The Treatment of Insurance Against Operational Risk
-
April 2003 Basel Committee Third Consultative Paper

Prepared by Marsh Inc.

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Marsh

Marsh Inc. is the world's largest insurance broker and risk management consultant. We are a business unit of Marsh & McLennan Companies (MMC). Other MMC companies include both Mercer Oliver Wyman, whose major specialty is risk management consulting on issues specific to financial institutions, and National Economic Research Associates (NERA), who are experts in economic valuation and have performed a benchmarking study of banks' preparedness for the Basel II operational risk requirements.

The Basel Committee on Banking Supervision's Third Consultative Paper dated April 2003 is a major step forward in setting appropriate standards for the measurement of operational risk. We believe that our role as insurance broker and risk management consultant makes us especially well qualified to comment on the treatment of insurance in the Consultative Paper and will confine our comments to provisions in the Consultative Paper that address this topic.

Insurance as Imperfect Hedge

In light of the fact that insurance polices indemnify banks for hundreds of millions of Euros in operational risk losses annually, insurance is clearly a major tool for banks in mitigating operational risk. However, at best insurance provides imperfect protection against these risks. In fact, it is Marsh's primary role to advocate our policyholder clients' interests in dealing with insurers in both the placement of insurance and in helping them deal with claims. In this role, we are all too aware of the times when insurance does not live up to our clients' desires.

We have reviewed the Basel Committee's proposals to address the effect of insurance on banks' operational risk capital. As to the concerns underlying these proposals, we concur with the Basel Committee that existing insurance contracts do not cover the full range of operational risk, that the capacity of the marketplace is limited, that insurers represent a range of quality as counterparties, and that too often there are issues of timeliness and uncertainty of paid indemnification, even in the event of a covered loss. Therefore, we believe it is appropriate for the Basel Committee to require that AMA banks take these factors into account when seeking credit for insurance on operational risk capital charges.

On the other hand, although insurance does not fully address operational risks, we believe that insurance today can in fact effectively address a significant portion of many potentially severe operational risks. We also expect that future developments will lead to products that improve the ability of the insurance arrangements to address effectively a broader range of operational risk. It is important, in our view, that the provisions for the measurement of the insurance capital credit create incentives for such improvements in the functioning of insurance and reflect as closely as possible the actual risk mitigation effect of insurance.

Economic and Regulatory Capital

Pursuant to the Basel Committee's goal to establish regulatory capital that is reflective of the bank's actual operational risks, the New Accord is a major step forward toward. Implicit in this goal is to create regulatory incentives that are consistent with banks' economic incentives and thereby to encourage sound risk management and to avoid inconsistencies that could produce regulatory arbitrage.

The AMA option that will allow sophisticated banks to set regulatory capital on the basis of internal models essentially demands that a common model underlies estimates of both regulatory and economic capital. Achieving this will require that requirements for minimum capital should neither overstate, nor understate, the actual protection afforded to the bank through the use of insurance. Our recommendations and supporting comments are designed to help the Committee to achieve this goal, i.e. to reflect appropriately the actual risk mitigation effect of insurance.

<u>Marsh's Comments Concerning Specific Provisions</u>

In the discussion that follows, Marsh suggests that two limitations on the insurance credit for operational risk are inconsistent with the principles enumerated above and should be modified. We also make four other recommendations that address the Consultative Paper's specific proposals concerning measurement of the valuation of insurance in mitigating operational risk for AMA banks.

Recommendation 1

<u>Devise a simplified approach to allow at least the banks that adopt the Standardised Approach and perhaps the Basic Approach to receive some credit for risk mitigation through insurance.</u>

Comments

As a part of matching the benefit of insurance in terms of capital to the true protection afforded, it is important, in our view, to give banks who must validate their operational risk management processes to their regulators at least some credit for their insurance programs.

It is clearly desirable that banks mitigate operational risk wherever they can do so effectively and at reasonable cost. To provide no credit for insurance to certain banks could lead to a situation where a small or mid-sized bank gambles its capital by underinsuring, as there would be a divide between the economic effect of insurance and its regulatory treatment. In addition, the banks that fall just below the size and complexity of AMA banks should not be subject to a significant competitive disadvantage that is not reflective of their actual exposure to operational risk. To deny any risk mitigation credit to these banks will not only fail to provide an inducement for such banks to mitigate their risk but also will unfairly disadvantage them versus the AMA banks.

In order to encourage banks to adopt the Standardised rather than Basic Approach, there should be benefits to a bank from adopting approaches that have more stringent standards. One such benefit could be an appropriate credit for insurance. Therefore, the Accord could provide for insurance mitigation for Standardised Approach banks but a lower credit or none for Basic Approach Banks.

NOTE: We understand that the intent of the gradations from Basic to Standardised to AMA is that the banks will, where appropriate, adopt more advanced approaches. The proposal in the Consultative Paper does impose burdens upon Standardised Approach banks to provide substantial infrastructure and analysis of operational risk. However, for a significant share of banks, there appears to be little benefit to a bank to adopt the Standardised Approach over the

Basic. The Basic Approach applies a Beta of 15% to total revenue and the Standardised Approach applies a Beta of either 12%, 15% or 18% to various business line segments that add up to total revenue. Thus, the difference between the capital required by a bank under the Standardised Approach and the Basic Approach formulae will benefit the Standardised Approach bank only to the extent that the Standarised Approach Bank has more revenues derived from lines of business with Beta factors of 12% than from lines of business with Beta factors of 18%. In other words, if a bank has more combined revenue from 18% Beta businesses, i.e. Corporate finance, Trading and sales, and Payment and settlement than combined revenue from 12% Beta business, i.e. Retail banking, Asset management, and Retail brokerage, the Standardised charge will actually be higher than the basic charge. An insurance credit that is potentially greater for the Standardised Approach banks than for the Basic Approach banks would help to address this issue in a manner that is consistent with the underlying philosophy of three tiered approaches, each of which increasingly reflect the actual operational risk exposure of the bank.

Recommendation 2

<u>The 20% cap on insurance credits for AMA banks should be eliminated.</u>

Comments

The Consultative Paper is very diligent in requiring that credible models and sound quantitative arguments back up any Advanced Measurement Approaches (AMA) estimate of regulatory capital. The Basel Committee has identified the areas where insurance is an incomplete hedge against operational risk and the regulators will presumably require that banks address these areas explicitly in order to validate the credit for insurance. Thus, even with no cap on the credit for insurance, a bank that complies with these requirements and that is guided by appropriate regulatory supervision should not claim an excessive capital credit for insurance.

The insurance contract is undergoing constant innovation, and what might be true regarding its current impact is not likely to remain true through time. Indeed, a foreseeable consequence of the New Accord itself will be to spur innovation and to produce future design enhancements to the insurance product. This is even now occurring. Although we are certain that the Committee does not intend to inhibit this positive evolution of the insurance product, we raise this as a possible counter-productive and unintentional consequence of the 20% limitation if, because of the cap, too many policyholders forego potential mitigation by insurance because they find themselves unable to receive an otherwise appropriate credit for the true mitigation effect of their insurance programs.

The separation of Unexpected Loss (UL) and Expected Loss (EL) in Paragraph 629b of the Consultative Paper provides the context for our belief that, even though insurance may typically address a relatively very small percentage of the total number of operational risk losses and even the total loss amounts at the average bank, the effect of insurance upon the UL for certain kinds of operational risk is greatly leveraged. This is the case because the most common losses at most banks will fall within the EL and will have no insurance benefit either because of the deductible or because they are from perils that are typically not insured. As opposed to the small, frequent losses, the most severe losses at banks have a much greater chance of having insurance apply. In particular, insurance normally deals quite effectively albeit with some delay with perils that result

[1] See “The 2002 Loss Data Collection Exercise for Operational Risk: Summary of the Data Collected” published by the Basel Committee on Banking Supervision, Risk Management Group, March 2003.

in damage to physical assets and the resulting business interruptions as well as with theft of bank assets. Furthermore, while the benefit may be somewhat uneven, the insurers still pay hundreds of millions of Euros each year to address banks' legal risks through the various lines of liability insurance so that there is substantial mitigation of legal risk as well.

Notes on the 2002 Loss Data Collection Exercise

As part of our efforts to understand the potential mitigating value of insurance on capital for AMA banks, we arranged for the construction of a model around the Committee's 2002 Loss Data Collection Exercise (LDCE) data. *Based upon this analysis, we conclude that the data collected is not inconsistent with a world in which insurance mitigates a substantial portion of Unexpected Loss and in which economic capital is reduced by even as much as 20 to 40%.* We do not claim that this is an accurate estimate of a true value for any specific bank or even an average for the 89 banks in the LDCE as the limitations of the published data preclude us from making such an assessment. But, as it pertains to the proposed 20% limit, we cannot exclude the possibility that many banks will find themselves at the 20% limit, thus potentially implying the unintended consequences noted above.

Although the LDCE data shows that overall relatively few losses have associated insurance recoverable (1.7%), this result is consistent with insurance policies with significant deductibles. The data does show that larger losses are more likely to have an associated insurance recovery, again consistent with this view. It is impossible to determine from the published LDCE data how many losses without an associated insurance recoverable might have been properly covered by insurance but simply were not large enough to exceed the deductible.

A brief discussion of the LDCE modeling work, carried out by our sister company, Mercer Oliver Wyman, appears as **Appendix 1**.

Because the specific limit of 20% does not arise out of an underlying analysis of real data and because we believe we have demonstrated that a reasonable analysis of a typical large bank's insurance program could lead to a credit that is higher than 20% and because such a limitation could stifle innovation, we believe that removal of the cap is appropriate.

Specific Comments--Detailed Calculations of the Insurance Credit

Like the Basel Committee, Marsh believes that the following issues should be addressed in calculating the credit for insurance for AMA banks:

-Degree to which the insurance addresses the actual operational risks of the bank.
-Policy provisions that limit coverage including but not limited to policy limits and deductibles.
-Uncertainty and delays in payment, which includes both the credit risk of the insurer and the possibility of disputed claims.

We believe that the proposed rules do address the above, but we also believe the rules could be improved in a way that will better achieve these principles and better reflect the actual functioning of insurance as well as the actual degree by which of insurance mitigates operational risk.

Recommendation 3

The Consultative Paper Section 638 - Bullet 1 currently reads:
"The insurance provider has a minimum claims paying ability rating of A (or equivalent)"

<u>Marsh suggests that the Committee modify this wording so that the calculation of any offset for insurance should apply explicit haircuts for the credit and timing risk associated with the particular insurance program of the bank that addresses both the credit quality of the specific insurers and anticipated duration of the outstanding losses as well as a discount for the anticipated delays in payment.</u>

Comments

While Marsh believes that the requirement to reflect the credit risk of collection of insurance proceeds from insurers is entirely appropriate and consistent with other provisions in Basel II, we do not believe that an arbitrary cut-off at an A rating is appropriate. A or higher rated insurers have some probability of default and, even if they may have a higher likelihood of default, A- and B+ rated insurers are still likely to pay their claims. Furthermore, the credit risk increases with the length of time that the insured loss remains unpaid. So it is appropriate to take into account both the credit quality and duration just as in any credit analysis. Finally the need to discount to present value insurance claims is implied but might better be explicit.

Recommendation 4

The Consultative Paper Section 638 -Bullet 2 currently reads:
"The insurance policy must have minimum term of no less than one year. For policies with a residual term of less than one year the bank must make appropriate haircuts reflecting the declining residual term of the policy, up to 100% haircut for policies with a residual term of 90 days or less."

<u>Marsh suggests that the Committee modify this wording so that, if the bank does anticipate renewal on similar terms and conditions, there is no haircut. If the bank does not anticipate renewal of the policy, the bank must make appropriate haircuts reflecting the declining residual term of the policy.</u>

Comments

The insurance market typically provides one-year policies. It does not provide continuous contracts and a policy term of more than one year is atypical. To require, in effect, that the banks obtain insurance on terms and conditions that are highly unusual in the marketplace may result in far less than optimal insurance from the few insurers willing to adjust their contracts to provide provisions that address this requirement.

If the bank does not or cannot achieve these special provisions from its insurers, there will in effect be very large fluctuations each time the bank calculates its operational risk capital credit, reflecting solely where the bank is in its policy term, for example when the insurance is six months rather than one year from renewal. This fluctuation would not reflect any real added risk.

Since renewal of an insurance policy is typical, there is no more reason to assume renewal will not occur than to assume any other adverse change in the bank's situation. If non-renewal or cancellation is expected by the bank or does occur, then the bank will have to address that in its next quarterly or semi-annual capital calculation just as it must reflect any other change in circumstances.

On the other hand, if the bank has decided not to renew a particular insurance program or believes that it will not be able to renew or will have very different terms and conditions, then it should reflect this in its AMA calculations.

Recommendation 5

The Consultative Paper Section 638 - Bullet 4 currently reads:
"The insurance policy has no exclusions or limitations based upon regulatory action or for the receiver or liquidator of a failed bank."

<u>Marsh suggests that the Committee modify this wording to the effect that the there is no credit if the insurance policy is specifically voided in the event of regulatory action or excludes claims by the regulator or receiver of a failed bank. However, we suggest that the Committee allow for a liability policy to exclude coverage for fines, penalties or punitive damages but provide that such a policy exclusion must be taken into account in the AMA insurance mitigation calculations.</u>

Comments

While the Consultative Paper reflects valid concerns of the regulators about policies that will not cover claims by them or by liquidators, the current wording in it could be interpreted to require coverage that is abnormal or even against public policy. In some jurisdictions where fines and penalties by regulators could be assessed, insurance against them is unenforceable due to the belief that insurance of fines and penalties removes the incentive against inappropriate behavior created by potential fines and penalties. Therefore, we believe that the bank must be in a position to accept typical exclusions of coverage for fines, penalties and punitive damages, especially as it may be against public policy for insurers to indemnify the banks for these.

We have suggested a change that, without preventing collection of claims by regulators or bankruptcy trustees, addresses the public policy issues as long as the bank reflects these limitations in its calculations.

Recommendation 6

The Consultative Document Section 638 - Bullet 5 currently reads:
"The insurance coverage has been explicitly mapped to the actual operational loss exposure of the institution."

<u>Marsh suggests that the Committee modify this wording to clarify that the insurance mitigation calculations must reflect the bank's insurance coverage in a manner that is transparent in its relationship to and consistent with the actual likelihood and impact of loss used in the bank's overall determination of its operational risk capital.</u>

Comments

For the purposes of this comment, Marsh assumes that the intent of this provision is to ensure that the bank's treatment of insurance reflects the bank's own particular array of likelihood and impact from operational risk in such a way that the resulting adjustments to capital are justifiable. However, we are concerned that the word "explicitly" could be interpreted to require direct mapping.

Such a requirement for direct mapping would be problematic because **insurance policies and coverage do not map directly to the New Basel Capital Accord's Loss Event Classification, Event-type Categories.** In some cases, insurance policies extend to multiple event-type categories and in other cases multiple insurance coverage apply to a single Basel Loss Event-type Category. Although direct mapping[1] of loss event-types to insurance is in theory a reasonable and logical process, when used in the context of operational risk and insurance, it provides an insufficient result because it ignores various complexities that accompany the operational risk/insurance relationship.

The determination of insurance coverage is often a detailed process that involves the consideration of numerous circumstantial factors that might give rise to policy limitations or exclusions or even void coverage. Accordingly, the composite elements from which a determination of insurance coverage is made cannot be captured in a one-dimensional category.

A brief discussion of an approach to simultaneously model both the operational risks and the effect of insurance appears in **Appendix 2**.

Given the complexity of the insurance/operational risk relationship which make direct mapping problematic and the benefits to be achieved through a more comprehensive modeling, we have suggested the change from wording that might imply a requirement for direct mapping to wording that requires transparency and consistency.

[1] "Direct mapping" refers to the process of matching an operational risk category (such as provided in Annex 7 of the April 2003 Consultative Document) to insurance products (as commonly known.). For example, one might map the operational risk category "Internal Fraudulent Acts" to the insurance product known as Banker's Blanket Bond (BBB). Unfortunately for the mapping exercise, neither are all internal fraud events covered by this policy (e.g. internal fraud without the intent of personal gain is usually not covered by the BBB) nor does the BBB cover only internal fraud (e.g. external theft of the bank's securities would often be covered by the BBB).

APPENDIX 1

MODELING BY MERCER OLIVER WYMAN OF THE EFFECT OF INSURANCE ON CAPITAL FROM THE LDCE DATA

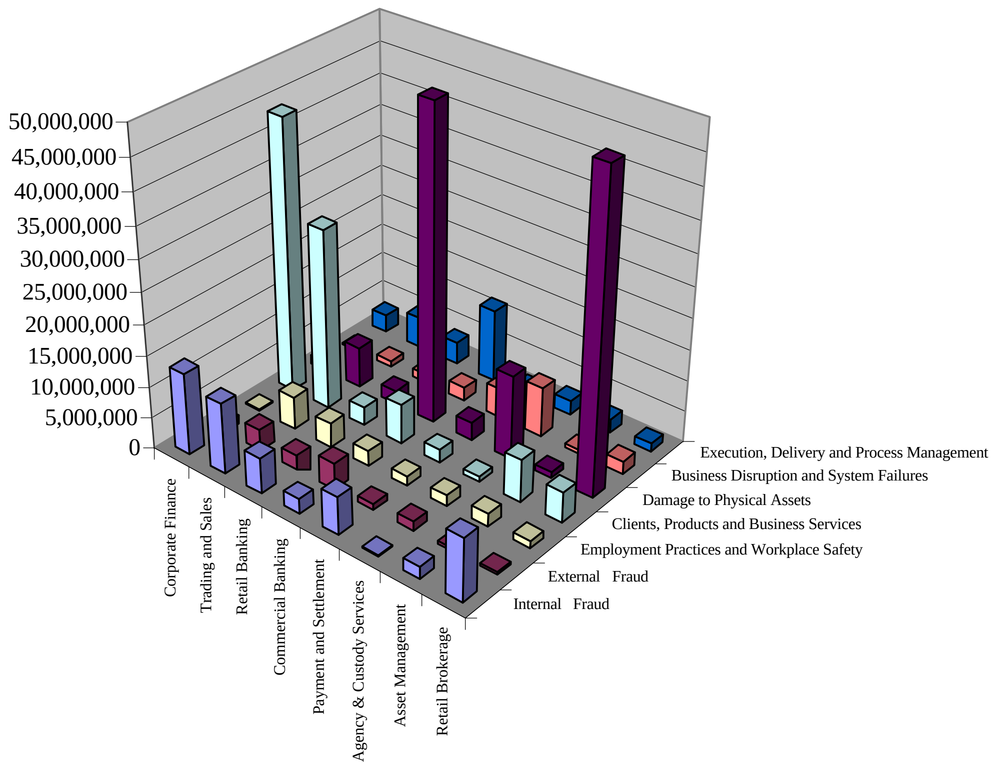
We approached the modeling effort by calibrating parameters to the data, and making what we believe are reasonable assumptions where data is lacking. For example, the summaries the Committee included in its public document do allow average losses to be calculated by business line by event type cell, but higher moments of loss distributions are not available except at the portfolio level of aggregation. Thus we could calibrate averages at the granular level, but size-of-loss assumptions only overall.

The assumptions that we made as to the variance in size of loss by event category, the percentage of losses with coverage, the deductibles and limits of related policies, and the certainty of payment are the most critical to the measurement of the mitigating effect of insurance on capital. Because we had to make what we believe are reasonable assumptions for these parameters and because the insurance effect can vary substantially depending upon these assumptions, we are not able to draw more compelling conclusions from these data**.** In fact, depending upon the assumptions selected, it is possible to produce capital relief that ranges from well above to well below 20%. However, it is interesting to note that it is not at all difficult to show insurance in a favorable light based on the LDCE data. We also note that much of this potential substantial benefit is perhaps due to losses of event type ‘Damage to Physical Assets’ featuring prominently in the tail of the LDCE data and the fact of Property policies historically having performed relatively reliably.

Our model utilizes a simulation-based loss distribution approach. Frequency and severity parameters are specified for each of the business line by event type cells. Parameter uncertainty is also built into our model; no correlations are assumed in this particular analysis. And assumptions for the total failure of policies, as well as for the potential that individual losses would fail to be provided indemnification, are explicitly included at levels we believe are reasonable. The estimate of capital is at the 99.9% confidence level. Due to the limited information set contained in the LDCE data summaries, a broad range of assumptions can be made consistent with that data, and thus we were able to obtain a broad range of estimates of the mitigating value of insurance on capital. We suspect that this broad range of results would be reflected in the actual population of AMA banks given the wide diversity of size, operations, geography, insurance programs, and reasonable modeling assumptions.

See below for a diagram of the results of one of the simulations of required capital net of the effect of insurance.

Table 1. LCDC (Net) Economic Capital



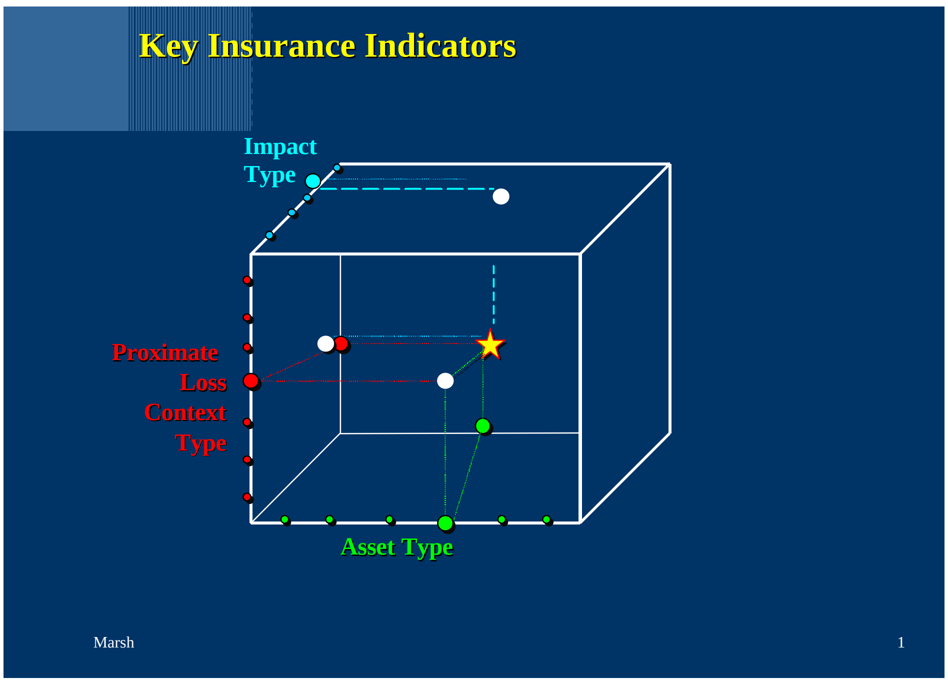
APPENDIX 2

MAPPING THE COMPLEXITIES OF INSURANCE IN DETERMINING OPERATIONAL RISK CAPITAL

Although there are numerous (if not limitless) circumstances particular to a bank's individual insurance coverage and actual operational risk losses that may affect coverage, recent analysis shows certain characteristics of operational risk losses, which might be called "key insurance indicators," are strongly associated with the ultimate determination of whether or not there is insurance coverage. Three key insurance indicators are:

1. Proximate loss context. i.e. the behavior or event that is closest in time to the loss
2. Impact or consequence of the loss event, e.g. lawsuit, defense cost, fines and penalties, theft, physical damage from external perils, death or injury to employees, etc.
3. Asset or liability impacted

The following chart shows how the key insurance indicators will map to insurance coverage. For each point, there will be determined a particular insurance policy or no insurance policy depending on the particular indicators that apply to the event.



THE YELLOW STAR REPRESENTS EITHER A PARTICULAR INSURANCE POLICY OR A POINT WHERE NO INSURANCE APPLIES

The key issue is that, while the determining factors associated with understanding the benefits of insurance are not entirely identical to the actual operational risk impact analysis of the bank as determined in its operational risk calculations, the processes and inputs for both are highly compatible.

The relationship between operational risk and insurance is complex and merits comprehensive analysis. Alternatives to direct mapping will identify elements critical to the determination of insurance coverage. A more thorough examination of key indicators like those useful for insurance may not only clarify the operation risk/insurance relationship but may also be helpful in the design and implementation of programs of risk mitigation. Therefore, within the context of how financial institutions approach operational risk, these key insurance indicators can be used

(1) to create a contextual bridge between operational risk loss exposures and insurance that identifies both the insurance indicators and the operational risk indicators needed for capital calculations, and
(2) to provide further insight into potential and actual losses that will enhance the ability of banks to prevent or reduce the impact of those losses or to improve future risk mitigation through insurance.