs of trade replacement and operations. Without adjustment to the margin period of risk, EAD in these instances could be substantially underestimated.

143. In addition, there are a number of areas of concern that were highlighted during the recent crisis related to the management and operation of the collateral management process. For instance, the operational effectiveness of banks' collateral departments was inadequate as they experienced substantial problems with respect to systems and data integrity, levels

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<sup>33</sup> If this calculation results in a negative capital charge for any individual sovereign exposure, banks should apply a zero capital charge for that exposure.

of staffing, risk reporting, and adhesion to the legal terms of collateral agreements. The increased number of large and lengthy collateral disputes across the industry often has been a consequence of these underlying issues. Also during the market crisis, IMM banks experienced losses or liquidity strains due to the reuse (eg rehypothecation or reinvestment) of collateral assets (both cash and non-cash) received from counterparties and the subsequent requirement to return collateral on short notice.

144. Furthermore, the existing IMM framework does not specify any required level for collateral haircuts and, as a result, firms have used different standards to transform non-cash collateral into cash-equivalent values for risk measurement purposes. Nor does the Basel II text require modelling of SFTs of non-cash collateral, where the collateral is often as volatile as the underlying transaction, which can result in measures that do not reflect potential wrong-way risk between the exposure and the collateral.

145. Downgrade triggers in margin agreements have been a source of liquidity strain for a number of market participants during the market crisis and have thereby often precipitated the deterioration in the creditworthiness of counterparties. However, the existing text does not explicitly disallow their reflection in EAD. Reflecting downgrade triggers produces lower EADs, and therefore reduces capital, even though these triggers are a source of increased risk for the counterparty.

146. In addition, since the crisis the valuation of securitisation exposures have become substantially more volatile than similarly rated corporate debt. The current supervisory haircuts method applies the same haircuts to repo-style transactions of securitisations and corporate debt of the same rating. This treatment no longer reflects the existing realities of the market and, for this reason, the Committee is proposing that a separate supervisory haircut category be implemented for securitisation exposures to better reflect the greater volatility of these instruments. As proposed, the new haircuts for securitisations would be double the supervisory haircuts applied to corporate debt. Furthermore, re-securitisations as recently defined in the securitisation framework would no longer be eligible collateral.

147. Another concern is that the "shortcut" method in the existing framework allows firms to calculate future exposure as the sum of the margin threshold and the expected change in exposure over the margin period of risk. This implicitly assumes that all collateral has been received and does not reflect margin call disputes in the exposure measurement. Some very large and long-running disputes have been observed in the past year, and this approach without adjustment from firms could have resulted in substantial understatements of EAD.

148. As a result of these shortcomings in the current text, the Committee is proposing revisions to the text of Basel II's Annex 4 to add requirements that would:

- increase the margin period of risk for certain netting sets;
- amend the "shortcut method" so that more realistic simplifying assumptions are taken into account to estimate Effective EPE when a bank cannot model margin requirements along with exposures;
- prevent the reflection in EAD of any clause in a collateral agreement that requires receipt of collateral when a counterparty's credit quality deteriorates (ie downgrade triggers);
- enhance the controls regarding the reuse (ie rehypothecation and reinvestment) of collateral. Banks must monitor and report on a regular basis to senior management on the levels of collateral (by category, credit quality and maturity) that is reused and ensure that their cash management policies for their liquidity needs;

- use the supervisory haircuts when transforming non-cash collateral for OTC derivatives into cash-equivalent when they are unable to model the collateral jointly with the exposure; and
- enhance the operational performance of the collateral department. Specifically, a bank must have a collateral management unit that is responsible for calculating and making margin calls; managing margin call disputes; controlling the integrity of the data used to make margin calls; tracking the reuse of collateral; tracking collateral asset concentrations; and producing and maintaining appropriate collateral management information to be reported on a regular basis to senior management. This will also require revisions to Pillar 2.

149. Furthermore, the Committee is proposing revisions to the credit risk mitigation section of the framework to add qualitative collateral management requirements to ensure that sufficient resources are devoted to the orderly operation of margin agreements for OTC derivative and SFT counterparties, and that collateral management policies are in place to control, monitor, and report risk arising from margin agreements to senior management, concentrations to collateral asset classes and the reuse of collateral assets.

*Increase the margin period of risk*

150. The Committee is proposing an increase in the supervisory floors for margin periods of risk for both OTC derivatives and SFTs in order to capture the risks outlined above. Specifically, the Committee proposes that the margin period of risk be extended to 20 business days for netting sets 1) where the number of trades exceeds 5,000 or 2) that contain illiquid collateral or OTC derivatives that cannot be easily replaced in the marketplace (eg so-called bespoke or exotic derivatives). While management action to extend the margin period of risk beyond the regulatory minimum for complex or illiquid transactions was part of the original Basel II rules, the Committee believes that recent experience has demonstrated the need for additional bright line indicators of when to compel banks to extend the margin period of risk. In addition, this proposed capital treatment creates an incentive to reduce the size of netting sets, which should make them easier to close out when necessary thus reducing the relative level of CCR. Illiquid collateral and OTC derivatives that cannot be easily replaced will be characterised by the absence of active markets with sufficient depth and liquidity so that a counterparty can, within two or fewer days, obtain multiple price quotations that do 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).

151. The use of 20 business days is consistent with observed business practice at banks, particularly during the recent crisis. In addition, while “cliff effects” generally are undesirable, in this instance, the effect associated with the number of trades in a netting set would provide the desired incentive for banks to maintain netting set sizes below the 5,000 trade threshold.

152. In addition, the Committee is proposing that banks which have a history of margin call disputes on a netting set that exceed the margin period of risk would be required to double the applicable margin period of risk for the affected netting set. In particular, if a bank experiences more than two disputes regarding a particular netting set over the past two quarters that last longer than that netting set’s margin period of risk (eg 5 business days), then the margin period of risk for that netting set would double (eg 10 business days) for the next two quarters. Implementing such a requirement would capture the additional risk of long disputes and provide incentives for banks to limit such events.

153. 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 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 modelling 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 collateral that is illiquid, or an OTC derivative that cannot be easily replaced, a supervisory floor of 20 business days is imposed for the margin period of risk. Illiquid collateral and OTC derivatives that cannot be easily replaced will be characterised by the absence of active markets with sufficient depth and liquidity so that a counterparty can, within two or fewer days, obtain multiple price quotations that do 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 Level 3 securities). Liquidity for vanilla transactions can also be impacted during volatile market conditions, for example, when multiple firms have to liquidate or replace large volumes of transactions at the same time, thereby depressing the market. For this purpose, the liquidity of trades must be determined in the context of stressed market conditions.
  - 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 bank must reflect this history appropriately by using a margin period of risk that is 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 is determined to be equal to the supervisory floor, F, minus one day plus the N days. That is,**

$$\text{Margin Period of Risk} = (F-1) + N.$$

**Firms using this method must ensure that the model accounts for the effects on exposure due to all cashflows, path dependent effects of transactions, expiry of trades, and changes in sensitivities during the margin period of risk.**

*Revise the shortcut method for estimating Effective EPE*

154. Although not explicitly stated in Basel II, the intent of the “shortcut method” for determining Effective EPE (paragraph 41, Annex 4) was to permit firms to use their *near term*

*risk calculators* as typically used for market risk to estimate EAD for counterparty credit risk. The shortcut method is permitted for those banks that can model EPE without margin agreements but cannot achieve the higher level of modelling sophistication to model EPE with margin agreement.

155. In order to address the issues discussed above, the Committee is proposing that paragraph 41 of Basel II's Annex 4 be revised as follows:

41. A bank that can model EPE without margin agreements but cannot achieve the higher level of modelling sophistication to model EPE with margin agreements can use the following method for margined counterparties **subject to re-margining with frequency, N, and daily mark-to-market**. 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 a margin agreement; or
- b) **The threshold (T) plus the minimum transfer amount (MTA) under the margin agreement or, if it is larger, the current mark-to-market (MTM) minus the variation margin (VM). An add-on is applied to either amount that reflects the potential increase in exposure over the margin period of risk and incorporates the effect of initial margin (IM). The add-on is computed as the expected increase over the margin period of risk in the netting set's exposure, where initial margin and current MtM has been subtracted from the distribution of exposures. The following formula describes the calculation:**

$$\text{Effective EPE} = \max(T + \text{MTA}, \text{MTM} - \text{VM}) + \text{add-on}(\text{IM})$$

**Where add-on(IM) = E[ max{ MtM(t=s) – MtM(t=0) - IM , 0 } ]**

**MtM: Mark to market of all trades, excluding collateral**

**s: Margin period of risk**

**E[...]: expectation (= average over scenarios)**

**IM: Initial Margin**

A supervisory floor of five business days for netting sets consisting only of repo-style transactions subject to daily re-margining 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.

*Preclude downgrade triggers from being reflected in EAD*

156. In order to explicitly disallow downgrade triggers in EAD, a new paragraph 41(iii) will be inserted into Annex 4 to read as follows:

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

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

157. To implement the requirements designed to improve the collateral department operations, two new paragraphs, 51(i) and 51(ii), are proposed to 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 firm. 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 firms. 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 firm to limit its number of large disputes caused by trade volumes.***

51(ii). ***The firm'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 organisation of the collateral management unit;***
- the organisation 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;
- the verification of the model's accuracy through frequent backtesting.

*Requirements on the controls around the reuse of collateral by IMM firms*

158. To implement the proposed requirements on controls regarding the reuse of collateral, a new paragraph 51(iii) would be included in Annex 4 as follows:

**51(iii). A firm 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 firm must ensure that the nature and horizon of collateral reuse is consistent with its liquidity needs and does not jeopardise its ability to post or return collateral in a timely manner.**

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

159. To implement the proposed 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 recognise in its EAD calculations for OTC derivatives the effect of collateral other than cash of the same currency as the EAD, 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.**

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

160. To ensure the robustness of non-cash collateral, the Committee is proposing to insert a new paragraph 61(ii) in Annex 4 that reads 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 EAD jointly with the exposure in its EAD calculations for securities-financing transactions.**

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

161. 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, it is proposed to include a new paragraph 115(i) to the main text of the framework to 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 collateral asset classes, 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.**

*Revise text to establish standard supervisory haircuts for securitisation collateral*

162. To implement the proposed supervisory haircuts for securitisation collateral, a new paragraph 145(i) would be inserted into the Basel text and paragraph 151 would be revised as follows:

**145(i). Re-securitisations (as defined in the securitisation 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 standardised supervisory haircuts (assuming daily mark-to-market, daily remargining and a 10-business day holding period), expressed as percentages:

Issue rating for debt securities	Residual Maturity	Sovereigns	Other Issuers	<b>Securitisation Exposures</b>
AAA to AA-/A-1	<1 year	0.5	1	<b>2</b>
	>1 year <5 years	2	4	<b>8</b>
	> 5years	4	8	<b>16</b>
A+ to BBB-/	<1 year	1	2	<b>4</b>
A-2/A-3/P-3 and unrated bank securities	>1 year <5 years	3	6	<b>12</b>
	> 5years	6	12	<b>24</b>
BB+ to BB-	All	15	Not Eligible	<b>Not Eligible</b>
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, securitisation exposures would be defined as those exposures that meet the definition set forth in the securitisation framework.)*

### *Treatment of highly leveraged counterparties*

163. For highly leveraged counterparties the Committee is of the view that the use of an increased margin period of risk will, in effect, result in a more appropriate capital requirement. This is due to the fact that such counterparties (eg hedge funds) are usually margined, and therefore the increased margin period of risk would produce higher estimates for these exposures without the need for a separate adjustment. In addition, the presence of a margin agreement is itself a source of risk for the counterparty since it is a mechanism that can threaten its liquidity, and hence the increased margin period of risk is a natural way of reflecting the inherent wrong-way risk.

164. Regardless, the Committee believes it would be 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 proposing to revise paragraph 285 of the framework to read as follows:

285. For corporate and bank exposures, the PD is the greater of the one-year PD associated with the internal borrower grade to which that exposure is assigned, or 0.03%. For sovereign exposures, the PD is the one-year PD associated with the internal borrower grade to which that exposure is assigned. The PD of borrowers assigned to a default grade(s), consistent with the reference definition of default, is 100%. The minimum requirements for the derivation of the PD estimates associated with each internal borrower grade are outlined in paragraphs 461 to 463. **PD estimates for counterparties that are highly leveraged or for counterparties whose assets are predominantly traded assets should reflect the performance of the counterparty's assets based on periods of stressed volatilities."**

#### *(iv) Central counterparties*

165. Currently, banks' exposures to CCPs generally attract a zero EAD. The changes being proposed by the Committee will reinforce the existing incentive for banks to use CCPs for OTC derivatives as these revisions would increase the assessed capital requirements against such exposures if completed on a bilateral basis (rather than through a CCP).

166. CCPs will play an important role in the efforts to reduce systemic risks. Supervisors need to ensure that CCPs have strong risk management procedures in place, as well as be aware of the potential systemic risk that could arise due to concentrating transactions in a CCP that does not have strong risk management processes. Therefore, the Committee is of the view that collateral and mark-to-market exposures to CCPs could only have a zero exposure if they comply with the enhanced standards for CCPs which are to be later issued by the Committee on Payment and Settlement Systems (CPSS) and the International Organization of Securities Commissions (IOSCO). Counterparty credit exposures to CCPs that do not meet these high standards would be treated as bilaterally cleared exposures subject to a non-zero risk weight under the regulatory capital framework. Other exposures to CCPs, such as default or guarantee fund exposures, would require a capital charge that is higher than the current effective capital requirement of zero. The Committee will consider establishing simple risk weights for the exposures arising from guarantee fund contributions. Equity investments in CCPs will continue to receive equity treatment under Basel II.

167. The current CPSS/IOSCO recommendations for CCPs are being updated and the Basel Committee will contribute to this effort with the goal of establishing a single set of high standards for CCP that also can be used for regulatory capital purposes. Among others, the Committee is of the view that the following risk management elements should be addressed in the enhanced standards for CCPs:

- Establish a high specific level of initial margin and on-going collateral posting requirements;<sup>34</sup>
- Require a rigorous schedule for calculating margin requirements, monitoring exposures and conducting back-testing exercises, and a rigorous process for managing such risks;
- Require that procedures be in place to identify, monitor and limit the amount of specific wrong way risk, investment risk, settlement risk and default/guarantee fund risk to which a participant can be exposed;
- Require that a CCP has the financial resources necessary to withstand the default of significant participants under exceptional risk circumstances;
- Require that stress testing includes an analysis of the potential losses, the size of default fund needed, and the mechanics of accessing such a default fund under exceptional risk circumstances; and
- Clarify the responsibility for the supervision of CCPs.

(v) *Enhanced counterparty credit risk management requirements*

168. During the crisis, banks failed to adequately identify, measure and control their CCR exposures and existing risk management requirements were not adequately developed to help prevent unforeseen losses. In addition to enhancing the requirements for wrong-way risk, as discussed above, the Committee is proposing to further strengthen the risk management requirements by:

- making more explicit the qualitative requirements for stress testing that banks must perform when using the internal model method, such as ensuring complete trade capture, applying multifactor stress testing scenarios, requiring identification and quantification of collateral concentrations and the integration of stress test results into regular report to senior management; and
- revising the model validation section of Annex 4 and to issue a separate piece of supervisory guidance to better specify supervisory expectations for banks' back-testing practices for CCR.

169. The Committee also considered whether the Alpha factor needed to be recalibrated and came to the following conclusions:

- Alpha is a broad brush adjustment for which there currently is insufficient evidence to base a recalibration at a materially higher level;

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<sup>34</sup> Interoperability is generally considered as a way to stimulate competition between CCPs. There is a risk that this requirement could have negative consequences for existing interoperability agreements and discourage future ones. There are several ways in which CCPs can manage inter-CCP exposures in interoperability agreements and not all of them foresee the exchange of initial margin between interoperating CCPs (see 2008 report prepared by Joint Regulatory Authorities of LCH.Clearnet Group). If some of the existing agreements are of this latter type, then participating CCPs would be non compliant with the above requirement. As a consequence, a bank using a CCP involved in such agreement - that may currently enjoy the favourable capital charge by using the CCP - would actually lose the favourable capital treatment once the requirement would take effect. Concerning future agreements, this requirement would increase the costs of interoperability (CCPs would need to post initial margin with one another to maintain the favourable capital treatment for the banks that use them) and could therefore discourage CCPs from pursuing it. A possible way around this problem could be to exclude inter-CCP exposures from the initial margin calculations, provided that sufficient other safeguards are put in place by the interoperating CCPs.

- Given evidence of a higher proportion of CDS in bank portfolios, and continued mixed evidence of weak independence, argues against lowering the 1.4 Alpha floor or the own estimate Alpha floor of 1.2; and
- A significant variation in estimates of Alpha can arise from the mis-specification in the models used for the numerator, particularly where significant convexity is present. Language should be drafted to strengthen requirements for the supervisory review of banks' use of own estimates of Alpha.

170. In order to implement enhance language for banks' use of own estimates of Alpha, the Committee is proposing that paragraph 36 of Annex 4 be revised as set forth below to increase the robustness of the language permitting use of banks' own estimates of alpha by ensuring that supervisors are aware of the significant variation in estimates of Alpha that can arise from the opportunity for mis-specification in the models, especially where convexity is present.

36. To this end, banks must ensure that the numerator and denominator of alpha are computed in a consistent fashion with respect to the modelling 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 **and supervisors should be alert to the significant variation in estimates of alpha that arises from the opportunity for mis-specification in the models used for the numerator, especially where convexity is present.**

### *Stress testing*

171. Stress testing is an important risk management tool and this is especially true for counterparty credit risk management. Despite the importance of this tool, the development of stress testing for counterparty credit lags the development of stress testing for market risk or for traditional credit risk. Stress testing of counterparty credit risk faces several difficulties that have hindered its development. The multiplicity of counterparties makes it difficult to develop easily understood stress tests. Furthermore, exposure measures are still developing. For example, the use of CVA which allows banks to encapsulate credit rating and exposure into a single measure of counterparty credit risk is a recent development.

172. Fundamentally, counterparty credit stress testing must be done at the individual counterparty level. Lists of counterparty exposures under stress scenarios are the key element of all successful stress testing programs. However, stresses of CVA now allow aggregation to a firm-wide level, as well as joint stresses of counterparty creditworthiness and exposure.

173. For these reasons, the Committee is proposing to expand and make more explicit the qualitative requirements set forth in Annex 4 for stress testing that banks must perform when using the internal model method. More specifically, the Committee is proposing to revise the Basel II text by replacing the existing paragraph 56, Annex 4, of the Basel II text 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:***

- ***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 (eg, 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 (ie 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 firm-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 (eg industry and region), and aggregate firm-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 firm 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.**

## *Back-testing*

174. Banks that have received permission to use internal model methods to calculate counterparty credit risk regulatory capital are required to carry out on-going validation of their counterparty credit risk exposure models. The Basel Accord specifies that IMM firms back-test their EPE models, where back-testing is defined to be the comparison of the IMM model's output against realised values.

175. Back-testing is only one element of the validation process and recent experience with IMM firms has highlighted significant shortcomings in their ability to conduct appropriate back-testing. In addition, in the Committee's view, the approach to VaR back-testing is inappropriate for back-testing the internal models used for counterparty credit risk calculations.<sup>35</sup> Due to the identified shortcomings in back-testing practices and inappropriate use of VaR back-testing for purposes of CCR, the Committee is proposing to:

- revise section E (Model validation), Annex 4, of the Basel II framework;
- add a new paragraph 49(i) to section F (Operational requirements for EPE models); and
- issue recommendations in the form of supervisory guidance in order to provide additional information on supervisory expectations and guidance on good practice in the validation and backtesting of counterparty credit risk models. These recommendations will be issued shortly.

176. The proposed changes would read as follows:

**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 back-testing, ie an ex-post comparison of the risk measures<sup>36</sup> generated by the model against realised risk measures, as well as hypothetical changes based on static positions.***

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<sup>35</sup> Back-testing is the comparison of forecasts to realised outcomes. This comparison is either the comparison of a distribution with a single realised value at a point in time, as for market risk factor or exposure distribution back-testing, or the comparison of a single predicted value against some realised value at a point in time, as for back-testing EPE or pricing models. VaR back-testing is a particular example of the former comparison of testing forecast distributions against realised outcomes whereby a single aspect of the distribution, the 99<sup>th</sup> percentile, is tested.

<sup>36</sup> ***The "risk measures" refers not only to EEPE, the risk measure used to derive regulatory capital, but also to the other risk measures used in the calculation of EEPE such as exposure distribution, the positive exposure distribution, the market risk factors used to derive those exposures and the values of the constituent trades.***

- ***The bank must carry out an initial validation and an on-going review of the IMM model and all the models that input into the calculation of EPE that is independent of the model developers.***
- ***Board of directors and senior management should be actively involved in the risk control process and must regard 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 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 both traders and senior management.***
- ***A routine and rigorous programme of stress testing should be in place as a supplement to the risk analysis based on the day-to-day output of the bank's risk measurement model. The results of stress testing should be reviewed periodically by senior management, used in the internal assessment of capital adequacy, and reflected in the policies and limits set by management and the board of directors. Where stress tests reveal particular vulnerability to a given set of circumstances, prompt steps should be taken to manage those risks appropriately (eg by hedging against that outcome or reducing the size of the bank's exposures, or increasing capital).***
- ***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 organisation 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 set out in paragraphs 43-46.***
  - ***The on-going validation of counterparty credit risk models, including back-testing, 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. *Firms must document the process for initial and on-going validation of their IMM model and the models that input into the calculation of EPE to a level of detail that would enable a third party to recreate the analysis. This document must set out the frequency with which back-testing analysis and any other on-going validation will be conducted.***
- 44. *Firms 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 how unacceptable performance will be determined and addressed. The definition of acceptable and unacceptable performance must be unambiguous.***
- 45. *Firms must define how representative counterparty portfolios are constructed for the purposes of validating an EPE model and the relevant models that input into the calculation of EPE.***

- 46. When validating EPE models and the models that input into the calculation of EPE that produce forecast distributions, validation must assess the whole forecast distribution.**
- 46(i) As part of the initial and on-going validation of an IMM model and the models that input into the calculation of EPE, the following requirements must be met:**
- **A firm must carry out back-testing of its EPE model and all the relevant models that input into the calculation of EPE using historical data on movements in market risk factors prior to Supervisory approval. The back-testing must consider a number of distinct time horizons out to at least one year, over a range of start dates and covering a wide range of market conditions.**
  - **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 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. And,**
  - **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.**
  - **Historical back-testing on representative counterparty portfolios must be a part of the validation process. 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 firms need to conduct back-testing on hypothetical portfolios that are designed to test risk factor model assumptions, eg the modelled relationship between tenors of the same risk factor, and the modelled relationships between risk factors. Significant differences between the realised 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.**
  - **For IMM models based on the modelling of market risk factors, historical back-testing on market risk factor models must be a part of the validation process. Market risk factor model back-testing must be capable of identifying poor performance in the predictions of individual risk factors.**
  - **Firms must validate their EPE models and all relevant models that input into the calculation of EPE out to time horizons commensurate with the maturity of trades covered by the IMM waiver.**

- ***Firms must also back-test their EPE models and all relevant models that input into the calculation of EPE, including market risk factor models, out to long time horizons of at least one year.***
- ***Firms must back-test their EPE models and market risk factor predictions for a number of distinct time horizons using forecasts initialised on a number of historical dates.***
- ***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.***
- 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.
- ***The on-going validation of a firm's EPE model and the relevant models that input into the calculation of EPE must be based on 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 internal model method, a measure that is more conservative than the measure used to calculate regulatory EAD for every counterparty may be used in place of regulatory EAD with the prior approval of the supervisor. The degree of relative conservatism will be assessed upon initial supervisory approval and subject to periodic validation. ***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 firm level and netting set exposure calculations of EPE are appropriate.***

46(ii) Banks using an EPE model must meet the above validation requirements.

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 analyse 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.***

177. Finally, the Committee will be issuing shortly additional guidance to strengthen the backtesting of internal assessments of counterparty credit exposure.

### ***Addressing reliance on external credit ratings and minimising cliff effects***

178. A key concern in the crisis was the excessive reliance by many market participants, including banks, on external ratings, particularly for securitisation products, instead of conducting the necessary due diligence to understand the risks underlying the rated instrument.

179. Against this background, the Committee reviewed the treatment of external ratings in the Basel II framework, focusing on ratings of securitisations; criteria for what constitutes a “qualifying” rating; supervisory expectations for banks utilising ratings; and the impact of any “cliff effects” that occur from rating cut-offs in the framework. During its review, the Committee identified three negative incentives arising from the use of external ratings to determine regulatory capital requirements and has developed proposals to mitigate these incentives.

180. The first negative incentive that the Committee identified is the neglect of banks’ own independent internal assessment of risks. The use of external ratings under Basel II might have created an incentive for banks to rely too heavily on external ratings, thereby, neglecting their own independent internal assessment.

181. The second negative incentive arising from the regulatory use of external ratings, especially for calculating minimum capital requirements, is for rating agencies to produce “good ratings” (ie high-rating grades) for exposures instead of accurate and conservative assessments. Issuers, originators, and investors are all likely to be interested in “good ratings,” which attract lower capital requirements and expand the range of products eligible for investments or credit protection.

182. The third negative incentive is the issue of cliff effects in capital requirements, which could encourage banks not to seek ratings on positions just below the “cliff” and to rely on ratings just above the “cliff”.

183. One reason for using external ratings to assess capital requirements is that they provide a relatively standardised, harmonised, easy-to-understand, independent (third-party) measure that generally reflects the credit quality of a counterparty, issuer or investment product. Financial institutions and market players, in general, already used external credit ratings extensively in their risk management processes before external ratings were incorporated in the Basel II framework. In this regard, the Basel II framework is closely aligned with market practices. Hence, while the introduction of the credit ratings within the supervisory framework may not have changed market practice, it may have further legitimised the use of ratings in the minds of some market participants.

184. The removal of external ratings from the Basel II framework in the near to medium term would present the Committee with two extreme alternative approaches for assessing regulatory capital against the affected exposures (under Basel II, external ratings are primarily applied in the Standardised Approach and securitisation framework). The first option would be to return to a “Basel I-type” approach that would assign all exposures, regardless of credit quality to the same risk weight category, presumably the 100% risk weight. A move in this direction would essentially eliminate the notion of risk sensitivity and capital commensurate with the inherent risk of an exposure.

185. Alternatively, under the IRB approach, the Committee could permit the use of banks’ internal credit risk models to derive estimates of a securitisation exposure’s capital requirement using its estimated PD and LGD. However, the Committee has not been in favour of allowing banks to use their own internal credit risk models due to the uncertainty and lack of data with respect to asset correlations, which is the reason that supervisory established correlations are used in the Basel II framework. (Basel II builds on banks’ internal

data series for PD, LGD and EAD, but it does not permit the use of full credit models. Banks' data are inputs to a regulatory methodology for arriving at the capital requirement.) In addition, as recent experience has shown, banks' internal credit models have not performed well. Permitting banks to use their own internal models to estimate the capital requirements for securitisation exposures could increase pressure to permit the use of such models in Basel II more broadly. Thus, while there have been concerns expressed about the use of external ratings under the Basel II framework, including that reliance on external ratings could undermine incentives to conduct independent internal assessments of the credit quality of exposures, the removal of external ratings from the Basel II framework could raise additional issues for determining regulatory capital requirements.

186. In its July 2009 package of measures, the Committee required that banks supplement regulatory capital requirements based on externally rated securitisations with their own credit analysis and capital estimates of the exposure. In particular, banks must collect a range of information on the underlying collateral supporting securitisations exposures. Failure to conduct such due diligence will result in the bank having to deduct the exposure from capital.

187. The Committee has developed several additional proposals that will address the negative incentives associated with the use of external ratings for certain aspects of the Basel II framework, mitigate external rating cliff effects in the Standardised Approach, and incorporate the IOSCO *Code of Conduct Fundamentals for Credit Rating Agencies* into the Basel II framework's eligibility requirements to use ECAI assessments.

188. In addition, the Committee is undertaking a more fundamental review of the securitisation framework, which may lead to a recalibration of the capital charges under the Supervisory Formula Approach (which does not rely on external ratings) and the Ratings Based Approach (RBA), as well as the necessity of the hierarchy rule which requires the use of the RBA if an external rating exists.

#### *Standardised inferred rating treatment for long-term exposures*

189. When determining an inferred rating for an unrated exposure under the Standardised Approach, paragraph 99 of the Basel II framework states that 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 example, 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).

190. The Committee is proposing to revise paragraph 99 so that a low-quality issue rating would only apply to unrated exposures that are *pari passu* or subordinated to the low-quality rating. In other words, an unrated exposure would only have an inferred rating from low-quality issue-specific or issuer ratings that rank *pari passu* or senior to the unrated exposure. Also, in the absence of an issue-specific assessment or rating, a low quality issuer rating would apply to unrated subordinated exposures.

191. The suggested revision to paragraph 99 is set forth below:

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.

*Incentive to avoid getting exposures rated*

192. Under the Standardised Approach, sovereign, corporate and bank exposures rated below BB- or B- typically have a higher risk-weight than unrated borrowers. Banks might, therefore, prefer companies that are likely to be rated lower than BB- to avoid getting a rating so they can hold less capital against such exposures.

193. The Committee believes that the potential existence of such a bias should be explicitly considered under Pillar 2 by introducing a principle requiring banks to assess whether the risk weight to which an unrated exposure is assigned is appropriate.

194. Thus, the Committee is proposing to revise paragraph 733 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 also assess exposures, regardless of whether they are rated or unrated, and determine whether the risk weights applied to such exposures, under the Standardised 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, securitisation/complex credit derivatives, and large exposures and risk concentrations.

*Incorporation of language into the Basel II framework to incorporate the IOSCO Code of Conduct Fundamentals for Credit Rating Agencies*

195. The Committee is of the view that the IOSCO *Code of Conduct Fundamentals for Credit Rating Agencies* should be incorporated into the eligibility criteria for ECAs as a way to strengthen the existing ECAI eligibility criteria, which are designed to ensure the independence of the ECAI and avoid conflicts of interest. In addition, incorporating the code

of conduct fundamentals into the ECAI criteria would be consistent with the April 2009 G20 recommendation.

196. The Committee is proposing to incorporate elements of the IOSCO code of conduct into the Basel II framework by revising paragraphs 90, 91 and 565(b) as follows:

### 1. ***The recognition process***

90. National supervisors are responsible for determining ***on a continuous basis*** whether an external credit assessment institution (ECAI) meets the criteria listed in the paragraph below. ***National supervisors should refer to the IOSCO Code of Conduct Fundamentals for Credit Rating Agencies when determining ECAI eligibility.*** The assessments of ECAs may be recognised on a limited basis, e.g. by type of claims or by jurisdiction. The supervisory process for recognising ECAs 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 provided only to the issuer.*** 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; 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 standardised and IRB approaches of the securitisation framework:

(a) ***no change suggested***

(b) The external credit assessments must be from an eligible ECAI as recognised by the bank's national supervisor 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.*** 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 sensibility 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.

197. For the proposed changes to paragraph 565(b), the Committee is soliciting public comment regarding potential flexibility for the requirements that eligible credit assessments be publicly available. Such flexibility could be incorporated into the framework by including a footnote as follows:

*Footnote: 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.*

*“Cliff effects” arising from Guarantees and credit derivatives - Credit risk mitigation (CRM)*

198. The current CRM rules for Standardised banks (paragraph 195) and foundation IRB (FIRB) banks (paragraph 302) require “eligible guarantors” to be “externally rated A- or better” or “internally rated and associated with a PD equivalent to A- or better,” respectively. In order to mitigate the “cliff effects” that arises when the creditworthiness of a guarantor falls below the A- level of credit quality, the Committee believes that paragraphs 195 and 302 should be revised. Specifically, the Committee is proposing to eliminate the single A- minimum requirement, while maintaining a requirement in the Standardised Approach that a guarantor – other than sovereigns, PSEs, banks, and securities firms - be externally rated.

199. The two revised paragraphs would read as follows:

*Standardised Approach*

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

- sovereign entities,<sup>37</sup> PSEs, banks<sup>38</sup> and securities firms with a lower risk weight than the counterparty;
- other entities that are externally rated. ~~A- or better~~. This would include credit protection provided by parent, subsidiary and affiliate companies when they have a lower risk weight than the obligor.

*FIRB*

302. For banks using the foundation approach for LGD, the approach to guarantees and credit derivatives closely follows the treatment under the standardised approach as specified in paragraphs 189 to 201. The range of eligible guarantors is the same as under the standardised approach except that companies that are internally rated ~~and associated with a PD equivalent to A- or better~~ may also be recognised under the foundation approach. To receive recognition, the requirements outlined in paragraphs 189 to 194 must be met.

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<sup>37</sup> This includes the Bank for International Settlements, the International Monetary Fund, the European Central Bank and the European Community, as well as those MDBs referred to in footnote.

<sup>38</sup> This includes other MDBs.

### *Unsolicited ratings and recognition of ECAs*

200. The Committee's experience with the recognition of national ECAs has surfaced concerns regarding the use of unsolicited ratings. In general, the mapping process of ratings should be conducted in a conservative manner, taking into consideration that: (i) the methodologies upon which they are based are typically "point in time" and mainly based on public information; and (ii) the definition of default usually is narrower than the definition used in the context of solicited ratings by other ECAs.

201. The Committee is of the view that the Basel II framework should be amended so that it better specifies the characteristics of unsolicited ratings taking into account the need to ensure a level playing field among jurisdictions. Thus, the Committee is proposing to revise paragraphs 94 and 108 as follows:

94. Banks must use the chosen ECAs 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 ECAs **and to arbitrarily change the use of ECAs.**

108. As a general rule, banks should use *solicited* ratings from eligible ECAs. National supervisory authorities may, however, allow banks to use *unsolicited* ratings in the same way as solicited ratings ***if they are satisfied that the credit assessments of unsolicited ratings are not inferior in quality to the general quality of solicited ratings.*** However, there may be the potential for ECAs to use unsolicited ratings to put pressure on entities to obtain solicited ratings. Such behaviour, when identified, should cause supervisors to consider whether to continue recognising such ECAs as eligible for capital adequacy purposes.

### **3. Leverage ratio**

202. One of the underlying features of the crisis was the build up of excessive on- and off-balance sheet leverage in the banking system. In many cases, banks built up excessive leverage while still showing strong risk based capital ratios. During the most severe part of the crisis, the banking sector was forced by the market to reduce its leverage in a manner that amplified downward pressure on asset prices, further exacerbating the positive feedback loop between losses, declines in bank capital, and contraction in credit availability.

203. The Committee announced in 2009 its intention to introduce a leverage ratio as a supplemental measure to the risk-based ratio of Basel II. This decision was endorsed on 7 September 2009 by the Group of Central Bank Governors and Heads of Supervision, the Committee's governing body, and supported by the G20 leaders at the September 2009 Pittsburgh Summit.

204. The leverage ratio is intended to achieve the following objectives:

- constrain the build-up of leverage in the banking sector, helping avoid destabilising deleveraging processes which can damage the broader financial system and the economy; and
- reinforce the risk-based requirements with a simple, non-risk-based "backstop" measure based on gross exposure.

205. The Committee has designed a leverage ratio as a supplementary measure to the Basel II risk-based framework with a view to migrating to a Pillar 1 treatment based on appropriate review and calibration. To ensure comparability across jurisdictions, the leverage ratio will be harmonised internationally, fully adjusting for material differences in accounting,

and will appropriately integrate off-balance sheet items that have also been a major source of leverage in the last crisis.

206. The design of a leverage ratio requires a definition of capital (the capital measure) and a definition of total exposure (the total exposure or assets measure). The key elements of the Committee's proposal are listed below and summarised in the table in the Annex to this section.

- the measure of capital should be a high quality definition of capital as proposed in Section II.1 of this consultative document;
- to be measured consistently with financial accounts, exposures for on-balance sheet, non-derivative items should be net of specific provisions and valuation adjustments;
- physical or financial collateral, guarantees or credit risk mitigation purchased should not be allowed to reduce on-balance sheet exposures;
- netting is not allowed (this applies to both regulatory and accounting netting for derivatives, repo style transactions and the netting of loans and deposits);
- there should be consistency between the capital and exposure measures, so that items deducted from capital are also deducted from the exposure measure;
- certain off-balance sheet items should be included using a flat 100% credit conversion factor;
- securitisation exposures should follow the accounting measurement;
- repurchase agreements, reverse repurchase agreements and securities finance exposures follow the accounting treatment, but netting will be disallowed as noted above;
- written credit protection (eg written credit derivatives) is included at notional value in the exposure measure;
- the proposal for measuring the exposure of derivatives (other than credit derivatives) contains two alternatives: (i) to use the sum of on-balance sheet positive fair values; or (ii) additionally include the potential exposure (using the Basel II current exposure method); and
- a set of disclosures setting out the components required in the calculation as well as the final calculated value of the leverage ratio will be developed upon completion of the design of the leverage ratio.

207. The Committee has produced a detailed template and set of questions to assess the impact of the proposal.

**(a) Capital measure**

208. The Committee's proposal to improve the quality of capital is set out in Section II.1, and is appropriate for both risk-based and non risk-based (leverage ratio) purposes. It is not appropriate for banks to take excessive leverage using low quality capital that does not demonstrate the required permanence and loss absorbency on a going concern basis. That is, the definition of capital should not be used to increase leverage. A high quality measure of capital will therefore be used for the leverage ratio and the Committee intends to consider both Tier 1 capital and the predominant form of Tier 1 capital as possible measures. For the purposes of impact assessment the Committee also will collect data on total regulatory capital.

209. Items that are deducted completely from capital do not contribute to leverage, and should therefore also be deducted from the measure of exposure. That is, the capital and exposure should be measured consistently and avoid double counting. This means that deductions from regulatory capital (as set out in Section II.1) should also be made from the total exposure measure.

210. The treatment of investments in subsidiaries will follow the approach used in the risk-based capital framework. Where a bank has a subsidiary that is included in the accounting consolidation, but not in the regulatory consolidation, then the treatment is to deduct the holding in the subsidiary from capital and not to include the subsidiary's assets in the total exposure measure.

211. The treatment of securitisations is set out below, and follows the accounting treatment. (If the regulatory treatment results in a deduction from regulatory capital, then the amount of the deduction may be added back to capital for the purposes of the leverage ratio calculation).

**(b) Exposure measure**

1. *General measurement principles*

a. *Relationship with accounting*

212. The generally preferred measure of exposure for the leverage ratio follows the accounting measure of exposure. The advantages of this approach are that accounting data are readily available to the market and transparent, provide an independent measure of exposure to regulatory exposure; and are generally not risk-based. To be measured consistently with financial accounts, it follows that:

- total exposure should be net of provisions and valuation adjustments (eg credit valuation adjustments); and
- physical or financial collateral is not allowed to reduce exposure. This approach is also consistent with developing a non-risk based measure, and addresses concerns around uncertainty in the valuation and time to recovery of physical collateral.

213. Certain differences in accounting treatments across jurisdictions can have a significant impact on the measurement of a leverage ratio at an international level. The main difference in accounting between IFRS and GAAP arises from the netting of derivatives and repos. The adjustments for these differences are addressed below.

b. *Netting*

214. To achieve international consistency in netting, two approaches are considered possible in principle. The first approach is to disallow both accounting and regulatory netting, thereby focusing on gross measures of exposure. Such an approach recognises that zero gross exposure is different from zero netted exposure, where the latter may still entail significant counterparty, operational or other risks. The second approach is to apply a common set of regulatory netting rules, as currently set out in the Basel II framework.

215. Consistent with taking a non-risk based approach and international comparability, the proposed measure of exposure does not permit netting. This applies to netting of derivatives, repo style transactions, and the netting of loans against deposits.

216. As part of the impact assessment, the Committee will also collect data applying the regulatory netting approach for derivatives and repo style transactions.

## 2. *On-balance sheet items*

217. As noted above the general approach is to include items using the accounting balance sheet. For the purposes of the impact assessment the Committee proposes to collect additional data on the following specific items: high quality liquid assets; derivatives, repo style transactions, and securitisations.

### a. *High quality liquid assets*

218. The proposal is to include all assets (including high quality liquid assets) in the measure of exposure. This approach is simple, non risk-based and avoids the problem of trying to decide where to draw the line on inclusions and exclusions from the exposure measure based on relative liquidity.

219. The Committee's proposed international liquidity standard includes a definition of high quality liquid assets. The Committee will assess the interaction of the leverage ratio and liquidity framework requirements. In particular, the Committee will assess the impact of excluding certain high quality liquid assets, based on the liquidity framework definition, from the measure of exposure.

### b. *Repurchase agreements and securities finance*

220. Repo style transactions are a form of secured funding and therefore an important source of balance sheet leverage that should be included in the leverage ratio. The Committee proposes to include repo style transactions following the accounting measure of exposure but to disallow netting. By disallowing netting, the proposal deals with issues associated with international consistency in accounting standards, and also captures the leverage embedded in such transactions.

221. The Committee will also assess the impact of applying regulatory netting rules (based on the Basel II framework) as an alternative to the no-netting approach. This approach will also achieve international consistency.

### c. *Securitisations*

222. The Committee proposes to follow the accounting measure of exposure for securitisations. The Committee will also collect data to understand the impact of expected accounting changes (ie the treatment of qualifying special purpose entities in FAS140) if applicable.

223. For traditional (or funded) securitisations that meet the criteria for de-recognition of financial assets under the relevant accounting standards, the retained positions, as well as other forms of credit enhancements provided to the vehicle by the originator (eg liquidity facilities) are included in the calculation of the leverage ratio. For non-derecognised securitisations the underlying securitised portfolios (as opposed to the securitisation exposures) are included in the leverage ratio calculation.

224. According to the treatment provided for credit risk mitigation (see above), synthetic (or unfunded) securitisations do not reduce the exposures amount of the underlying portfolios.

225. In order to take into consideration the complexity of risks associated with securitisation operations, including cases where the originator could feel obliged to take back assets on the balance sheet, the Committee intends to consider, as an alternative approach, the total of all underlying securitised portfolios for the bank's originated securitisations. Such

an alternative approach is robust against differing accounting treatments across jurisdictions with regard to de-recognition.

### 3. *Derivatives*

226. Derivatives create two types of exposure: an “on-balance sheet” present value reflecting the fair value of the contract (often zero at outset but subsequently positive or negative depending on the performance of the contract); and a notional economic exposure representing the underlying economic interest of the contract.

227. The Committee will evaluate two distinct approaches without netting and also intends to understand the effect of those approaches with regulatory netting. The two options are: (i) follow the accounting approach but with no netting; and (ii) use the current exposure method to measure potential exposure but with no netting. The Committee also proposes to assess both options with regulatory netting.

228. The positive fair value of derivatives is in general negligible or very low at origination compared with its potential future value and economic leverage. The impact study therefore includes an assessment of the potential future value calculated using the current exposure method of the Basel II framework for counterparty credit risk.

229. The Committee considers that the advanced approaches of the Basel II framework for counterparty credit risk are not appropriate for a non-risk based measure of leverage.

#### a. *Credit derivatives*

230. Where a bank sells protection using a credit derivative its exposure is effectively the same as providing a guarantee, and therefore a 100% credit conversion factor will be applied. That is, the notional value of written credit derivatives will be included in the measure of exposure for the purposes of the leverage ratio.

231. Consistent with a gross measure of exposure and the treatment of credit risk mitigation for on-balance sheet items, bought credit protection will not be permitted to be netted off against written credit protection.

### 4. *Off-balance sheet items (excluding derivatives)*

232. This discussion relates to off-balance sheet (OBS) items in paragraphs 82-83, (including 83(i)), 84(i-iii), 85-86, and 88-89) of the Basel II framework. These include commitments (including liquidity facilities), unconditionally cancellable commitments, direct credit substitutes, acceptances, standby letters of credit, trade letters of credit, failed transactions and unsettled securities. The treatment of the items included in 83(ii) and 84, ie “repos” and securities financing transactions is addressed above.

233. OBS items are a source of potentially significant leverage. The failure to include OBS items in the measure of exposure creates an incentive to shift items off the balance sheet to avoid the leverage ratio constraint. The Committee therefore proposes to include the above OBS items using a 100% credit conversion factor. This approach is simple and consistent with the view that OBS items are a significant source of leverage.

234. The Committee also proposes to assess the impact of applying the Standardised Basel II credit conversion factors. However, the Committee considers that an internal models approach is not appropriate for a simple non risk-based measure and is therefore not considered.

235. The Committee will also separately assess the treatment of unconditionally cancellable commitments as part of the impact assessment, and also collect a detailed breakdown of the different OBS items.

**(c) Other issues**

1. *Pillar 3 disclosure*

236. The Committee believes that transparency and disclosure of the leverage ratio will be important in gaining credibility and market acceptance. The Committee will therefore require rigorous Pillar 3 disclosures. A disclosure template setting out the components required in the calculation as well as the final calculated value will be developed once the design has been finalised.

2. *Calibration*

237. Calibration of the supplementary measure is a crucial issue as it will determine the extent to which the measure acts appropriately in supplementing the risk-based measures. The Committee will carefully consider the calibration of the leverage ratio as part of the impact assessment, including interaction with the risk-based measure. Moreover, the ratio will be calibrated to constrain the build-up of leverage in the banking sector, helping avoid destabilising deleveraging processes which can damage the broader financial system and the economy. The Committee will therefore also consider the dynamic effects of a leverage ratio in the context of the overall package of reforms.

3. *Accounting standards and market developments*

238. The design of the leverage ratio relies on internationally consistent accounting rules where feasible. The Committee closely monitors accounting standards and will address any divergence across standards or issues that are materially significant for the future measurement of leverage.

**(d) Summary of the baseline proposal for a leverage ratio**

<b>Issue</b>	<b>Baseline proposal</b>	<b>Additional option for impact assessment</b>
<b>Capital measure</b>		
Definition of Capital	Tier 1 capital and the predominant form of Tier 1 capital.	Total regulatory capital
<b>Total exposure measure</b>		
Exposure measurement: valuation adjustments and provisions.	Exposure measures follow accounting treatment ie net of provisions and other valuation adjustments.	
Cash and cash-like instruments	Include cash and cash-like instruments.	Exclude liquid assets as defined by the WGL.

Off-balance sheet items in Para's 82-83, 85-86, and 88-89, <u>and written credit derivatives.</u>	Include the identified OBS items with a 100% credit conversion factor (CCF). Written credit protection is included at notional value.	Apply a lower (positive) CCF for unconditionally cancellable commitments, or Basel II standardised CCFs.
Credit risk mitigation and on-balance sheet netting	Do not reduce exposure for physical or financial collateral, and do not allow on-balance sheet netting	
Items deducted from the capital measure	Consistency between the capital and exposure measure. Items deducted from the capital measure are also deducted from the exposure measure.	
Securitisations	Use accounting data	Accounting on-balance sheet exposures plus underlying loan portfolio of securitisations that have been de-recognised.
Other derivatives (excluding credit derivatives)	Two options should be assessed for measuring potential exposure. The options are to ignore potential exposure or use the current exposure method.	
	Do not allow any netting (accounting or regulatory)	Use Basel II netting
Repurchase agreements and securities finance.	Do not allow any netting of repo and reverse repo positions	Use Basel II netting for repo-style transactions.

#### 4. Procyclicality

##### (a) *Cyclicality of the minimum requirement*

239. The Basel II framework has increased the risk sensitivity and coverage of the regulatory capital requirement. Indeed, one of the most procyclical dynamics has been the failure of risk management and capital frameworks to capture key exposures – such as complex trading activities, resecuritisations, and exposures to off-balance sheet vehicles – in advance of the crisis. However, it is not possible to achieve greater risk sensitivity across institutions at a given point in time without introducing a certain degree of cyclicality in minimum capital requirements over time. The Committee was aware of this trade-off during the design of the Basel II framework and introduced a number of safeguards to address excess cyclicality of the minimum requirement. They include the requirement to use long term data horizons to estimate probabilities of default, the introduction of so called downturn loss-given-default estimates, and the appropriate calibration of the risk functions, which convert loss estimates into regulatory capital requirements. The Committee also required that banks conduct stress tests that consider the downward migration of their credit portfolios in a recession.

240. In addition, the Committee has put in place a comprehensive data collection initiative to assess the impact of the Basel II framework on its member countries over the credit cycle. Given that credit losses in the banking book subject to the Basel II framework

are only now moving to their peak loss levels and that consistent data is available with a lag, it is still too early to opine on whether the Basel II framework is proving to be more cyclical than expected. Should the cyclical nature of the minimum requirement be greater than supervisors deem appropriate, the Committee will consider additional measures to dampen such cyclical nature. However, it should be noted that under the Basel II framework, banks and national supervisors already have the possibility to apply downturn or through-the-cycle PDs to dampen the cyclical nature of the minimum capital requirement.

241. The Committee has reviewed a number of additional measures that supervisors could take to achieve a better balance between risk sensitivity and the stability of capital requirements, should this be viewed as necessary. In particular, the range of possible measures includes an approach by the Committee of European Banking Supervisors (CEBS) to use the Pillar 2 process to adjust for the compression of PD estimates in IRB capital requirements during benign credit conditions. Addressing the same issue, the UK FSA has proposed an approach aimed at providing non-cyclical PDs in IRB requirements through the application of a scalar that converts the outputs of a bank's underlying PD models into through-the-cycle estimates. An alternative to dampening the volatility of the inputs to the Basel II capital requirement could be to dampen the output through a time-weighted averaging process. All of these approaches have advantages and disadvantages.

242. The Committee is conducting an impact study on two specific proposals. The first is based on the use of the highest average PD estimate applied by a bank historically to each of its exposure classes as a proxy for a downturn PD; the second is based on the use of an average of historic PD estimates for each exposure class. Over the forthcoming period the Committee will work on evaluating these and alternative proposals with a view to developing an appropriate harmonised approach; as well as evaluating whether any additional measures are needed to reduce cyclical nature on capital requirements outside of the IRB framework, and monitoring the actual cyclical nature of the Basel II requirement.

**(b) Forward looking provisioning**

243. The Committee is promoting stronger provisioning practices through three related initiatives. First, it is advocating a change in the accounting standards towards an expected loss approach. Second, it is updating its supervisory guidance to be consistent with the move to such an expected loss approach. Third, it is addressing disincentives to provisioning in the regulatory capital framework. And finally, it is promoting stronger disclosures of banks' provisioning practices.

244. The Committee strongly supports the initiative of the IASB to move to an expected loss approach. The goal is to improve the decision usefulness and relevance of financial reporting for stakeholders, including prudential regulators. It has issued publicly and made available to the IASB a set of principles that should govern the reforms to the impairment standards. In particular, loan loss provisions should be robust and based on sound methodologies that reflect expected credit losses in banks' existing loan portfolios over the life of the portfolio. The accounting model for provisioning should allow for early identification and recognition of losses by incorporating a broader range of available credit information than is permitted under the incurred loss model. The Committee communicated its guiding principles for the replacement of IAS 39 to the IASB in July 2009. These guiding principles also include principles related to fair value measurement and provisioning. The Committee will continue to work with the IASB with an aim to ensuring that these principles are met in practice when the details of the IASB's proposals are fleshed out over the coming months. The Committee will promote an EL approach that captures actual losses more transparently and is also less procyclical than the current "incurred loss" approach.

245. The Committee has begun the process of revising its supervisory guidance on sound provisioning practices to be consistent with the desired EL approach. Such guidance will assist supervisors in promoting strong provisioning practices under the expected loss approach. In practice, this means updating the 2006 document *Sound Credit Risk Assessment and Valuation for Loans*.<sup>39</sup> In this context, it is important that the new standard utilise approaches that draw from relevant information in banks' internal risk management and capital adequacy systems whenever possible.

246. The Committee also is reviewing the treatment of provisions under the Basel II capital framework with a view to removing disincentives to sound provisioning practices. In this context, the Committee is proposing that any shortfall of the stock of provisions to expected loss be deducted fully from the common equity component of Tier 1 capital, rather than the present deduction of 50% from Tier 1 and 50% from Tier 2 capital. As the addition to provisions reduces retained earnings and therefore common equity Tier 1 capital, so would any shortfalls under this proposal, thus eliminating the capital incentive to under-provision. The Committee also will review the treatment of excess provisions over expected losses, which currently are capped as a share of risk weighted assets within Tier 2 capital. In particular, the Committee will review this cap within the context of the expected loss approach to provisioning.

**(c) *Building buffers through capital conservation***

247. This section outlines a proposal to ensure that banks build up capital buffers outside periods of stress which can be drawn down as losses are incurred. The proposal is based on simple capital conservation rules designed to ensure that banks follow common sense best practice procedures to avoid breaching their minimum capital requirements.

*Capital conservation best practice*

248. Outside of periods of stress, banks should hold buffers of capital above the regulatory minimum. These buffers should be capable of being drawn down through losses and large enough to enable banks to maintain capital levels above the minimum requirement throughout a significant sector-wide downturn.

249. 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.

250. It is common sense 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.

251. 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.

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<sup>39</sup> Available at [www.bis.org/publ/bcbs126.htm](http://www.bis.org/publ/bcbs126.htm).

252. 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.

#### *Experience during the financial crisis*

253. Contrary to the best practice approach described above, at the onset of the financial crisis, some banks continued to pay out dividends even though their individual financial condition and the outlook for the sector were deteriorating. Much of this activity was driven by a sense that discretionary reductions in distributions could be seen as a sign of weakness. These actions made individual banks and the sector as a whole weaker. More recently, a number of banks have been quick to reinstate dividends and discretionary bonus payments while the banking sector remains in a fragile state, reducing the resilience of individual banks and the sector as a whole if the recovery falters.

254. To ensure that best practice is adopted by the banking sector as a whole, and to remove the temptation for banks to distribute more in an attempt to signal strength, whilst their financial condition has weakened, the Basel Committee has developed a proposal for capital conservation standards.

255. The proposed framework will reduce the discretion of banks which have depleted their capital buffers to further reduce them through generous distributions of earnings. In doing so it 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.

#### *The proposed framework*

256. A buffer range is established above the regulatory minimum capital requirement and capital distribution constraints will be imposed on the bank when capital levels fall within this range. Banks will be able to conduct business as normal when their capital levels fall into this range as they experience losses. The constraints imposed only relate to distributions, not the operation of the bank.

257. The distribution constraints imposed on banks when their capital levels fall into the range increase as the banks' capital levels approach the minimum requirement. 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.

258. The table below illustrates how this proposal could operate using discrete bands. The numbers in the table are illustrative and do not represent a view on relative or absolute levels, as the proposal still needs to be calibrated. Using the table as an example, if a bank suffers losses such that its capital level falls to a level above the minimum requirement equal to 30% of the size of the capital conservation range then the bank would be 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.

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**Individual bank minimum capital conservation standards  
(Numbers are illustrative and do not represent a proposed calibration level)**

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Capital conservation range is established above the minimum requirement

Amount by which a Bank's capital exceeds the minimum requirement in terms of a percentage of the size of the conservation range	Minimum Capital Conservation Ratios (expressed as a percentage of earnings)
[< 25%]	[100%]
[25% - 50%]	[80%]
[50% - 75%]	[60%]
[75% - 100%]	[40%]
[> 100%]	[0%]

259. Set out below are a number of other key aspects of the proposal:

- **Calibration:** This will be considered as part of the wider exercise to re-calibrate the capital framework. The guiding principle will be that the buffer must be large enough to enable banks to remain above the minimum requirement in the face of losses expected to be incurred in a feasibly severe downturn. In addition, the level of restrictions imposed within the buffer range need to be calibrated. This calibration will take into account evidence from distribution rates during periods of economic and financial stress.
- **Capital type:** To ensure that the buffer created can be drawn down, the capital used to comprise the buffer needs to be capable of absorbing losses on a going concern basis. Therefore the standard would be based on Tier 1 capital rather than total capital.
- **Elements subject to the restriction on distributions:** Items considered to be distributions would include ordinary dividends and share buybacks, discretionary payments on other Tier 1 capital instruments and discretionary bonus payments to staff.
- **Definition of earnings:** To be consistent this would be distributable profits calculated prior to the deduction of elements subject to the restriction on distributions.
- **Solo or consolidated application:** The framework would be applied at the consolidated level, ie restrictions would be imposed on distributions out of the consolidated group. National supervisors would have the option of applying the regime at the solo level to conserve resources in specific parts of the group.

- **Additional supervisory discretion:** Although the buffer must be capable of being drawn down, banks should not choose in normal times to forgo discretionary distribution to operate in the buffer range simply to compete with other banks and win market share. To ensure that this does not happen, supervisors would 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 would ensure that the capital plans of banks seek to rebuild buffers over an appropriate timeframe.

**(d) Excessive credit growth**

260. As witnessed during the financial crisis, losses incurred in the banking sector during a downturn preceded by a period of excess credit growth can be extremely large. These can destabilise the banking sector, which in turn can bring about or exacerbate a downturn in the real economy, which can further destabilise the banking sector. These inter-linkages highlight the particular importance of the banking sector building up its capital defences in periods when credit has grown to excessive levels. As capital is more expensive than other forms of funding, the building up of these defences should have the additional benefit of helping to moderate credit growth.

261. The Basel Committee is in the process of reviewing a regime which would adjust the capital buffer range, established through the capital conservation proposal outlined in the previous section, when there are signs that credit has grown to excessive levels. This will ensure that the banking sector builds up its ability to absorb the increased losses which could result and does so in an efficient manner.

262. The proposal is currently at an earlier stage of development and further work is needed to fully specify the details of how it would operate. The Committee will review a fully fleshed out approach at its July 2010 meeting. However, to promote discussion on this proposed approach, the Committee is putting forward its key elements:

- A macro-economic variable or group of variables would be identified and used to assess the extent to which in any given jurisdiction there was a significant risk that credit had grown to excessive levels. These would need to take into account the variations in the stages of development of financial sectors across jurisdictions. As an example, one variable which is being considered is the difference between the aggregate credit-to-GDP ratio and its long term trend.
- For each jurisdiction, when the variable breached certain pre-defined thresholds this would give rise to a benchmark buffer requirement. This could then be used by national jurisdictions to expand the size of the capital conservation buffer.
- Banks with purely domestic lending would be subject to the full expanded buffer. Internationally active banks would be required to look at the geographic location of their credit exposures and calculate their buffer as a weighted average of the buffers which are being applied in jurisdictions to which they have exposures.
- The proposal under development could not be implemented as a strict rules-based regime. Such an approach would require a high degree of confidence that the variables used would always, under all circumstances, perform as intended and would not send out false signals. This level of confidence will not be possible. Consequently, a benchmarking approach is being considered where the buffer generated is simply the starting point. The option will exist for authorities to increase or decrease the buffer as appropriate, taking into account the broader range of information which supervisors and central banks will be able to consider in the context of the circumstances which prevail at the time.

- Outside of periods identified as having a significant risk that credit had grown to excessive levels, the capital conservation range will remain at its target level above the minimum requirement.