

Basel Committee on Banking Supervision
Consultative Document
Operational risk –Revisions to the simpler approaches
Issued for comment by 6 January 2015

Dear Sirs

The BBA is the leading trade association for the UK banking sector with more than 230 member banks headquartered in over 50 countries with operations in 180 jurisdictions worldwide. Eighty per cent of global systemically important banks are members of the BBA. As the representative of the world's largest international banking cluster the BBA is the voice of UK banking.

We have the largest and most comprehensive policy resources for banks in the UK and represent our members domestically, in Europe and on the global stage. Our network also includes over 80 of the world's leading financial and professional services organisations. Our members manage more than £7 trillion in UK banking assets, employ nearly half a million individuals nationally, contribute over £60 billion to the UK economy each year and lend over £150 billion to UK businesses.

The BBA is pleased to respond to this consultation. ¹

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¹ <http://www.bis.org/publ/bcbs291.pdf>

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Introduction

Since the Committee published its consultation paper, it has also published “Reducing excessive variability in banks’ regulatory capital ratios: A report to the G20: November 2014”². In that report it states that:

1. *Supervisory experience with the AMA has been mixed and, given the inherent complexity of this part of the capital framework, the Committee is assessing whether a considerable simplification is needed.*
2. *The Committee has identified weaknesses in the implementation of the current floor. The Committee intends to publish for consultation towards the end of this year (2014) a revised capital floor based on the Standardised Approaches. To promote confidence in the risk-based capital measure, the floor will cover all risk categories, be transparent and ensure that internal model-based capital requirements do not fall below prudent levels. It will also provide a standardised regulatory-determined risk measure against which capital outcomes calculated using risk models can be compared, allowing for greater comparability across banks.*

In light of these and other comments expressed by the Committee, the BBA has found it difficult to respond to the consultation paper because we do not know the answers to the following questions. Specifically, what are the Committee’s views regarding:

1. The future use of an AMA model for the determination of a Pillar 1 capital requirement.
2. The use of RSA and or its purpose for AMA banks. Is it to be a floor or is it to be used merely as a benchmark?
3. The use of the OpCaR model. Is it a proxy AMA model or a comparative benchmark?

Therefore, our proposed response was going to reflect the uncertainty with respect to the future of prudential risk and regulation and the overall calibration of the capital framework and the application of capital floors to all risk and or specifically to Operational Risk.

However, on 22nd December 2014, the Committee published a paper that has clarified its ideas with regard to capital floors. “Capital floors: the design of a framework based on standardised approaches - consultative document”³. In the document the Committee sets out an approach to the level of aggregation of risk categories on page 6: pointy 17. *In principle, a floor can be applied to each major risk category, such as credit risk, market risk and operational risk (“risk category-based floors”). Such an approach can be seen as setting a minimum average risk weight by risk category that is calibrated to a percentage of the respective standardised approaches. Alternatively, a floor can be based on total RWAs (“aggregate RWA-based floor”).*

The implication of this would be - if implemented - is that the calculation of the minimum capital requirement for operational risk using the proposed revised standardised approach (RSA) as set out in the consultation paper would be used explicitly as a floor on a standalone basis or in aggregate.

Therefore, our high-level response is in two parts:

² <http://www.bis.org/bcbs/publ/d298.pdf>

³ <http://www.bis.org/bcbs/publ/d306.htm>

Overall - Summary comments

RSA not used as a floor on a standalone basis or in aggregate

If the Committee was to reaffirm to institutions the importance of modelling operational risk to calculate the minimum Pillar 1 capital requirement and that the RSA will not be used as a floor, then in principle the BBA supports the committee's proposals and agrees that it could strike an appropriate balance across the Committee's objectives of simplicity, comparability and risk sensitivity. The proposals could reduce the opaqueness that current exists between Pillar 1 and Pillar 2 in that it may reduce significantly and in many cases eliminate from Pillar 2 the capital add-ons that manifest themselves from ICAAP and regulatory reviews. The revised standardised approach (RSA) can be seen as including incentives to improve loss data gathering and risk management to potentially reduce Pillar 2 add-ons. However, since the Committee has not yet decided what to do about qualitative standards for the new SA yet it is not possible for us to comment upon how such undefined standards would affect the Pillar 1 and or Pillar 2 outcomes. We would recommend that the Committee should publish P2 guidance at the same time. We recognise that the larger and more diverse an institutions is, with significant parts of their group on RSA then the larger the non-AMA risk, the larger potential for model risk exists in the proposed RSA model. For such institutions, (if the RSA is not a floor) the proposed RSA can also be viewed as an incentive for larger institutions (in particular those with Business Income in excess of EUR 10bn) to implement an AMA model either fully or partially. This though is predicated on the basis that the RSA is appropriately calibrated for institutions including those that have an approved AMA model. If so, then the OpCaR model and RSA proxy model may serve as useful benchmarks for comparison against an AMA model at the Basel Lines of Business level as well as in aggregate and at an overall institutional level. However, given the diversity of business models, we have our doubts that it is possible to calibrate the RSA model to be used as benchmark.

RSA used as a floor on a standalone basis or in aggregate

If the Committee decides that the RSA is to be used as a floor for AMA models and or that the scope of AMA modelling is to be scaled back and or to be used only for internal capital assessment and Pillar 2, then the BBA **does not** support the proposals as set out by the Committee for the implementation in larger institutions (those with BI > EUR 10 bn) primarily for the following reason. In the comments set out on page 31 (point 16) *"More specifically, the banks with an extremely large value for BI (BI > EUR 30 bn) or very large ratio with OpCaR (CaR/BI > 50%) were removed by the sample"*, it stands to reason that the primary focus of the calibration is on institutions with BI less than EUR 30bn. Therefore the OpCaR model and RSA proxy are not calibrated for large and or AMA institutions.

Specific comments applicable to both conclusions

Notwithstanding the above overall comments, we have comments that apply to both of our conclusions.

We thank the Committee for its publication of the methodology for its OpCaR model and for the description of proxy scaled modified gross income. This increased level of transparency with respect to the Committee's approach to modelling risk is welcomed. However, because the Committee has not published the OpCaR model, it has not been possible for our many members to validate and or calibrate the appropriateness to the OpCaR and or RSA for their own institution and or business model. We understand that the Committee has developed an updated version of OpCaR and is currently conducting an updated calibration. We urge the Committee to publish the OpCaR models, the results of the re-calibration exercise and give time to institutions to provide an updated response before finalising its proposals.

The following sets out our high-level comments, following which we provide answers to the Committee's questions.

1. Balancing simplicity, comparability and risk sensitivity

The Committee believes that the revised proxy SA (RSA) and base OpCaR model are relevant to the calculation of the Pillar 1 capital requirement for all institutions irrespective of size, complexity, concentration or diversity, and or the nature of activities, or the balance between different income streams (interest margin, fee and traded income). Also the Committee believes that scaling expressed through non-linearity on a consolidated basis is the indicator of future unexpected operational risk losses. We believe that there is sufficient evidence to question these assumptions. We consider that as the size of the institution increases (no matter what measurement approach is used), then both the OpCaR and Revised Standardised Approach (RSA) models are overly simplistic with respect to the calibration measurement because of the contradiction with generally accepted risk management and measurement principles set out below. We cannot see any evidence that the models are risk sensitive. Thus we cannot see how the outcomes can be comparable across institutions and or with AMA models. Therefore, we do not think the proposals are aligned with the Committee's desire to appropriately balance simplicity, comparability and risk sensitivity.

2. Risk management and measurement principles

The Committee has concluded that the proposals are a re-enforcement of a proportional, rigorous and comprehensive implementation of the Principles for the Sound Management of Operational Risk (PSMOR or "Principles") by larger banks. On the contrary, we are concerned that both models do not adhere to the generally accepted principles of the alignment of risk management and risk measurement.

- a. We believe that the elimination of differentiation of risk by the mandatory modelling of all risk within one operational risk category (ORC) is counter-intuitive and contradicts the various studies that have been independently published as well as the approach that institutions take to the management and measurement of operational risk.
- b. We question the conclusion that the approaches are monotonic. On the contrary we believe that both models introduce the concept that diversification of operational risk profiles does not reduce the estimation of higher losses and that absolute size (in term of modified gross income) for globally diversified businesses poses more not less risk. We consider this to be counter-intuitive and difficult concepts for management and a board to grasp.
- c. We have concluded that the only solution to reducing the RSA operational risk capital charge will be for an institution to shrink in size and or become more concentrated by focussing on products and or services that earn lower levels of modified gross income on lower levels of unexpected Credit and Market risks in order to improve returns on assets and equity. We consider that the RSA included a risk not recognised by the Committee, namely the probability of a herd mentality driving institutions towards common business models. This should be concern to the Committee and to competent authorities.

3. Model validation, calibration and benchmarking

We cannot see any evidence in the consultation paper of the following conclusions:

OpCaR model

- a. That an entire bank's operational loss portfolio can be assumed to be one operational risk category (ORC) and that this single portfolio is homogeneous in nature with independent events. This is contrary to the approach that institutions take when modelling operational risk that is supported by the Committee's own published studies and competent authorities rejection of AMA models with too few ORCs and overly simplistic modelling approaches.⁴
- b. That the unexpected losses to a 99.90% level of confidence can be derived from a single loss approximation (SLA) through the convolution of the single severity (X) log logistic distribution and a single frequency (N) Poisson distribution from inputs derived from a 5 year observation period.
- c. On the contrary we believe that the consultation paper includes evidence that supports a conclusion that questions the reliability of the OpCaR model and thus the RSA proxy especially for increasing size of institutions. We draw the Committee's attention to the exclusion of significant amounts of data especially from institutions with annual modified gross income greater than EUR 30bn and our concerns with regard to the conclusion that all modelled loss distributions can be accommodated by only one model solution.

RSA model

- d. That the outcome of the RSA model is an indicator of forward looking unexpected operational losses. It seems to us to be merely a new metric to calculate a single non-linear ratio of the relative quantum of modified gross income without reference to business profile and or risk.
- e. That the existing differentiation of risk by 3 groups (high risk 18% beta, medium risk 15% beta and low risk 12% beta) covering 8 lines of business is not considered to have any discernible difference in the operational risk profile of an institution.
- f. That instead of the current approaches, the modified gross income of each line of business is proportionate and is also scalable on a relative non-linear basis to each other line of business. The consequence of this approach is that it results in all lines of business ranking *pari passu* in both expected and unexpected loss risk profiles. We believe that there is sufficient empirical and anecdotal evidence to refute these assumptions.

⁴ Jun 2011: Operational Risk - Supervisory Guidelines for the Advanced Measurement Approaches - final document

Jun 2011: Principles for the Sound Management of Operational Risk - final document

Oct 2010: Recognising the risk-mitigating impact of insurance in operational risk modelling

- g. That the average of the prior 3 years Modified Gross Income (referred to a Business Indicator (BI)) scaled up in a non-linear basis is a reliable and appropriate proxy for the OpCaR derived from 5 years prior data. We cannot see any evidence of this conclusion and question the mismatch in the time-series used for the two models.

Exclusion of other factors that affect future operational risk loss profiles

- h. We are concerned that the proposed approaches do not allow for any inclusion of other drivers of operational losses that may result in lower, and or higher unexpected gross loss profiles, even without any risk mitigation.
- i. For example, the approaches do not include the impact of other elements, external loss data (ELD), scenario analysis (SA) and the impact of the business environment and internal control framework (BEICF).

Calibration of the components of Business Income (BI)

- a. The proposed BI leads to many questions regarding the calculation of BI, the accounting of income and expense and specifically seems to disadvantage particular types of business. The Committee will need to clarify treatment of financial leasing because income and expense from leasing and other fee-based businesses are summed up, putting them at a disadvantage compared to other businesses. There needs to be clear guidance on what should be included / excluded in the BI. The use of Euro-denominated size buckets will introduce FX volatility in capital requirements for all banks including Euro denominated banks. It is important to consider an alternative approach for countries with structurally high margins that originate not only from absolute high levels of interest rates that tend to result in higher spreads, but also from business models such as sharia banking in which customers choose not to receive interest income, and business models that depend upon a high interest margin that are de facto credit spreads to offset credit losses, not operational risk losses. In this respect the Committee needs to ensure that the RSA does not duplicate any proposals for IRRBB. As such, we recommend the use of a cap on NIM as well as on fee income.

4. Model governance and development

- a. Guidance on modelling in general was well explained by the US FRB-OCC in April 2011.⁵ The challenges and reasons for the complexity in modelling operational risk losses have been set out in many papers published by the Committee and competent authorities. The consequence has been guidance and policies that set out the requirements on data collection, risk management and risk measurement (especially the US FRB-OCC).⁶
- b. The accepted practise to developing models is to explore a wide range of options and assess the reliability without preconceived ideas and as little bias as possible.⁷
- c. Our view is that the consultation paper does not present sufficient evidence of consideration of a range of base models, benchmark models and or proxy indicators. We believe that both models (OpCaR and RSA) may contain unacceptable levels of bias as well as the possibility that the chosen proxy indicator and scaling factor are the consequence of a desire to find a model that fits an outcome of material increases in the quantum of forward looking unexpected operational risk losses based upon the concept that the single largest prior loss is the only factor to be considered for future losses.
- d. The Committee has concluded that there is insufficient evidence that the operational risk profile of the 8 Basel Lines of Business are different enough to conclude that the existing Standardised Approach needs a recalibration. It may well be that for small institutions, a single large loss (or series of losses) in any line of business might be the driver in determining the overall capital requirement. However, for larger institutions and or those with diverse business models and or geographical spreads, in the absence of any published evidence, we question the Committee's conclusions.
- e. In the absence of any supporting documentation and published data, such as publication of the model governance and development standards and or an independent model risk review report of the Committee's proposals, we are unable to be categorical with respect conceptual soundness of the OpCaR and RSA models.
- f. We are concerned that in the absence of supporting evidence that the Committee's proposed models (OpCaR and RSA) do **not** include unquantifiable and unacceptable levels of model risk, the models will not be usable for risk management. As a consequence boards and management are likely to view the outcomes as having no relationship with operational risks and thus will be deemed to be unfit for the purpose for which they have been designed.

⁵ OCC 2011-12 Board of Governors of the Federal Reserve System & Office of the Comptroller of the Currency April 4, 2011 SUPERVISORY GUIDANCE ON MODEL RISK MANAGEMENT
<http://www.occ.treas.gov/news-issuances/bulletins/2011/bulletin-2011-12a.pdf>

⁶ Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation
Office of the Comptroller of the Currency, Office of Thrift Supervision
INTERAGENCY GUIDANCE ON THE ADVANCED MEASUREMENT APPROACHES FOR OPERATIONAL RISK June 3, 2011 <http://www.federalreserve.gov/bankinforeg/srletters/sr1108a1.pdf>

⁷ The Committee requires that an Op Risk model avoids 5 bias: anchoring, availability, motivational, overconfidence and partition dependence

5. Calibration of the overall level of capital

- a) We draw the Committee's attention to its report and analysis published in September 2001 that was based on responses supplied by banks to the QIS concerning their overall minimum regulatory capital requirements, as well as information about internal capital allocations for operational risk and gross income, both in the aggregate and by business line. The analysis did not include any assessment of operational risk losses; this information was provided in later portions of the QIS. Nonetheless page 26 stated that the results of the QIS suggest that, on average for banks in the sample, operational risk capital represents about 15 percent of overall economic capital, though there is some amount of dispersion around this figure. Operational risk capital appears to represent a rather smaller share of minimum regulatory capital, somewhat over 12 percent for the median bank in the sample. These results suggest that a reasonable level of the overall operational risk capital charge would be about 12 percent of minimum regulatory capital.
- b) We cannot see any evidence in the consultation paper with regard to the impact of the Committee's proposals upon the overall calibration and or level of minimum capital requirement. We understand that Committee is currently reviewing the overall calibration. The consequence is that it is our opinion that the Committee should conduct a further review of the calibration of the Operational Risk capital requirement to take into account a review of Credit and Market risks.
- c) The Committee will be aware that institutions are required to conduct regular stress-testing and many institutions participate in regulatory stress-tests such as the Bank of England, EBA, and US FRB-OCC etc that includes operational risk scenarios. We are concerned that the calibration of the RSA has not taken into account the outcomes of stress-testing and thus results in too high base capital levels that in turn would be subjected to further stress.
- d) We are concerned that the non-linear scaling up of capital requirements based upon size of modified gross income is a duplication i.e. a double counting of the additional capital that systemically important institutions and G-SIFIs are now required to maintain.
- e) We question whether the Committee has taken into account the impact of Pillar 2 buffers and the additional capital requirements that result from the calculation counter-cyclical credit capital charges that are applied proportionally to Operational Risk.
- f) We note that the Committee has not included any capacity to recognise risk mitigation in the overall level of capital such as insurance. We believe that this should be included.
- g) We have concluded that the overall effect upon institutions (and all regulated institutions and or foreign branches within a Group) will depend upon the size of the consolidated group.
 - a. Small non-AMA institutions (BI < EUR 3bn) are largely unaffected by the proposals and in fact may see a reduction in their overall OPR capital requirement, and reduced P2 add-ons for those that exhibit best operational risk management practice and gathering loss data.

- b. Medium sized institutions (BI EUR 3bn – EUR 10bn) will have an increased recalibrated capital requirement, with incentives to improve loss data and risk management to reduce and or avoid Pillar 2 add-ons and specifically to eliminate the capital add-ons that explicitly relate to a shortfall in the outcomes of the BIA, TSA and ASA proxy models.
- c. Larger institutions (BI > EUR 10 bn) and all institutions with BI > EUR 30bn. They are de facto being encouraged to move towards AMA. In effect providing that the RSA is not defined as a floor for AMA, there is a stick and a carrot approach:
 - i. The “stick” if they choose not do so, is that their RSA capital requirement will increase commensurate with their consolidated size and P2 add-ons for less satisfactory operational risk management.
 - ii. The “carrot” is that they would be permitted to use the outcome of the AMA to replace the RSA without a floor.
- h) We have concluded that the expected loss of all institutions is the sum of all operational loss events below EUR 20,000. We question whether that is appropriate to all institutions and specifically are concerned that the approaches adversely and inappropriately impact small sized institutions and those with business models with high frequency low severity loss events that results in excessive calculation of unexpected losses using the OpCaR and RSA models.
- i) We are concerned that the assumption that the distribution of and quantum of expected operational risk losses falls in a predefined way as a proportion of total operational risk losses has not been explained and or proven by the Committee.
- j) We believe that the Committee needs to clearly set out its approach to the balance between Pillar 1 and Pillar 2. We believe that without a further review of the calibration the RSA, it is likely that competent authorities will continue to add-on capital requirements via Pillar 2 for institutions that they consider are under-capitalised, yet will not provide any relief for institutions where the RSA creates an over-capitalisation.

6. Recommendation to the Committee

The Committee has requested our comments on improvements or refinements to the BI model. We are unable to propose any changes, because to do so would be to result in a redevelopment of and recalibration of the models that would be without any basis of statistical analysis and or assessment of conceptual soundness.

Instead, we draw the Committee’s attention to the fact that during the past 10 years institutions have expended significant effort in investing in improved risk management practises in accordance with the Committee’s guidance and standards published by competent authorities most notably the US – FRB – OCC and the EBA.

Also, an increasing number of institutions continue to develop, calibrate and validate internal regulatory and economic operational risk capital models under the umbrella Advanced Measurement Approach (AMA) augmented by stress-testing.

We believe that the objective of a revised proxy-model approaches should be to narrow the difference between the outcome from an institution's AMA model and proxy indicator models in order to achieve comparability of operational across institutions that use different approaches.

So, we would prefer that the Committee pause to reassess its approach:

- a) The existing simplified approaches should remain unchanged until a further review is conducted with respect to the differentiation or lack thereof of the risk profile by line of business.
- b) That there should be review of the scope of operational risk, in particular the matter of the inclusion or exclusion of regulatory and judicial fines that may not be the consequence of operational risk events, but relate to reputational and or business risk. It may be appropriate to bi-furcate and differentiate the calculation of capital for these matters from operational risk event losses in order to differentiate institutions with evidence of different recent historical events, for a period of time.
- c) The Committee will be aware of the recent discussion within the EBA to extend the scope of operational risk losses to include losses that most EU institutions include within Credit Risk modelling. We consider that the Committee should consider this matter in its deliberation on the approach to the calibration of capital.
- d) We believe that the best way forward would be for the industry to work together with the Committee and competent authorities in a collegiate joint approach to work out an approach (and or approaches) that the Committee, competent authorities and institutions collectively agree can represents an appropriate measurement of estimates of expected, total and unexpected operational losses.
- e) The objective should be to develop proxy models that include internal loss data (ILD), external loss data (ELD), scenario analysis (SA) and the impact of the business environment and internal control framework (BEICF).
- f) **Implementation.** We would encourage Committee to align the implementation schedule with other risks, namely 1st January 2019. This would also enable institutions that wish to progress to implement an AMA model to do within this timeframe as well as to allow the Committee sufficient time to calibrate the model.

We confirm that the BBA and its members would be happy to work with the Committee on a project to assess an appropriate approach and or approaches to estimating operational risk losses than in turn would be more closely aligned with an AMA model.

Responses to the specific questions posed by the Committee

The following are our key messages to the Committee:

Q1. Are there any other weaknesses in the existing set of simple approaches that should be addressed by the Committee?

Introduction

In the Executive Summary and Part I, the Committee has set out its rationale and conclusions for determining that *the current “simple approaches”, the Basic Indicator Approach (BIA) and the Standardised Approach (TSA), including its variant the Alternative Standardised Approach (ASA) – do not correctly estimate the operational risk capital requirements of a wide spectrum of banks*. Specifically it states that the use of the current indicator of Gross Income is an inappropriate proxy because unexpected operational risk losses do not increase linearly in proportional to revenue. It concludes that responses by institutions to reduce gross revenue - that in turn results in a reduction in the proxy calculation of future unexpected losses - that may be the result of a changed business model resulting from a desire to avoid similar operational risk events is contrary to what the Committee believes should be happening. The Committee believes that this indicates that future unexpected losses are likely to be higher and thus the minimum capital requirement should be increasing.

Commentary

We draw the Committee’s attention to the fact that a significant number of institutions maintain operational risk loss databases that collect data by 7 Basel event types and by 8 lines of business, (in accordance with the practises set out in the Basel 2 framework) as well as by internal lines of business and by country, and by subsidiary legal entities as well as on a consolidated and sub-consolidated basis. Gross income is also collated at the Basel line of business.

It is possible that the Committee’s narrative assessment is based upon sound, statistical quantitative analysis that has been independently challenged and verified. However, the consultation paper does not set out any evidence or data to review the calibration of the current simpler approaches and or the determination of a segregation of total loss between expected and unexpected losses. The consultation paper does not include any back-testing or sampling. On the contrary, the only statistical data evidence that is presented is a calculation of the OpCaR model using internal loss data for some institutions on a consolidated basis for one 5 year period 2005 – 2009. Therefore, in the absence of any observable and verifiable analysis we cannot express any definitive opinion regarding the calibration of the current 3 proxy indicator modelling approaches.

All we can say is our expert judgmental opinion is that the operational risk loss profiles of the expected and unexpected losses of each of the eight Basel lines of business are different and have changed during the past 12 years. There is empirical evidence published by the industry. The consequence is that there will be some institutions where the calibration is appropriate and others will have an under and over-calibration. Thus there may well be weaknesses in the existing models, but also there may be strengths in the models.

Our recommendation would be that the Committee should publish the full results of its assessment of the current three approaches including the results of an independent model risk review function to enable the industry to assess the committee's conclusions that the existing approaches are no longer fit for purpose (i.e. a new model is required) and or is in need of recalibration or is still fit for purpose.

Recent non-Credit and non-Market Loss experiences

We believe that the Committee may have been influenced in its thinking by the recent highly publicised fines that have been levied upon institutions. It is therefore possible that the Committee believes that prospect of future fines should be included in the calibration of the capital charge for operational loss. This may therefore be a contributory reason for the scaling up of the charge for institutions (that on a consolidated basis) having higher amounts of modified gross income.

This is despite the fact that the paper admits that institutions with modified gross income greater than EUR 30 billion were excluded from the model validation, i.e. the majority of institutions impacted by the proposals and subjected to regulatory and judicial fines in recent years. We are concerned that the exclusion of these institutions and or losses from the models undermines the creditability of the Committee's proposals.

Whereas for some operational risk losses, there is a link between the redress given to the wronged party, as the Committee will be aware the link between the fines and operational risk events is less clear cut. The rationale for the size of fines, i.e. redress is rarely set out by the competent authority and or judiciary. There is a school of thought that the size of these fines is a function of the capacity of the institution to pay the fines, an impact that includes a larger focus on cross-border and on the other hand the avoidance of fines that might further cause a difficulty for an institution.

There is also the view that the scope of these fines is coming to a peak and will reduce in future. Furthermore there are some who believe that such fines are not specifically operational risk events but fall into the category of reputational risk penalties that fall outside the scope of operational risk modelling.

Our view is that in any calibration of a capital charge for operational risk, great care needs to be exercised to ensure that charges to the profit and loss statement – especially one-off large charges - are carefully scrutinised to ensure that the values do not distort the future modelled estimate of unexpected losses to the extent that the future estimate of expected losses becomes out of sync with the reality. We do not see any evidence of this matter in the consultation paper

Revised Standardised Approach (RSA) – Objectives

Q2. Does a single standardised approach strike an appropriate balance across the Committee's objectives of simplicity, comparability and risk sensitivity?

Introduction

The Committee's conceptual approach to modelling Operational Risk losses is that there are two alternative, yet comparable models that provide a 1 year forward looking estimate of the unexpected operational losses of a regulated institution (or branch) to a 99.90 % level of confidence. The two models and approaches are:

1. OpCaR: Prior 5-year internal loss data based upon years 2005-2009.
2. Revised SA Prior 3-year Modified Gross Income (BI) x Scaling factor

The effect of the approach is de-facto to provide a comparative benchmark for the outcome from an institution's internal Advanced Measurement Approach (AMA) model.

Underpinning the above two models are a number of assumptions:

OpCaR model

- An entire bank's operational loss portfolio can assumed to be one operational risk category (ORC) and that this single portfolio is homogeneous in nature with independent events.
- The unexpected losses to a 99.90% level of conference can be derived from a single loss approximation (SLA) through the convolution of the single severity (X) log logistic distribution and a single frequency (N) Poisson distribution from inputs derived from a 5 year observation period

Revised SA (RSA) model

- The existing differentiation of risk by 3 groups (high risk 18% beta, medium risk 15% beta and low risk 12% beta) covering 8 lines of business is not considered to have any discernible difference in the operational risk profile of an institution.
- Instead modified gross income of each line of business is proportionate and is also scalable on a relative non-linear basis to each other line of business. This results in in all lines of business ranking pari passu in both expected and unexpected loss risk profiles.
- The average of the prior 3 years Modified Gross Income (referred to a Business Indicator (BI) scaled up to reflect the quantum is a reliable and appropriate proxy for the OpCaR.

The Committee believes that the revised SA (RSA) is relevant to all banks based on size, complexity, and the nature of activities, as well as re-enforcement of a proportional, rigorous and comprehensive implementation of the Principles for the Sound Management of Operational Risk (PSMOR or "Principles") by larger banks.

Commentary

The essence of a risk-sensitive model is that there should be a direct monotonic relationship between risk management action and risk measurement. In essence, if management takes action to reduce, mitigate and or eliminate a risk, then there should be a measurable consequence of reduced losses. On the contrary if the risk profile changes there should be changes in the proportion of expected and unexpected losses and in the quantum of both.

We do not see any evidence that the Committee's proposals - outcome of the OpCaR or the RSA models - result in any alignment between risk management and measurement. On the contrary we believe that the outcome - especially with regard to the RSA - implies that that the only management action that an institution can take is to reduce the absolute level of modified gross income to derive a lower coefficient scaling factor by shrinking in absolute size. Our conclusion is that the proposed approach does **not** strike the appropriate balance across the Committee's objectives to achieve simplicity, comparability and risk sensitivity.

The primary reason for expressing this conclusion is that the supporting analysis presented by the Committee in Annex 1, 2, and 3 does not provide any evidence of the validation or proof that the Committee's objectives will be achieved.

There is no evidence in support of the following assumptions that underpin the OpCaR and RSA models:

1. That operational risk profiles by line of business are not materially different.
2. An institution's operational risk loss profile can be represented by one ORC and that only one SLA derived from a Poisson frequency and log logistic severity distribution is appropriate for all institutions
3. That the quantum of modified gross income (BI) is a valid proxy measurement in all cases within all acceptable statistical boundaries.
4. That modelling of internal operational losses over a prior 5-year period using OpCaR is comparable to modelling modified gross income (BI) – the RSA - over the recent prior 3-year period.
5. That for all institutions only loss events in excess of EUR 20,000 represent Unexpected Losses and thus the total of losses per annum below a threshold of EUR 20,000 represents the Expected Loss.

In conclusion, we do not dispute the fact that the calculation of the RSA results in a comparable simple measurement of scaled modified gross income (BI). The fact is that the outcome does indeed achieve this. Our primary concern regarding the Committee's proposals, is that the consultation paper does not provide any evidence that the outcome of the model is a proxy for the its intended purpose, namely to measure the 1-year forward looking total unexpected operational losses of an institution.

We conclude that the proposed approaches are not only a simplistic measurement tool, they are too simplistic. Simplicity can enable comparability. But in our opinion the Committee's proposals to do not measure anything other than what they measure, namely scaled modified gross income. The measurement is not risk sensitive and on that basis the outcomes of the approaches are not comparable.

Q3. Are there any further improvements to the BI that should be considered by the Committee?

Q4. What additional work should the Committee perform to assess the appropriateness of operational risk capital levels?

Q5. Are there any other considerations that should be taken into account when establishing the size-based buckets and coefficients? How many BI buckets would be practical for implementation while adequately capturing differences in operational risk profiles?

Q6. Are there any other considerations that should be taken into account when replacing business lines with size-based buckets?

Q7. Could there be any implementation challenges in the proposed layered approach?

Q8. Do the issues of high interest margin and highly fee specialised businesses in some jurisdictions need special attention by the Committee? What could be other approaches to addressing these issues?

Questions 3, 4, 5, 6, 7 and 8 are all inter-rated. We have therefore combined our responses under various themes that embrace all questions posed by the Committee. The committee is requesting only that the industry comments upon the proposed BI. Therefore, the Committee's presumption is that the use of the scaled BI represents the only best-fit and most appropriate proxy model in all cases for all institutions and all types of business models and for all future years for measuring unexpected operational risk losses.

1. Summary

We cannot find any evidence in the consultation paper as to the validation and or calibration of either model. It is normal practise to develop a model and include calibration in that process. We are concerned that the Committee has developed a model and then seeks in due course to calibrate it through subsequent QIS as set out by the Committee. We are concerned about this approach in that it may not represent established industry best modelling practise.

In addition – in the absence of documentation and evidence - we are concerned that the development of the underlying OpCaR model may suffer from unsatisfactory model governance and oversight. We cannot see any evidence of an independent model risk review process in line with current standards within institutions and required by competent authorities.

It is our opinion that models developed by the Committee should be subject to the same level of internal and public scrutiny as the models developed by institutions. Specifically with regard the modelling of operational risk losses, and the Committee should set out and also comply with the guidance that it has issued relating to risk management and measurement, data aggregation, model risk management and also the standards set by competent authorities with respect to AMA models, such as the US FRB-OCC and more recently the EBA in its soon to be finalised RTS. We do not see any evidence of this in the consultation paper.

2. Review of the Committee's original proposals and calibration

The Committee will be aware that in the original studies conducted - that led to the current simpler approaches – there was an assessment of what % of total unexpected losses (Credit, Market and Operational Risk) was represented by Operational Risk with respect to internationally active institutions.

Specifically, the analysis published in September 2001 was based on responses supplied by banks to the QIS concerning their overall minimum regulatory capital requirements, as well as information about internal capital allocations for operational risk and gross income, both in the aggregate and by business line. The analysis did not include any assessment of operational risk losses; this information was provided in later portions of the QIS. Page 26 states:

The results suggest that, on average for banks in the sample, operational risk capital represents about 15 percent of overall economic capital, though there is some amount of dispersion around this figure. Operational risk capital appears to represent a rather smaller share of minimum regulatory capital, somewhat over 12 percent for the median bank in the sample.

These results suggest that a reasonable level of the overall operational risk capital charge would be about 12 percent of minimum regulatory capital.

The Committee's current proposals do not contain any reassessment of this above analysis and or conclusions. Given the significant volume of data on actual losses from the three risk categories (Credit, Market and Operational Risk) during the past 14 years, we note that the Committee has not set the scene to provide any context to the size and correlation of losses that have been incurred in these three categories even for different business models, such as private banking, retail banking, commercial banking, investment banking & markets etc.

We believe that an assessment of the data should have included a review in order to provide some context of the scale of losses in different lines of business and relative to other risk categories in order to assess the relativity of levels of capital across lines of business.

3. Review of the calibration of the existing BIA, TSA and ASA models betas for the 8 lines of business

The working paper published in September 2001 also set out the Committee's concerns regarding the reliability of the use of different betas for 8 lines of business. We have noted the Committee's comments regarding the "*re-assessment of the need for business line-based coefficients under the TSA/ASA*" as set out in paragraphs 30, 31 and 32 on pages 11 and 12.

We agree that during the past 10 years there has been a change – for some institutions and in some countries – in the rank-ordering of the risk profile of expected and unexpected losses derived from different lines of business. However, the consultation paper does not contain any evidence of any attempt at recalibration of the existing BIA (alpha), TSA (beta) and or interest margins (ASA). For example a simple measurement tool could be to calculate the expected losses of each of the 8 lines of business to a defined level of confidence and then to define a simple multiplier for each expected loss, then to test the calibration of the outcome against unexpected losses.⁸

⁸ This would be a similar approach to the scaling up of market risk losses

4. Use of balance sheet as a proxy indicator

We note that the committee has excluded using the balance sheet as a proxy, but it has not set out the statistical evidence. We have concluded that the primary reason for excluding this as a candidate proxy indicator are the Committee's comments set out on page 2.

While the proxies based on assets and liabilities would, to a great extent, avoid the cyclicity associated with the proxies based on income and expenditure, they face a major limitation in their inability to capture off-balance sheet or fee-based businesses, and they are affected by valuation and accounting practices.

Given the fact that gross income and modified gross income are broadly aligned with the size of a balance sheet as evidenced by various indicators published by analysts, we are surprised by the Committee's over-arching statements without any supporting statistical data.

The committee will recall that the industry's concerns with respect to the leverage ratio is based upon this same premise that treating the gross value of all assets as ranking pari passu is an inappropriate measurement of risk. Nonetheless the Committee concluded to introduce the leverage ratio as a back-stop to mitigate model risk inherent in the credit risk component capital ratio.

One approach that the Committee might have considered is to have left the existing model approaches unchanged and to have introduced a back-stop measurement approach based upon balance sheet size with a calibration process similar to the leverage – capital ratio.

Given the simplistic approach proposed and only limited disclosure regarding the calibration, there is naturally concern from the industry that the proposed approach is suitable. We suggest further time for the Basel Committee to ensure the calibration is robust and for greater transparency around the approach.

5. Implementation in different legal entity structures

The current set of approaches is largely indifferent towards the legal entity structure of institutions. Those institutions that chose to have a multiple point of entry (MPE – subsidiary) – model and or with branches subject to local prudential capital reporting requirements recognise and accept the need to ensure capital is held at that local entity / branch level. They recognise that this capital is based upon an inclusion of intra-group income.

The consequence is that the whole is less than the sum of the parts.

At higher levels of consolidation the intra-group income is excluded and thus at the ultimate parent there is no differentiation with a single point of entry (SPE) model. Thus the current simple approaches as well as the AMA preserve proportionality and comparability.

The proposed RSA introduces a very different perspective with regard to comparability. The elimination of coefficients by line of business not only eliminates comparability for different business models, but it also introduces the outcome that the whole will be more than the sum of the parts because it introduces the concept of reverse diversification. In effect what the Committee is saying is that the more diversified, i.e. the more international the institution is and larger the consolidated gross income, the higher the consolidated operational risk losses will be. We are concerned that the line of reasoning is contrary to accepted risk management and measurement theory and practice.

6. Combining different approaches (current or RSA and AMA)

The current framework permits the combination of the simpler approaches (TSA / ASA) with the AMA. The consultation paper is completely silent upon this matter. We consider that this omission is a major deficiency of the consultation paper.

We are concerned that a possible consequence of the proposed approach – if implemented – would be to create a floor for the calibration of AMA that would render redundant the internal modelling of operational risk. Instead, institutions would use the OpCaR model as a benchmark to discuss with each competent authority the calibration of its operational risk capital charge in order to inform its ICAAP and Pillar 2 framework.

Given our concerns over the OpCaR base model as set out below, we have concluded that the inability to combine simpler approaches - that should be designed for simpler business models and or small institutions within a group - with AMA to be weakness in the Committee's thinking.

The consultation paper is also silent on how to account for associates of an institution.

7. Use of only one Operational Risk Category (ORC)

By way of introduction, and comparison, it is well understood that Credit risk (including Securitisation) contains portfolios of risks that embrace a wide spectrum of expected and unexpected losses (low default vs high default, low numbers of obligors vs high numbers). Market risk includes portfolios of volatile vs non-volatile movements in indices (movements in floating exchange rates compared the unexpectedness of a break of a pegged exchange rate) etc.

From this data it is possible to discern portfolios that are capable of ex ante modelling and ex post validation, align the management and measurement of risk in a monotonic manner and supplement this with correlation, scenarios and stress-testing in order to inform the appropriate level of capital to support total and unexpected losses.

Thus it is well understood that these categories of risk need to be segmented into sub portfolios so that the drivers of risk can be determined and appropriate modelling techniques and approaches developed in order to ensure that the models are conceptually sound and minimise model risk, itself an operational risk.

Yet, the Committee has concluded that this approach is not needed, and or is inappropriate for operational risk. This is the basis upon which the Committee has developed its OpCaR model and calibration of the RSA model.

However, by developing and publishing the OpCaR model the Committee has opened up its model to scrutiny and also provided an opportunity for every institution – that has an operational risk loss data-base – to validate the RSA against its existing BIA, TSA and or ASA.

We are prepared to accept that all operational risk loss events within every institution globally can be represented as one ORC. We are also prepared to consider that this concept applies on a consolidated basis to an institution that is globally internationally active.

However, we reject the Committee's assumption that all operational risk loss events within each institution at local legal entity level and or at country or regional level can be grouped within one ORC.

We believe that the Committee has not provided any evidence to justify its conclusion that there is no differentiation with respect to the business model.

8. Operational Risk mitigation

We do not see any possibility (other than to shrink modified gross income) to reduce the capital required to support unexpected operational risk losses. For example we cannot see any roll for insurance in the proposed approach.

9. Additional Operational Risk Capital charges

The Committee will be aware that if a supplementary capital buffer with respect to the counter-cyclical capital buffer (CCCB) is mandated by a competent authority, then the buffer is also applicable to capital charge for operational risk.

For example, if the CCCB add-on is 1.5% of Risk Weighted Assets, then this equates to an increase of 18.75 % of the modelled operational risk unexpected losses.

Given the fact that the Committee had provisionally calibrated the CCCB based upon the existing level of operational risk capital, we are concerned that the Committee makes no mention of the impact of the CCCB on the revised increased capital requirements.

10. Impact upon G-SIFIs locally systemic institutions

The Committee will be aware of its requirements with respect to the additional minimum capital requirements with respect to a G-SIFI.⁹ It is our understanding that the purpose of the G-SIFI surcharge (and in due course other local SIF surcharges) is to recognise that large complex institutions are likely to have – in extremis – higher losses. The highest operational risk coefficient scaling factor proposed by the Committee will specifically apply to on a consolidated basis all G-SIFIs. Then in addition all G-SIFIs are required to have total loss absorbing capacity (TLAC) equal to 12.5% of all core RWAs (i.e. 100% of modelled losses excluding CCCB and other related buffers). It is our opinion that the Committee has not taken into account in its calibration of the coefficients these additional capital buffers for unexpected operational risk losses that have been finalised during the study period. The effect is a further supplementary G-SIFI operational risk capital surcharge. The Committee has not set this out and has not justified its approach.

⁹ http://www.financialstabilityboard.org/wp-content/uploads/r_141106b.pdf

11. Comparison of the OpCaR with AMA

There are many institutions that have expended significant effort during the past 14 years to develop internal models (and continue to do so) to quantify operational risk.

The Committee will be aware that it (and competent authorities) has stated that an institution's past internal loss data (ILD) might not be solely representative of the present or future operational risks. It is for these reasons, that the Committee and competent authorities require an institution that chooses to model operational risk losses to ensure that not only are there are homogeneous operational risk categories but also it takes into account three other elements, external loss data (ELD), scenario analysis (SA) and the impact of the business environment and internal control framework (BEICF).

The benefit of this approach is that the outcome takes into account the idiosyncratic risk profile of that institution, is calibrated to its forward looking risk profile and is largely independent of proxy indicators.

The consequence is that for each ORC an institution can - over time - learn from the experience of ex ante modelling and ex post validation, and align the management and measurement of operational risk in a monotonic manner.

Yet, even with a plethora of data, it is also recognised that the quantification of expected loss can be difficult to determine because of the wide variation between operational risk categories (ORC) containing high frequency and low severity events and those containing low frequency and high severity events. Changes in the absolute size of operation and business mix add to this complexity. It is for these reasons that a) the general approach adopted by institutions to model operational risk is based upon total losses to a defined level of confidence and b) the deduction of expected losses from capital is carefully monitored and only included subject to significant model and regulatory scrutiny.

Notwithstanding the above, the fact is that the Committee's has reviewed operational risk loss data and has concluded it is possible to derive a standardised one-size fits-all model of all and only internal loss data (ILD) represented by one operational risk category is worthy of consideration.

12. Overall commentary on the OpCaR model

We have reviewed the narrative description of the OpCaR model. The OpCaR is an Internal Loss Distribution Approach (ILD) - AMA model. It is an approach – as the Committee acknowledges – that is compatible the methodology often used in scenario based approaches. The model is based upon the following assumptions:

1. The average of the OpCaR for a prior period of five years represents a AMA ILD model estimate of the average Unexpected Loss for a forward one year horizon.
2. The past 3 years average modified gross income (BI) x a BI scaling factor is a proxy for the outcome of the OpCaR

The OpCaR model utilises only the following data:

Frequency	
Number of Loss Events > EUR 10,000	Average of 5 years 2005-2009
Number of Loss Events > EUR 20,000	Average of 5 years 2005-2009
Severity	
Total Loss > EUR 20,000	Average of 5 years 2005-2009
Maximum Loss	Maximum during the 5 years
Derived values	
Average loss in excess of threshold of EUR 20,000	
Excluded	
Total Loss below EUR 20,000	De facto Expected Loss

The OpCaR model is a Single Loss Approximation (SLA) model derived through the convolution of the single severity (X) distribution and a single frequency (N) distribution. The log logistic distribution is used for severity (X) and the Poisson distribution is used for frequency (N). A 99.90% confidence level is used and the outcome is deemed to be the Unexpected Loss.

The Committee will be aware that we have requested the Committee to publish its OpCaR model so that all institutions - not just those that have the capability to replicate the model – could have tested the model on their own loss data. The Committee decided not to publish the model. We are disappointed that the Committee thought it unnecessary to publish the model, as we believe that this has resulted in an inability to conduct a thorough analytical review

We are concerned that there are many institutions that contributed data to the Committee's review that have not been given the opportunity to test the Committee's OpCaR model on their own data. This leads us to express our concern with regard the governance of the model development and review process.

Our conclusion is that the data and the sample of banks used to derive the outcome of the OpCaR may be insufficient and do not meet acceptable modelling standards. The result of our analysis is the consultation paper contains no verifiable evidence that the OpCaR model is statistically robust and or mimics or replicates or approximates an AMA model.

The following sets out our specific comments with respect to data and validation, modelling soundness, and the Committee's choices regarding the modelling of ILD.

a) Data and validation

We draw the Committee's attention to the following facts gleaned from the paper:

1. Data sample: 270 banks were sampled to provide data: However, only 121 banks had the requisite data after which only 99 were selected of which 89 were used as the survival rate in the regression data set.
2. Many banks excluded from the panel due to model uncertainty such as Infinite-mean (modelled loss did not make economic sense), it did not find a solution, ratios and or parameters were outside "acceptable range", unexpected loss to 99.90% confidence was less than expected loss.
3. Banks excluded for other reasons including 13 out of 37 AMA banks (35%) because regression estimates were adversely affected by few large values, 16 out of 57 TSA banks (28%), Banks with Business Income > EUR 30 bn (de factor all large banking groups) and when OpCaR was greater than 50% of Business Income.

The above leads to us questioning the robustness of the data and modelling that is also supported by our concerns with regard the Committee's conceptual approach to modelling operation risk loss data as set out below.

b). The Committee's choices regarding the modelling of ILD

Our comments are set out below:

Filters: These were based upon Loss Data Collection Exercise (LDCE) 2008. Only Poisson distribution was chosen where frequency was between 0.1 – 70 losses per EUR 1 bn of assets. For severity the proportion of losses was > EUR 20,000 with a range 1% and 40% of all loss although this filter was excluded during validation.

We note that with respect to **frequency**, there is no evidence of any review of other approaches and or comparison. It is our opinion derived from experience that for some ORCs the Poisson distribution is inappropriate. We note that the consultation paper does not contain any discussion of strengths and weaknesses of different binomial distributions including positive and negative skew. The Committee may be aware that with regard to the Poisson approximation, *the binomial distribution converges towards the Poisson distribution only as the number of trials goes to infinity while the product np remains fixed. Therefore the Poisson distribution with parameter $\lambda = np$ can be used as an approximation to $B(n, p)$ of the binomial distribution if n is sufficiently large and p is sufficiently small. According to two rules of thumb, this approximation is good if $n \geq 20$ and $p \leq 0.05$, or if $n \geq 100$ and $np \leq 10$.*¹⁰ We therefore do not agree that Poisson is the best fit in many cases.

Regarding **severity distributions**, six severity distributions considered. The Committee acknowledges its pre-disposition to sub-exponential as per BCBS 2011 AMA model guidance. Thus Weibul (shape parameter > 1) and gamma were excluded. In addition five were rejected: Log normal, log gamma, Pareto "medium" and Pareto "heavy" because of being "outside acceptable ranges: Pareto "light" was deemed to have unstable results, sometimes explosive. Only one was retained, Log logistic. However, with regard to severity distribution we note that two have not been evaluated, inverse Gaussian and g & h.

¹⁰ http://en.wikipedia.org/wiki/Binomial_distribution

The latter was a subject of and the firm recommendation set out in an important publication by Kabir Dutta and Jason Perry: Federal Reserve Bank of Boston & Federal Reserve System, “A Tale of Tails: An Empirical Analysis of Loss Distribution Models for Estimating Operational Risk Capital”.¹¹

An important requirement of operational risk modelling is to ensure that there is no bias in the model development, validation and calibration. The Committee set out its guidance in 2009 on pages 18 and 19¹². We have reviewed the Committee’s proposals and cannot find any mention of the process and or reviews undertaken by the Committee to avoid the 5 bias. In the absence of such documentation we are therefore concerned that the choice of frequency and severity distributions may inherent bias that results in a higher outcome

It may well be that the Poisson combined with log logistic represents an acceptable model of one ORC and gives the least distortion. However, that does not mean that it is an appropriate model for all institutions and business models

Our **conclusion** – based upon the narrative and without any access to data is that the Committee’s modelling choices and analysis may fall short of modelling standards required of internal AMA models and those required by competent authorities when reviewing an institution’s AMA model.

¹¹ <http://www.bostonfed.org/economic/wp/wp2006/wp0613.pdf>

¹² Basel Committee on Banking Supervision: Observed range of practice in key elements of Advanced Measurement Approaches (AMA) July 2009