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Operational Risk Insurance

- Treatment under the New Basel Accord

<u>1</u>	<u>INTRODUCTION</u>	3
<u>2</u>	<u>WHAT IS OPERATIONAL RISK?</u>	5
2.1	<u>THE BASEL DEFINITION</u>	5
2.2	<u>DEFINITIONS IN INSURANCE</u>	7
2.3	<u>CATEGORIZATION IN FINANCE</u>	8
<u>3</u>	<u>THE BANK'S RISK MANAGEMENT DECISION</u>	10
3.1	<u>A FINANCE DECISION</u>	10
3.2	<u>WHY IS INSURANCE VALUABLE TO THE BANK?</u>	11
3.2.1	<u>Risk pooling</u>	13
3.2.2	<u>Managing cash flow</u>	14
3.2.3	<u>Managing catastrophic losses</u>	14
3.2.4	<u>External resources for risk management and monitoring</u>	14
3.3	<u>LIMITATIONS AND CONCERNS</u>	15
3.3.1	<u>Adverse selection and moral hazard</u>	15
3.3.2	<u>Coverage not available for very large losses</u>	16
3.3.3	<u>Gaps in coverage</u>	17
3.3.4	<u>Risk of non-payment and delays</u>	18
3.3.5	<u>Insufficient data and knowledge at the insurance company level</u>	19
<u>4</u>	<u>REGULATORY DECISION MAKING</u>	21
4.1	<u>THE BASIS FOR REGULATION</u>	21
4.1.1	<u>Systemic risk and confidence in the financial system</u>	21
4.1.2	<u>Deposit insurance and limited liability</u>	22
4.1.3	<u>Operational risk capital</u>	23
4.2	<u>CONCERNS REGARDING INSURANCE</u>	24
4.2.1	<u>Counter-party risk and withdrawal</u>	24
4.2.2	<u>Speed of payment</u>	25
4.2.3	<u>Limits in the product range</u>	26
4.2.4	<u>Moral hazard</u>	26
4.3	<u>REGULATORY BENEFITS FROM INSURANCE</u>	27
4.3.1	<u>Risk mitigation</u>	27
4.3.2	<u>Reduced cost of moral hazard</u>	28
4.3.3	<u>Data collection and expertise</u>	28
<u>5</u>	<u>PROPOSED TREATMENT UNDER THE NEW BASEL ACCORD</u>	29
5.1	<u>THE OPERATIONAL RISK REGULATORY FRAMEWORK</u>	29
5.1.1	<u>Basic structure of the revised Basel Accord</u>	29
5.1.2	<u>The Quantitative Impact Study</u>	30
5.1.3	<u>Basic Indicator Approach</u>	32
5.1.4	<u>Standardized Approach</u>	33
5.1.5	<u>Advanced Measurement Approach</u>	34
5.1.6	<u>Pillar two and three</u>	36
5.1.7	<u>Implementation of the New Accord</u>	37
5.2	<u>COMMENTS ON THE PROPOSED TREATMENT</u>	38
5.2.1	<u>Capital requirements</u>	38
5.2.2	<u>Pillar two and three</u>	40

6 CONCLUSIONS..... 42

1 Introduction

Although operational risks are as old as banking itself it was not until recently that they came into the focus of regulators and bank management. There are in fact reasons to believe that operational risks in banks may be increasing due to developments in the financial industry. Deregulation of financial institutions has opened the market to new complex products with associated new risks. Globalization, large-scale mergers and acquisitions, and outsourcing pose new challenges. The Internet and automated technologies have revolutionized the access to information and introduced e-banking, but create risks of system failures and security leaks. In addition, financing techniques developed to reduce credit and market risk could instead increase the level of operational risk.¹ All of these factors called for a new look at operational risk in bank regulation.²

In response to the developments, the Basel Committee on Banking Supervision (“Basel Committee”) has proposed a minimum capital charge for operational risk as part of the revised Basel Capital Accord.³ The response to this proposal from the financial industry was, at least to begin with, quite negative, and several concerns were raised. One major worry was that that the proposal only to a very limited extent recognized that banks have other ways to mitigate operational risks than through capital – such as buying insurance coverage. The tradition of insuring operational risks in banks, through policies such as “Bankers Blanket

¹ Basel Committee on Banking Supervision, *Working Paper on the Regulatory Treatment of Operational Risk*, (2001), p. 1, (Hereinafter “BIS Working Paper”)

² In a study conducted by PricewaterhouseCoopers in a joint effort with RMA, the International Swaps & Derivatives Association and the British Bankers' Association 55 financial institutions submitted answers relating to the driving forces behind operational risk management. In addition to changes in the market they emphasized management commitment, the need for an understanding of enterprise-wide risks, and regulatory interest. An executive summary of the study, *Operational Risk – The Next Frontier*, is available at http://www.rmahq.org/Ed_Opps/pubs/oprisk_execsum.html. (hereinafter “PriceWaterhouseCoopers Study”)

³ See Basel Committee on Banking Supervision, *Consultative Document: Operational Risk, Supporting*

Bond” is long standing, and new products are being developed. The concern was that this development might be discouraged by the new capital requirements if no reduction of the capital charge would be allowed for insured risks.

The definition of operational risk developed by the Basel Committee covers a broad range of risks and it is clear that some risks are more suitable to insurance than others. This paper focuses on how regulators should deal with a bank’s insurance cover under the New Accord. Should banks be able to freely substitute operational risk capital with insurance or are there some concerns that the regulators might have with the bank’s decision making and the available insurance coverage?

It is desirable that the regulators only interfere in private decision making when the market cannot yield the socially desired result, and that interference should be constructed in a way that minimizes the distortion of market mechanisms. In order to accomplish this goal the regulators must first be familiar with the result that would be created by the market absent regulation. Accordingly, after having introduced the concept of operational risk, the risk management process in banks with regard to insurance is examined. The following section of the paper explores the perspective of the regulators; what is the basis for regulation and how does it apply to insurance coverage? Finally, the proposed regulatory treatment, represented by the anticipated New Basel Capital Accord, is analyzed and in a concluding remark the challenges to the regulators are summarized. The analysis is limited in that it does not question the basis of the proposed new framework, but rather looks at the question of how operational risk insurance should be incorporated into the structure.

2 What is operational risk?

2.1 The Basel Definition⁴

The definition of operational risk that has been suggested by the Basel Committee is the following:

“The risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events”

Clearly this definition encompasses a very broad range of risks. The definition is designed to include legal risk, which in itself is a broad concept covering everything from antitrust and consumer protection to Holocaust claims.⁵ Business risks, strategic and reputational risks, are not included. The risk measured is specific to the bank and excludes systemic risk. The definition relies on categorization of operational risks based on the underlying causes: people, processes, systems, and external factors. To further explain the risks involved and to enable the collection of loss data across banks the definition has been broken down into event types that more clearly illustrate the wide range of risks to be covered:

- **Internal Fraud and External Fraud** – these two categories include similar types of losses due to acts intended to defraud, misappropriate property or circumvent regulations, the law or company policy. Diversity and discrimination events are excluded. To be considered as an internal event the act must include at least one party internal to the bank. Examples of risks include unauthorized transactions, robbery, bribes, forgery, and hacking in to security systems.

⁴ The following section is based on the text in BIS Working Paper supra note 1, p. 2, and the further descriptions of event types in Annex 2. However, the definition adopted by the Basel Committee does seem to reflect an emerging industry consensus see PricewaterhouseCoopers’ Study, supra note 2.

- **Employment Practices and Workplace Safety** – the category refers to losses resulting from acts inconsistent with employment, health or safety laws or agreements, from payment or personal injury claims, or from diversity/discrimination events. Examples of risks include slip-and-fall accidents and worker’s compensation.
- **Clients, Products and Business Practices** – includes losses arising from an unintentional or negligent failure to meet a professional obligation to specific clients (including fiduciary and suitability requirements), or from the nature or design of a product. Examples of activities include breach of privacy, lender liability, antitrust violations, insider trading, and disputes regarding advisory activities.
- **Damage to Physical Assets** – covers losses arising from loss or damage to physical assets from natural disasters, such as hurricanes or other events, including terrorist acts.
- **Business Disruption and System Failure** – this category includes losses arising from disruption of business or system failures, such as telecommunications and hardware and software.
- **Execution, Delivery and Process Management** – covers losses from failed transaction processing or process management, from relations with trade counterparties and vendors, such as missed deadline or responsibility, delivery failure, incorrect client records, and missing legal documents.

Looking at the list it is certainly clear that the causes of operational risk are widespread, and in fact the idea of grouping these risks together into one category under the Accord has been criticized. Evidently these risks may be more diverse than credit risk or market risk that have been the basis of earlier capital requirements.

2.2 Definitions in insurance

Insurance for banks covering operational risks come in a variety of forms and new types of coverage are being developed. Traditionally coverage has been peril-specific – that is cover has been available separately for specific categories of risk. Peril-specific policies currently in the market include:⁶

- **Fidelity/Bankers Blanket Bond** – provides cover against dishonesty or default on part of an employee as well as fraud and forgery. Some policies have a broader coverage including damage to physical property, counterfeit currency, and trading losses.
- **Electronic Computer Crime** – provides cover against computer failure, viruses, data transmission problems, forged electronic funds transmissions etc.
- **Professional Indemnity** – provides cover against liabilities to third parties for claims arising out of employee negligence while providing professional services (e.g. investment advice) to clients.
- **Directors and Officers Liability** – covers the personal assets of directors against claims arising from legal actions arising from the performance of their duties.
- **Employment Practices Liability**
- **Non-Financial Property** – covers buildings etc.
- **Unauthorized Trading** – a relatively new product covering losses similar to the notorious events experienced at Barings.
- **General & Other Liability** – covers public liability, employer's liability, motor fleet liability etc.

Although the categories are not exactly matching the Basel Definition it seems clear that insurance coverage is available to banks for many of the operational risks for which they will now also be required to hold capital.⁷ In addition recent developments have brought to the market coverage for broader categories of risk, so called basket insurance.⁸ Swiss Re has been in the forefront of this development by introducing FIORI (Financial Institutions Operational Risk Insurance).⁹ This blanket policy covers liability, fidelity and unauthorized activities, technology risks, asset protection and external fraud. An effort has been made to include categories of operational risk that are generally excluded, such as potential income losses in fidelity and external fraud claims.¹⁰ However, the access point or deductible is \$100,000,000 for each and every loss, which limits users of this policy to the very largest financial institutions. The target client should also have a balance sheet of at least \$20 billion and be listed on an exchange.

2.3 Categorization based on probability and impact

The definitions used in the Basel Accord and in drafting of insurance contracts concentrate on the cause and effect of loss. In determining which risks to cover with insurance and for which risks capital should be required these definitions can be complemented by dividing the risks into categories based on the probability of occurrence and severity of outcome.¹¹ Using this terminology, high-frequency, low-severity losses are the everyday kind of predict-able losses that a bank almost inevitably will incur _ people make mistakes and systems have minor

⁶ Insurance Working Group of the Operational Risk Research Forum (hereinafter "ORRF"), *Insurance as a Mitigant for Operational Risk*, (2001), p. 10, available at <http://www.bis.org/bcbs/ca/oprirefo.pdf>.

⁷ In the working paper *Insurance of Operational Risk under the New Basel Capital Accord*, a joint paper by several insurance companies there is an interesting Annex that attempts to describe the overlapping of the Basel Definition and insurance. The paper is available at <http://www.bos.frb.org/bankinfo/conevent/oprisk/basel.pdf>.

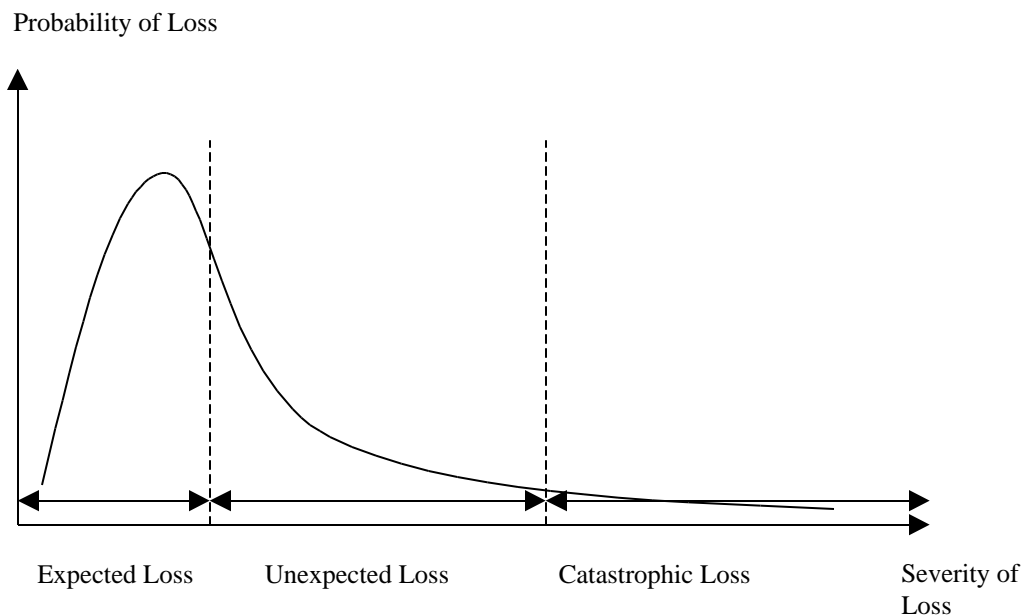
⁸ S. Ashby & B. Young, *New Trends in Operational Risk Insurance for Banks* (2001), provide a detailed description of recent innovations in the development of new forms of coverage.

⁹ A description of the FIORI insurance policy may be found in Van den Brink, J, *Operational Risk, The New Challenge for Banks*, (2002 Palgrave), p. 112.

¹⁰ *Operational Risk: A Practical Guide to Risk Management*, (2002 Palgrave), p. 112.

glitches. These expected, very high-frequency losses, will usually be expensed by the bank as a cost of operations. Low to medium frequency and medium to high severity losses are not as predictable and may be more serious for the bank, and thus require insurance or capital reserves. Finally, the very low-frequency, very high-severity losses resulting from catastrophic events have to be regarded. These losses represent the tail of the loss distribution curve and can be very hard to accurately measure. To provide an estimate of the value of a loss in an event that is expected to occur once every ten years in a single bank, loss data may have to be collected from more than one bank.

Figure 2.1: Loss Distribution Curve



3 The Bank's Risk Management Decision

3.1 A finance decision

The initial question a bank has to ask itself is why do operational risks or any other risks have to be managed in the first place? Although the answer may seem obvious, the bank has to gain an understanding of why risk management ultimately could increase its value to the owners. Is there an inherent value to reserving capital to absorb losses or to transfer risk through insurance? Finance theory has long ago refuted the idea that shareholders do not like risk in the first place.¹² The famous Modigliani and Miller Proposition I proved that in perfect capital markets a firm's capital structure does not affect its value. Each shareholder can replicate the result by his own transactions in borrowing money and buying stock.¹³ The decision to hold capital therefore should have no effect on the bank's value. The introduction of the Capital Asset Pricing Model (CAPM) explanation of the pricing of securities in turn proved that shareholder diversification is a substitute for corporate hedging. A shareholder that holds a fully diversified portfolio will have diversified away the unique risk of the stocks in the portfolio and will price the different stocks only based on sensitivity to market movements and market risk.¹⁴ Under these assumptions a bank that buys insurance to hedge risk will not increase its value, but waste resources.¹⁵ To understand why banks despite this actually hold capital and buy insurance we have to look at the ways reality differs from the assumed perfect capital market. In reality there are costs associated with financial distress, such as legal fees, court fees, and accounting costs. By managing risks these costs can be avoided and the bank's value increased. There may also be agency problems created by limited liability, and tax benefits to smooth income over time. Having realized that it is valuable to manage risks, the

¹² Doherty, N, *Integrated Risk Management, Techniques and Strategies for Managing Corporate Risk*, (2000 McGraw-Hill) p. 156.

¹³ R. Brealey & S. Myers, *Principles of Corporate Finance*, (5th ed. 1996 McGraw-Hill) p. 447.

¹⁴ R. Brealey & S. Myers, *Principles of Corporate Finance* supra note 13, p. 180.

bank's primary focus should naturally be on how to limit the risks within the organization. This includes adopting a risk management program and trying to measure the level of risk and its causes. New best practices in risk management focuses on so called enterprise-wide risk management that tries to get a view of the total amount of risk in the organization, including operational risk, and that combines the use of insurance and other financial instruments to control the costs of risk.¹⁶ However, all risks cannot be eliminated, either because they are outside of the bank's control or because it would just be too expensive. If the bank still would like to continue the activity that causes the risk it faces a choice between retaining and transferring the risk. In retaining the risk the bank has to reserve capital for future losses. Transferring of risk is usually accomplished by purchasing insurance. The choice of how the bank should manage its risks then essentially becomes a finance decision. The bank should purchase insurance to the extent that the cost of insurance is lower than the cost of reserving capital. Or in other words, the marginal benefit of an increase in insurance cover should be compared to its marginal cost.¹⁷

3.2 Why is insurance valuable to the bank?

3.2.1 Value to whom and for what?

To understand the value of insurance it is important to realize that risk transfer does not involve transfer of the actual risk, but of the economic impact and the timing of impact.¹⁸ The bank purchasing insurance cover for its buildings still runs the risk of having a building burn

¹⁵ This is true whether or not the risk is correlated with the market portfolio as long as the insurance policy is not mispriced, see Doherty, N, *Integrated Risk Management* supra note 12, p. 156.

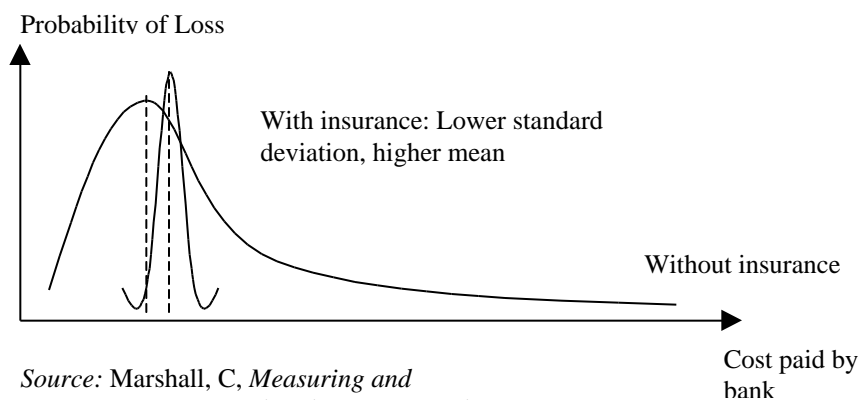
¹⁶ See D. Hoffman, *Managing Operational Risk, 20 Firmwide Best Practice Strategies*, (2002 John Wiley & Sons) p. 7.

¹⁷ ORRF, *Insurance as a Mitigant for Operational Risk*, supra note 6 p. 18.

¹⁸ Young, P & Tippins, S, *Managing Business Risk, An Organization-Wide Approach to Risk Management*,

down, but the economic impact of the fire will not be faced by the bank at that time, assuming that it is fully insured. It will have been paid for through insurance premiums.

Figure 2.2 Effect of Insurance on Loss Distribution



Source: Marshall, C, *Measuring and Managing Operational Risks in Financial Institutions*, supra note 20, p. 435

Figure 2.2. illustrates the effect insurance may have on the loss distribution curve for the bank. Insurance has the effect of decreasing the standard deviation (unexpected losses) on individual claims, as the cost for the bank in the form of insurance premium is pre-determined. In theory the pricing of insurance should equal the expected value of loss during the policy period plus the overhead costs and profit for the insurance company.¹⁹ The overhead costs and profit may as illustrated in Figure 2.2 actually increase the cost paid by the bank, (higher mean) compared to if it would pay the losses as they occurred without insurance.²⁰ The fact that a bank is willing to pay a premium higher than the expected value of loss reflects the proposition that the bank finds the reduction in uncertainty valuable. However, risk could also be less costly to the insurance company due to the effect of diversification and pooling of risks and improved risk management, thereby reducing both the standard deviation and the mean of the loss distribution curve.²¹ The benefits that banks derive from insurance are explained in the following sections. However, apart from increasing

¹⁹ Young, P & Tippins, S, *Managing Business Risk*, supra note 18, p. 335.

²⁰ Marshall, C, *Measuring and Managing Operational Risks in Financial Institutions, Tools, Techniques, and Other Resources*, (2001 John Wiley & Sons) p. 435.

the value of the bank to the shareholders, demand for insurance may be the result of demands from other claimholders in the bank such as employees and managers. Since the ability for these categories to diversify the risk of their employment is much more limited than the shareholders', they will be more risk averse and thus have a higher demand for insurance.²² However, the incentives for the employees and managers ultimately will also depend on the type of compensation they are receiving and how it is related to the risk profile of the bank.

3.2.2 Risk pooling

The gathering together of similar risks created by the fact that several banks buy insurance cover from the same insurance company allows the insurer to estimate future losses with greater accuracy. Uncertainty is reduced, which provides funding stability and predictability, as well as economies of scale. Through this pooling the aggregate cost of the risk to the bank may actually be reduced.²³ This function of insurance is particularly valuable to a bank when it comes to low-frequency losses. A bank will usually find that it is better at managing and estimating its own everyday kind of operational risks, whereas the insurance company may better manage the low-likelihood losses that require industry wide data to be accurately measured.²⁴

²¹ Risk mitigation can be achieved either by reducing the probability of a loss occurring or by reducing the financial consequences of loss. ORRF, *Insurance as a Mitigant for Operational Risk*, supra note 6 p 9.

²² D. Mayers, & C. Smith, *On the Corporate Demand for Insurance*, The Journal of Business, (Vol. 55, 2nd Issue, 1982), p. 283.

²³ Young, P & Tippins, S, *Managing Business Risk*, supra note 18, p 325, Doherty, N, *Integrated Risk Management*, supra note 12, Chapter 4, Portfolio Theory and Risk Management, describes the theory of diversification.

²⁴ Marshall, C, *Measuring and Managing Operational Risks in Financial Institutions*, supra note 20, p. 440.

However, there are examples of large firms that have found it efficient to outsource the management of smaller

3.2.3 *Managing cash flow*

As demonstrated by Figure 2.2 insurance reduces the uncertainty of loss, thereby making cash flows smoother for the bank. This can have several benefits. First it permits the bank to undertake value adding reinvestment opportunities that may otherwise be lost.²⁵ After experiencing an operational risk loss it may be hard for the bank to raise new capital, and the insurance payment makes sure that there are funds available. In the case that the bank is subject to a tax system with increasing marginal taxes there may also be a tax benefit to smoothing tax flow over several years.²⁶

3.2.4 *Managing catastrophic losses*

At least in theory insurance could be used to finance very large operational losses experienced by a bank. It may not be economically feasible for a bank to hold capital to finance very low-likelihood, but high-impact, catastrophic, losses that are very hard to predict.²⁷ An insurance company with access to wholesale reinsurance markets will be able to absorb losses that would threaten the solvency of a single bank.

3.2.5 *External resources for risk management and monitoring*

Through the pooling of risks and data, insurance companies are able to gather information about risks that may not be available to a single bank. The insurer will also develop a comparative advantage in processing claims because of economics of scale and gains from specialization.²⁸ Insurance companies also have an incentive to monitor the bank's risk management and provide advice to the bank on how to improve its risk managing programs.

²⁵ Doherty, N, *Integrated Risk Management*, supra note 11, p 211

²⁶ D. Mayers, & C. Smith, *On the Corporate Demand for Insurance* supra note, p.289.

²⁷ ORRF, *Insurance as a Mitigant for Operational Risk*, supra note 6, p. 15.

²⁸

This is because the insurance company will always be concerned that moral hazard causes the bank to be careless in its risk management once it has purchased insurance and transferred the risk.

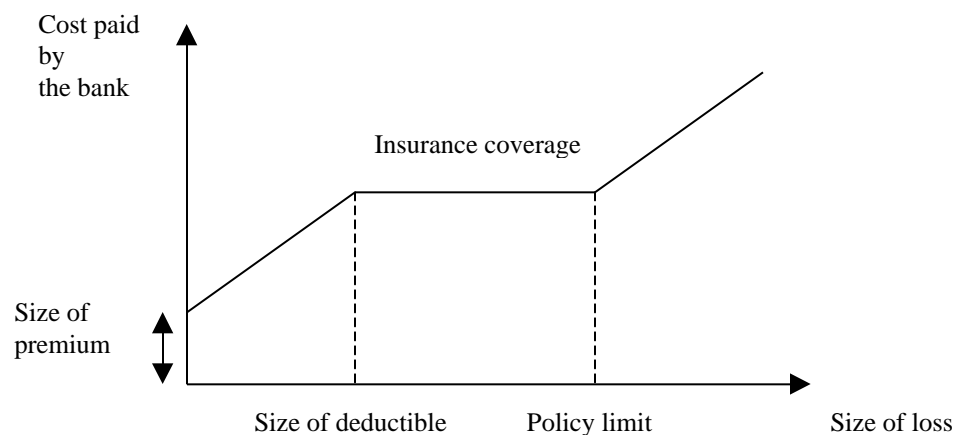
3.3 Limitations and concerns

With the theoretical benefits of insurance laid out it may be surprising to learn that insurance coverage only exists for approximately 20-30 % of the total operational risk in banks.²⁹ The reasons why coverage is limited are numerous:

3.3.1 Adverse selection and moral hazard

Many of the operational risks that are created within banks are company specific – they vary to a great extent between different banks. Due to information asymmetries it may be difficult and costly for an insurance company to differentiate between risky and safe banks. Knowing this fact, riskier banks are more likely to purchase insurance coverage than safe banks, which leads to increased premiums and may reduce the product range. Increased premiums will decrease demand for insurance. Premiums may also be inflated compared to retention of capital due to the fact that moral hazard can increase the level of risk once insurance coverage is purchased. To mitigate the effect of moral hazard a deductible may be included in the insurance policy. In agreeing to retain some of the loss the bank gets an incentive to improve its risk management. As illustrated by figure 3.1 below the deductible means that apart from the premium the bank will pay all losses during the time period with a value below the level of the deductible. Within the policy limit the bank will only pay the premium and the deductible. For losses above the policy limit the bank pays the exceeding amount as well.

Figure 3.1 Effect of Deductible



Source: Marshall, C, *Measuring and Managing Operational Risks in Financial Institutions*, supra note 20 p 436 f.

3.3.2 Coverage not available for very large losses

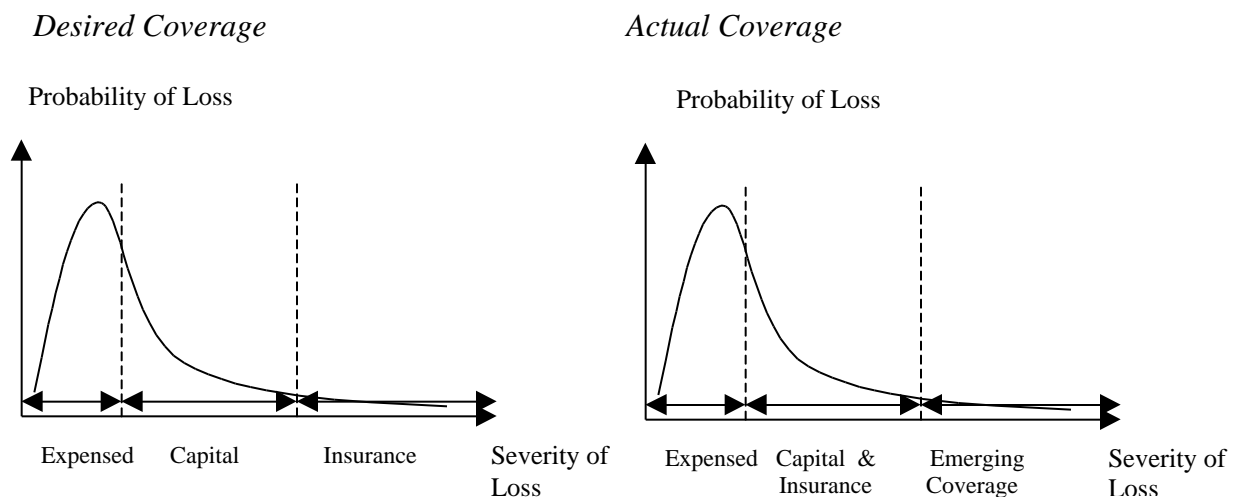
Although in theory banks should be able to profit the most from the transfer of low-frequency, high-impact losses, in reality coverage for very large losses has not been available. Possible operational losses for large banks can amount to billions of dollars, which may threaten the soundness of even a large insurance company. The reinsurance market has proven to be able to accommodate even very sizeable losses, but for the very low-likelihood, catastrophic, events the collection of data has not been sufficient. Newly developed coverage for rogue trading based on the events at Barings has not become popular, probably because banks tend to rely on internal controls and do not find the level of premiums appealing.³⁰ Rogue traders

²⁹ D. Hoffman, *Managing Operational Risk*, supra note, p. 11. This number is increasing as new and broader policies are introduced in the market, and more data becomes available.

³⁰ Insurance Journal, *Most Banks Don't Have Rogue Trader Insurance*, Feb 11 2002, available at

tend to be seen as a risk specific to the affected bank and not as something that could happen to anyone. The widespread Bankers Blanket Bond usually only provides coverage for losses up to \$100–200 million, even though larger losses are quite probable for a big bank.³¹ This results in a discrepancy between the theoretically desired coverage and the coverage available in the market as illustrated by Figure 3.2.

Figure 3.2 Desired coverage and actual coverage³²



3.3.3 Gaps in coverage

The insurance policies available to banks are for the most part peril-specific as described in section 2.3. This should be compared to internal capital that will be available to the bank for any kind of loss that occurs, no matter the cause or effect. Peril-specific insurance creates gaps in coverage compared to capital, even if the bank attempts to buy coverage over the whole range of operational risks. There may also be substantial overlapping between policies that causes inefficiencies. The policy language has been accused by banks of being compli-

³¹ D. Hoffman, *Managing Operational Risk*, supra note, p. 340.

cated and difficult to understand, making assessments of actual coverage difficult.³³ In addition, the definition of coverage may be inconsistent with the banks internal measurement of operational risk and risk management program. The development of basket coverage is in the making, but it requires a critical mass of banks and insurers in order to become a viable form of insurance. Members of the Insurance Working Group at the Operational Risk Research Forum have concluded that on the demand side there is a need for ten to twenty banks to purchase basket insurance policies. On the supply side at least ten “A” or better rated insurance companies would be the minimum number.³⁴

The development of basket coverage is in itself not uncontroversial. The opinion that a grouping of such a diverse variety of risks is efficient can be questioned. Clearly basket coverage poses a challenge to insurance under-writing in that the range of probable events is vastly increased. Pooling of risks in a policy can provide for diversification, but the amount of data needed to accurately price the policy is increased. For example, if a bank insures ten assets, each of which has four final loss states, through ten separate insurance contracts there are 40 potential insurance claims that need to be assessed. In contrast if a single basket insurance was offered there would be more than one million (4^{10}) potential claims to consider.³⁵

3.3.4 Risk of non-payment and delays

Insurance also exposes the bank to counter-party risk in that the bank cannot be certain that the insurance company will be able to make the payment in the event of loss. The credit risk should not be exaggerated though, as the insurance industry has proven to be able to

³³ ORRF, *Insurance as a Mitigant for Operational Risk*, supra note 6, p. 27.

³⁴ ORRF, *Insurance as a Mitigant for Operational Risk*, supra note 6, p. 24.

incorporate massive losses. However, even when insurance payments will be made, they might not work as a perfect substitute for capital. Whereas capital is available to the bank immediately, the process from loss to an insurance payment can be lengthy. In fact, many claims are not settled in the same fiscal year as the loss occurred.³⁶ Thus the bank will have to show losses on the balance sheet and income statement. A solution that has been tried is to guarantee the bank an up-front payment as soon as a claim is made. This in turn exposes the insurance company to the risk that the bank would be unwilling or unable to pay back the money in the case the claim was unfounded. Therefore, such up-front payments are only likely to be available to larger banks with high credit ratings.³⁷ Under the FIORI insurance Swiss Re solves the liquidity problem by agreeing to buy shares of the bank if loss occurs, and thus provide new capital.

3.3.5 Insufficient data and knowledge at the insurance company level

One of the claimed benefits of insurance is to offer increased monitoring and control as well as risk management advice to banks. This seems to be especially appealing to banks with little experience of, or resources devoted to, operational risk management. However, monitoring assumes that the experience and data is readily available at the insurance company level. In evaluating this argument it is important to understand that the focus on operational risk is new to risk management in insurance companies as well. Although experience with underwriting of some types of policies such as the Banker's Blanket Bond is extensive, enterprise-wide risk management and basket policies present new challenges. In a recent survey insurance company executives reported that they were extremely dissatisfied with the way operational risk

³⁶ D. Hoffman, *Managing Operational Risk*, supra note, p. 332.

management was conducted in their own companies.³⁸ It may then be questioned whether the rendering of advice will be any better.

³⁸ A summary of the results from the survey, conducted by Tillinghast-Towers Perrin, may be found in J. Miccolis & H. Mueller, *An ERM of Their Own*, available at

4 Regulatory Decision Making

4.1 The basis for regulation

In evaluating the use of insurance as a mitigant of operational risk, it is important for the regulators to start from the right perspective. The question is not whether insurance is a foolproof safety system for operational risk or if it is an exact substitute for capital. Assuming that banks are in general superior at evaluating their own risks and designing their risk management programs, the regulators should ask whether banks, or the market, have reasons to make a choice that is inefficient or undesirable in the view of the regulators and value insurance accordingly. To make this determination it is valuable to look to the reason why regulators have chosen to intervene with capital requirements in the first place.

4.1.1 Systemic risk and confidence in the financial system

Financial regulators are not worried about irregular cash flows or minor operational losses in banks. How to maximize shareholder value in these contexts is something that clearly should be up to a competitive market. Instead financial regulators are worried about operational losses leading to failure of banks, and the risk of one bank's failure leading to disruptions or failure of other banks and runs on deposits. Banks play a critical role in the creation and adjustment of the money supply and payment system, which are of utmost importance to society.³⁹ Operational risk events have the potential of causing bank failure and creating systemic risk. The interconnectedness of banks through payment and clearing systems make them sensitive to events at other institutions. Systemic risk itself is not included in the definition of operational risk for capital regulatory purposes and it is not something a bank would include in its calculation of risk. Systemic risk is an externality created by the

individual bank, and banks acting together that will be borne by society. Still, systemic risk gives the regulator a reason to monitor banks, regulate the level of capital, and limit the effect of failures by introducing deposit insurance. Even if a bank failure does not threaten the solidity of other banks it can cause damage to the confidence of the market and savers that may be damaging to the economy and warrant regulation.

4.1.2 Deposit insurance and limited liability

While the critical role of banks as takers of deposits have prompted regulators to adopt deposit insurance, these systems may in turn be a cause of increased risk that may require capital regulation. A reason why banks, if left alone, might not hold enough capital is the incentives created by the combination of deposit insurance and limited liability. The agency costs created by limited liability are worsened by the existence of deposit insurance and makes the assumptions by Miller and Modigliani about capital structure incorrect.⁴⁰ Through the mandated deposit insurance, depositors are in fact already insured against losses, at least up to the limit of the insurance. This provides an incentive for banks to rely more on financing through deposits/debt than through equity and internal capital and to take excessive risks. In fact banks are very heavily leveraged institutions. The depositors allow riskier strategies and lower capital rates in return for higher interest rates relying on the government guarantee and do not have the same incentive to monitor the risk of the bank's behavior. In addition limited liability gives the equity holders in the bank an incentive to prefer riskier investment strategies as they are benefiting from the upside of risks, but can transfer the downside to depositors and ultimately to the government and the taxpayers. By imposing capital requirements the government may force the banks to retain a cushion against losses and

⁴⁰ Prescott, E, (2001), *Regulating Bank Capital Structure to Control Risk*, Economic Quarterly – Federal Reserve

absorb more of the risk they create, leading to less risk taking. Importantly, a similar effect on risk taking may be obtained if the bank is forced to pay for expected losses through insurance premiums.

4.1.3 Operational risk capital

Evidently, the banks' decisions in how much of operational risk that should be covered by capital cannot be trusted to be aligned with the regulators' view. Incentives from deposit insurance to take greater risks and the facts that banks do not take into account the externalities in form of systemic risks they create make it reasonable to assume that they would not reserve enough capital. On the other hand, as explained in Section 3.2.1., there may also be incentives for managers to limit or increase risk taking to their own benefit. In the end however regulators have come to the conclusion in the new Basel Accord that banks cannot be left to control operational risks on their own.⁴¹ The reason for that the capital requirement has not been introduced until now is mostly that management awareness and risk measurement techniques have not been present.⁴² With the increased risk sensitivity in the new Basel Accord it also became more important to also recognize the presence of other risks than credit and market risk.⁴³ In addition, the capital requirement must be seen together with the efforts to create incentives to promote better overall management of operational risks in banks, and to bring all banks up to a minimum level.

⁴¹ BIS Working Paper supra note 1.

⁴² European Commission, *Commission Services' Second Consultative Document on Review of Regulatory Capital for Credit Institutions and Investment Firms*, MARKT/1000/01 (5 Feb 2001), p. 38.

4.2 Concerns regarding insurance

Assuming there is a need for capital regulation to monitor operational risk in banks the next question is how the regulators should treat insurance relative to capital. A major concern will be that the bank's decision to buy insurance, if not controlled, could be designed to avoid capital regulation if a reduction of the capital charge is allowed. Clearly, insurance contracts can take a variety of forms that more or less act as a substitute for capital, and these differences between the policies raise a concern for capital arbitrage. Although agreeing in principle that the use of insurance should be reflected in the capital requirements the Basel Committee outlined several reasons why insurance coverage should only be allowed to reduce the capital charge to a limited extent.⁴⁴ The validity of these arguments is examined below.

4.2.1 *Counter-party risk and withdrawal*

By purchasing insurance the bank is, as mentioned, exposed to a new form of risk, the risk of non-payment from the insurance company in the event of failure. The concern of the regulator is that if risk is transferred to an insurer that is less well capitalized than the bank, the risk of failure and systemic risk may actually be increased if the bank's capital is subsequently reduced. The bank may choose a questionable insurer with a low premium in order to escape the capital charge. This problem, although possibly significant, in my opinion should not prevent the regulators from allowing insurance to reduce the capital requirement. Instead it should prompt the regulators to adopt qualifying requirements for insurers and insurance policies such as rating requirements and demands on reinsurance.

Another problem with insurance is the possibility that an insurer may choose to stop supplying insurance if it was to suffer very large losses. This would leave the bank without

cover for the next time period, and it may not be able to adjust the level of capital immediately. Acting on this concern the regulators could however adopt rules concerning the length of the policy periods and discontinuing of coverage.⁴⁵ An alternative would be to require the bank to have staggered coverage to make sure that only part of the coverage could be renegotiated at any one time. In addition, assuming that the insurance market is competitive the withdrawal of one firm should lead to other firms entering the market, let alone that premiums may be higher for a period of time.⁴⁶

4.2.2 *Speed of payment*

In my opinion the regulator is quite right in expressing concern with the speed of payment of insurance claims. Delays are almost inevitable and gives insurance coverage a substantial disadvantage if compared with capital that will be available to the bank instantly. One solution to the problem would be to require that to qualify for a capital reduction the policies had to include an up-front payment that would be available to the bank without delay. Taking into account that such upfront payments only would be available to larger banks this would, in my opinion, limit the incentives to use insurance too much. Instead in allowing the bank to substitute capital for insurance coverage the ratio cannot be 100 percent of the insured amount, but must be lower. The existence of up-front payments or FIORI share purchasing mechanisms could help raise the ratio on an individual basis. A major problem for the regulator with this approach is the lack of data available to evaluate insurance coverage.

⁴⁴ Basel Committee, *Consultative Document: Operational Risk*, supra note 3, p. 15.

⁴⁵ The standard length of contract is 12 months with a cancellation period of 30 days. However, it is not uncommon for banks to negotiate for longer periods. See Insurance Working Paper, supra note 7.

4.2.3 Limits in the product range

In determining the value of insurance to a bank a problem that also concerns the regulators is the fact that most of the operational risk insurance is peril specific. Undoubtedly a bank cannot be allowed to escape capital requirements by purchasing a ten billion dollar insurance policy for computer fraud if the main operational risk that faces the bank is that it is located in an area with a high risk of earthquakes. The problem is for the most part solved if the bank has access to basket insurance. However, to only allow basket coverage to reduce the capital charge would in my opinion cause an unwanted distortion of the market for insurance. The market for basket insurance is just developing and the efficiency of this approach remains to be evaluated. It is clear that basket insurance may not be the best answer for all banks.⁴⁷ The regulator should be careful in providing incentives for specific kinds of insurance by reducing capital requirements. An alternative would be to create standard ceilings for reduction related to different kinds of policies based on statistics of insurance coverage in the industry, combined with discretion for the regulatory authority to adjust the ceiling if necessary for an individual bank. However, the lack of data is considerable in this aspect as well.

4.2.4 Moral hazard

The Basel Committee also expressed concern that insurance would create moral hazard in that it would increase risk taking in the banks and thus lead to an increase in the total operational risk in society. While this assumption may be correct, it is important to realize that moral hazard is inherent in most kinds of insurance and it is something the insurers are experts on evaluating. Thus if the insurance company, taking moral hazard into account, still is willing to offer insurance at a price that is attractive to the banks compared to the internal cost of reserving capital, then insurance does not raise the cost of risk. Of course the insurance

company can make a misjudgment, but assuming they have the expertise rather than the regulator and pay the full price of such a mistake, there is no reason for the regulator to try to second-guess the decision to provide insurance.

4.3 Regulatory benefits from insurance

Having dealt with the problems of substituting capital with insurance it is important for the regulator to also take a close look at the benefits. That regulators find insurance for at least some kinds of operational risks valuable is clear. In fact fidelity insurance is obligatory for banks in several countries, including the U.S. and insurance against fire for physical property is often mandatory.⁴⁸ The following section emphasizes benefits of insurance that are especially attractive to regulators.

4.3.1 Risk mitigation

Not to be ignored is the fact that insurance apart from transferring the impact of the risk can lead to actual risk mitigation, or reduction of the financial impact of loss. The benefits from pooling together of risks are expected to be the largest with regard to low-frequency and high-impact events. These events are precisely the kind of scenarios that may cause a bank to fail and therefore are of major concern to the regulators. Even with a capital charge for banks it will not be possible to make sure banks to have coverage for losses at the very tail of the loss distribution curve. Insurance must then be seen as an alternative that should not be discouraged.

⁴⁷ S. Ashby & B. Young, *New Trends in Operational Risk Insurance for Banks*, supra note 7, p. 5.

4.3.2 *Reduced cost of moral hazard*

The fact that insurance may cause moral hazard, represented as increased risk taking by the bank after the purchase of insurance, may be counteracted by the fact that insurance may decrease the cost of moral hazard created by deposit insurance and limited liability. Limited liability externalizes some of the cost of operational risk and reduces the incentive to buy liability insurance. By purchasing insurance the bank is increasing the resources available to a liability claimant and reverses the effects of limited liability.⁴⁹ However, for the regulator that will have to pay depositors in case of a bank failure insurance may decrease the required payout. An advantage compared to capital requirement could exist in the coverage of catastrophic claims where insurance may be more cost-efficient.⁵⁰

4.3.3 *Data collection and expertise*

The understanding of operational risk management and insurance is still for the most part in its early stages even for regulators.⁵¹ However, in my opinion it is important that the development in the area in an appropriate way takes advantage of the expertise in risk management that insurance companies may provide in the future. To provide coverage insurers are also required to collect data, which has been identified as one of the most important steps to be taken in improving operational risk management.⁵² Insurers will also have an incentive to closely monitor the banks that can be helpful to the regulators. The level of insurance premiums can be used as a signaling tool to monitor the level of risk. By providing or not providing incentives for banks to purchase insurance coverage the regulators have an influence that should not be underestimated on how involved the insurance sector will be in improving operational risk management in banks.

⁴⁹ Doherty, N, *Integrated Risk Management*, supra note 12, p. 567.

⁵⁰ Financial Services Authority, *Integrated Prudential Sourcebook*, Consultation Paper 97, June 2001, p. 110. available at <http://www.fsa.gov.uk/pubs/cp/cp97.pdf>

⁵¹ D. Hoffman, *Managing Operational Risk*, supra note, p. 410.

5 Proposed Treatment under the New Basel Accord

5.1 The operational risk regulatory framework

5.1.1 Basic structure of the revised Basel Accord

With the benefits and concerns with insurance as a substitute for capital in mind the actual response from the regulators in the New Basel Capital Accord now stands to be examined. When the first consultative package of the Basel Accord was released in January 2001 it incorporated a capital charge for operational risk that would amount, on an industry-wide basis, to 20% of the total regulatory capital under the present Accord.⁵³ The introduction of the charge for operational risk is not intended to increase the level of capital already held by banks, instead it was calibrated according to a survey of actual economic capital allocation for operational risk in banks. Part of the motivation behind the charge was that it is likely that the reductions due to increased risk sensitivity in credit risk capital charges will result in lower regulatory capital, consequently lowering the buffer for other risks.⁵⁴ The banking industry and insurance companies however strongly reacted against the charge, claiming that it was too high, double-counted risks included in credit and market risk charges, and that it did not take into account the fact that banks held insurance policies for many of the risks that was included in the new capital charge.⁵⁵ When the revised version of the operational risk treatment was released in a working paper in September 2001 the total charge was lowered to an average 12 % of current regulatory capital, partly in response to the existing insurance coverage.⁵⁶ However, the Committee repeated its concerns that insurance provides a less than perfect coverage of operational risk. Although the charge on an industry-wide basis is expected to be

⁵³ Basel Committee, *Consultative Document: Operational Risk*, supra note 3, p. 5.

⁵⁴ The former charge for credit risk supposedly also included a buffer for other risks that will now be removed. In addition banks usually hold capital in excess of the requirements. See Basel Committee, *Consultative Document: Operational Risk*, supra note 3, p. 1.

⁵⁵ See for example the comments submitted by the International Swaps and Derivatives Association, p 37, 40-41 available at <http://www.bis.org/bcbs/ca/isdaresp.pdf>.

12 % of total regulatory capital, the actual operational risk charge for an individual bank may be calculated according to three different methods, representing increasing sophistication and risk sensitivity. The first two methods, the Basic Indicator Approach and the Standardized Approach are calibrated by using gross income as an exposure indicator. The Advanced Measurement Approach instead uses the bank's internal model for calibration of the capital charge. The methods are described below, and may of course for a single bank yield a charge that is higher or lower than 12 % of current total capital.⁵⁷ The capital charge represents the first pillar of the Accord and is to be complemented with the supervisory review process (pillar 2) and enhancement of market discipline through disclosure (pillar 3).

5.1.2 *The Quantitative Impact Study*

To be able to reach its goal not to increase the total amount of economic capital in the banks and in order to accurately calibrate the charge the Basel Committee needed to collect data concerning operational risk. As this data was not readily available the Risk Management Group of the Basel Committee conducted a major survey in 2001, The Quantitative Impact Study, in order to study banks' capital allocation for operational risk and their overall loss experience.⁵⁸ The first part of the survey was intended to collect information on exposure indicators and the economic capital allocation to operational risk by business line. The survey involved data from 140 banks, 57 large institutions and more than 80 smaller.⁵⁹ However, only 31 banks were able to break down economic capital per business line, a small sample, which make the results difficult to generalize from. It was unclear whether there was a difference to be found in economic capital allocation across the adopted definition of business

⁵⁷ The descriptions are based on BIS Working Paper supra note 1. p 8.

⁵⁸ The results for the first part of the study was published in BIS Working Paper supra note 1. and the second part in Basel Committee on Banking Supervision, Bank for International Settlements, *The Quantitative Impact Study for Operational Risk: Overview of Individual Loss Data and Lessons Learned*, (2002).

lines.⁶⁰ There were also problems with using gross income as an exposure indicator, in that different jurisdiction have different definitions of gross income.

The second part of the study dealt with individual loss experiences for banks. The results with regard to insurance recoveries seem to indicate that at present insurance does not cover most of the operational losses experienced by banks. Only 2,4 % of the reported loss events had a non-zero insurance recovery reported.⁶¹ The percentage was slightly higher for loss events with a larger total value, but stayed below 10 %. Divided into event types insurance recoveries were the highest under Employment Practices and Workplace Safety (33.7 %) and Damage to Physical Assets (20,1 %).⁶² No recoveries at all were reported under Business Disruption and System Failures. The average recovery rate for the losses where an insurance recovery was reported was just over 80 % that is the bank recovered \$80 for every \$100 in gross loss amount.⁶³ The rate of recovery did differ between event types with a 95,8 % recovery rate for Execution, Delivery and Process Management and a 43,4 % recovery rate for Internal Fraud. Interestingly enough, the data seem to suggest that although the likelihood of a positive recovery rises with the gross loss amount, the portion of loss recovered was lower.⁶⁴ As with the data on economic capital, there were several problems with the data collection that make it very hard to make any generalized assumptions of insurance recoveries from these data. The data was collected from 30 banks in 11 countries and the time span was three years. This means that it may not have caught “tail events” that represented low-frequency, high-severity losses. The banks also varied a lot in their reporting, probably due to

⁶⁰ The division of business lines was the following: Corporate Finance, Trading & Sales, Retail Banking, Commercial Banking, Payment & Settlement, Agency Services & Custody, Asset Management, and Retail Brokerage.

⁶¹ Basel Committee, *The Quantitative Impact Study for Operational Risk*, supra note, p 15.

⁶² The seven event types used were the same that are explained in Section 2.1, Internal Fraud, External Fraud, Employment Practices & Workplace Safety, Clients, Products & Business Practices, Damage to Physical Assets, Business Disruption and Systems Failure, and Execution, Delivery & Process Management.

⁶³ Basel Committee, *The Quantitative Impact Study for Operational Risk*, supra note, p. 18.

⁶⁴

the fact that data was not available for many of them. Reporting varied between 0-3,500 loss events per bank, with five banks reporting 0-50 events, and six banks reporting 2,000-4,000 events. A flaw in the design of the survey also resulted in that it was unclear when banks reported no or zero amount recoveries if this meant that there was no recovery or simply that there was no data.⁶⁵ With this in mind in my opinion the Quantitative Impact Study's real value is to show the need to radically improve data collection before any capital charge can be correctly evaluated and maybe give some suggestions as to the design of the such surveys.

5.1.3 Basic Indicator Approach

The least complicated method to calculate the capital charge proposed by the Basel Committee is the Basic Indicator Approach. Banks using this method are required to hold capital for operational risk equal to a fixed percentage of a single indicator – gross income. Obviously this is not a very sophisticated method of calculating the capital, and it is not sensitive to different levels of operational risk in different types of income-generating activities. Formally the capital charge is described as: $K_{BIA} = EI * \alpha$

Where K_{BIA} = the capital charge under the Basic Indicator Approach
 EI = the level of Exposure Indicator, Gross Income
 α = a fixed percentage, set by the Committee.

The alpha is estimated to be between 17-20 % in order to on average make the capital charge 12 % of total current minimum regulatory capital based on the data collected in the Quantitative Impact Study.⁶⁶ The Basic Indicator Approach is intended to be applicable to any bank, but more sophisticated, internationally active banks will be expected to use one of the more risk sensitive approaches. This approach in its simplicity does not make any adjustments

⁶⁵ Basel Committee, *The Quantitative Impact Study for Operational Risk*, supra note, p. 14.

to the capital charge with regard to insurance coverage, and accordingly does not provide incentives for banks to buy insurance.

5.1.4 Standardized Approach

Under the Standardized Approach the activities in the bank is divided into eight business lines.⁶⁷ Within each business line gross income is used as a proxy for the scale of the operations and presumably also the amount of risk. The capital charge is then calculated by multiplying the indicator by a factor (beta) that is set by the Basel Committee for each business line. The method is more risk sensitive than the basic approach in that it includes information on how much activity a bank is pursuing in different business lines.⁶⁸ However it does not take into account the existence of insurance coverage or any other risk mitigation techniques. The total capital charge is the sum of the charges across the business lines. Formally the capital charge is described as:

$$K_{TSA} = \sum_{i=1-8} (EI_{i-8} * \beta_{i-8})$$

Where K_{TSA} = the capital charge under the Standardized Approach

EI_{i-8} = the level of an Exposure Indicator, gross income, for each of the eight business lines

β_{i-8} = a fixed percentage, set by the Committee

The betas are to be set by relating the industry-wide level of capital to the industry-wide level of the indicator for each business line. The Standardized Approach is designed for banks that

⁶⁷ See note 52.

⁶⁸ As explained above the results from the Quantitative Impact Study were problematic. Only a small number of banks were able to allocate capital to business lines, and for some business lines data from just fourteen banks was used. As a result there was significant volatility of results within each business line, and it could not be

have developed effective risk management and control, and systems for measurement and validation.

5.1.5 Advanced Measurement Approach

The Advanced Measurement Approach is directed only to the most sophisticated banks, with substantial systems in place to control operational risk. Use of this approach is conditional upon the explicit approval of the supervisory authority. It is estimated that at present only very few banks actually have the capacity to use this approach, but the numbers are likely to increase as technology advances.⁶⁹ Under this approach, banks are allowed to use their internal risk measurement models to calculate the capital charge for operational risk. Since there are considerable differences between the methods used by different banks the Basel Committee has chosen not to force banks to use a specific model, but instead has subjected the models to quantitative and qualitative standards.⁷⁰ Currently the Committee has identified three methods that are used by banks: internal measurement approaches (IMA), loss distribution approaches (LDA), and scorecard approaches.⁷¹

The estimate produced by the chosen model is subject to a floor set at 75 % of the capital charge calculated under the Standardized Approach. With the Standardized Approach expected to yield a result of approximately 12 % of current regulatory capital, this would imply that a bank using the AMA could reduce it to 9 %.⁷² The bank also has to show that the risk measure reflects a holding period of one year and a confidence level of 99.9 %. To make sure that the “tail” of the operational loss distribution is captured the system also has to be

⁶⁹ Again there may be differences in how regulators in different jurisdictions view the ability of banks to use these models, see section 5.1.7.

⁷⁰ BIS Working Paper supra note 1. p 5.

⁷¹ BIS Working Paper supra note 1. Annex 4.

⁷²

able to survive stress testing showing that it is capable of incorporating low-likelihood, high impact losses. The bank must also gather actual loss data, and categorize it into loss categories as business lines and risk types. The Advanced Measurement Approach allows banks to take into account correlations in operational risk across business lines and event types, which should result in a more accurate reflection of operational risk for the bank as a whole. In addition banks are allowed to incorporate insurance coverage in the model under this approach. Eligible insurance contracts must meet criteria specified by the supervisor, but the specific method used to include the coverage will be subject to the bank's discretion.⁷³ The reduction is however limited to the calculated 75 % floor. The method that is to be used by the regulators to evaluate the eligibility of insurance coverage and restrictions on the insurers are yet to be determined. Criteria that are being contemplated include issues covering the timeliness of payment following loss events, the certainty of coverage, the length of contract and policy renewal. In addition requirements on the insurance companies with regard to credit or claims payment ratings, use of reinsurance, and regulatory oversight are being considered.⁷⁴

The following example can illustrate the use of the AMA and the effect of insurance coverage: A Bank has risk-weighted assets of \$20 billion under the current Basel Accord. It is required to hold \$1,6 billion in total minimum regulatory capital under present capital regulation. Under the standardized approach, using gross income from its eight business lines and the values for the betas given to it by the regulator, a basic charge of \$192 million for operational risk is calculated. However, the bank has purchased an extensive \$100 million blanket cover insurance policy, which it is allowed to incorporate in its internal model using its own loss data. The internal model shows that the capital needed with the insurance policy

⁷³ BIS Working Paper supra note 1. Annex 1 p 5.

⁷⁴

is actually 100 million. However, the 75 % floor set by the standardized approach means that the capital requirement will be $0,75 * 192 = \$144$ million. One way to try to get an estimate of that result is to compare the savings the bank made in the reduction of capital with the insurance premium.⁷⁵ A very crude calculation, with a cost of capital set at 15 %, would produce savings of 7,2 million ($=\$48 \text{ million} * 0,15$). A FIORI type insurance is expected to have a premium of between 3-8%, and a \$100 million policy would then cost \$3-8 million, a figure that is at least in the same ballpark as the savings. However, the example is somewhat misleading since the 25 % reduction is meant to provide an incentive not only to buy insurance, but it is to incorporate all other risk mitigation techniques used by the bank. This would suggest that the savings in terms of capital reduction to the bank from buying insurance could be much less. Once a bank has improved its risk management enough to get down to the 75 % floor there is a reduced incentive to make further improvements.

5.1.6 Pillar two and three

Pillar two, the supervisory review process, applies to all risks that a bank is facing regardless of whether there is a minimum capital requirement.⁷⁶ The regulator is supposed to get an overall view of the bank's risk profile based on four principles. Under the first principle, a bank should establish systems to identify, measure, monitor and control the risks it faces and maintain capital accordingly. Under principles 2-4, supervisors should review the internal capital adequacy assessments and strategies already in place and require remedial actions when they are inadequate. To further elaborate on the framework principles the Basel Committee has published a paper on Sound Practices for Operational Risk Management. Although the paper claims to address the "key elements of a comprehensive operational risk

⁷⁵ I owe this view on the problem from Professor Howell Jackson at Harvard Law School.

program” and “emerging industry practices” suggestions for an appropriate insurance strategy are nowhere to be found. Such advice is on the other hand commonplace in the available literature on operational risk management.⁷⁷

Pillar three is intended to improve market discipline through disclosure requirements. The banks will be required to submit qualitative disclosures regarding their operational risk objectives and policies and disclose operational risk capital charge per business line if available. Presumably disclosure of insurance coverage will be included.

5.1.7 Implementation of the New Accord

The present Basel Capital Accord has had enormous success in terms of general adoption. Although initially intended for internationally active banks in the G-10 countries it has become essentially an international standard for capital adequacy. The question is if the New Accord will achieve the same following. Clearly a more risk sensitive and complicated Accord demands more of national banks and supervisors. When it comes to the operational risk capital charge it is in fact likely that the implementation will not be uniform. The U.S. regulators have made it clear that they intend to restrict the full application of the Accord to internationally active banks. The many thousands of community banks that serve local market are not to be included.⁷⁸ Of the internationally active banks in the U.S. only very few are thought capable of using the Advanced Measurement Approach. On the other end of the scale the European Union, with a more concentrated financial industry, has at least initially announced that it intends to in essence apply the operational risk requirements to all banks as

⁷⁷ Compare Lam, J, Top Ten Requirements for Operational Risk Management, including the advice to transfer risk if the price is right.

well as investment firms.⁷⁹ It is envisioned that most banks within the Union will use the Standardized Approach, but that more firms will qualify for the Advanced Measurement Approach with time.⁸⁰

5.2 Comments on the proposed treatment

5.2.1 Capital requirements

Even with the possible differences in implementation in mind it is clear that the proposed treatment under pillar one of the Basel Accord in practice does not give banks much credit for insurance coverage. The adjustments made in the Advanced Measurement Approach may seem sensible and in line with the ideas proposed in this paper. However, the only banks that will really benefit from buying insurance are the banks that are the most sophisticated and presumably also the largest. The two basic approaches, to be used by most banks, are based on a percentage of gross income and has no way of distinguishing between banks that have comprehensive risk management programs and insurance coverage and banks that have not developed their systems for risk mitigation. The question is then if larger, more sophisticated banks are more likely to benefit from insurance? One factor could be that big banks have access to basket coverage through their ability to pay large deductibles. They also are more likely to be able to solve the problem with liquidity and delays in payments by getting up-front advances or through other arrangements. In addition the sophistication of the risk management program makes it possible to value the insurance policy in a more accurate way

⁷⁹ European Commission, *Commission Services' Second Consultative Document on Review of Regulatory Capital for Credit Institutions and Investment Firms*, p 40. Howard Davies, Chairman of the Financial Services Authority in the U.K. has proposed that the EU should avoid this simple extrapolation of the Basel capital rules to investment firms. He argues that investment firms are too diverse for a one size fits all type of regulation. See FSA Press Release 4 July 2001, *Banking proposals need to be amended for investment firms*, available at <http://www.fsa.gov/pubs/press/2001/088.html>.

⁸⁰ European Commission, *Commission Services' Second Consultative Document on Review of Regulatory*

by using the internal model. On the other hand a large bank should be able to replicate many of the pooling and risk management benefits of insurance internally.⁸¹ A small bank with fewer resources to devote to creating sophisticated internal systems may benefit more by transferring the risk. In addition events that may be catastrophic for a small bank are not likely to be so for an insurance company, and this should enable the smaller banks to get coverage for low-likelihood, high-impact risks that would not be covered by capital.

Even though operational risk management probably can be significantly improved in many banks, it is unlikely that a majority of them will devote enough resources in the nearest future to risk management to be allowed to use the Advanced Measurement Approach. However, sensible risk management involves transferring of risk if the price is right even for smaller banks. Therefore, it is my belief that the Basel Accord does in fact not contribute to a desirable development of operational risk management best practices. The overall reduction of the charge from 20 % to 12 % does not reward banks trying to improve their insurance management program by buying insurance. The crude measurement of operational risk by using gross income as an indicator could be complemented with a reduction based on insurance, subject to quantitative and qualitative criteria. Even a small reduction, at least produces some incentives and reduces the distortion. This seem to be more in line with the Basel Committee's overall objective not to stifle innovation at this critical point in the process of developing operational risk management.⁸² An interesting suggestion made is that the evaluation of insurance policies could be made according to external ratings, provided by private rating agencies.⁸³ From the perspective of insurance companies it has been suggested that capital relief be calculated either based on aggregate premiums paid by the bank for

⁸¹ ORRF, *Insurance as a Mitigant for Operational Risk*, supra note 6, p ?

⁸² BIS Working Paper supra note 1. p 5.

⁸³

qualifying insurance contracts or based on insurance policy limits.⁸⁴ However all proposals would require more information on insurance cover and recoveries in banks, the results from the Quantitative Impact Study are clearly not sufficient. The European Commission's proposal considers a lowering of the capital requirements under the standardized approach for mandatory professional liability insurance.⁸⁵ The Commission has announced its intent to carry out further work to explore the possibility of giving additional recognition to the use of insurance of insurance as a way of mitigating operational risk.⁸⁶ Even more cautious, the U.S. Comptroller of the Currency, John D. Hawke has expressed the view that since the basic approaches does not include any kind of incentive to improve risk management, the operational risk treatment should for now be left to Pillar two.⁸⁷ There may also be a concern with creating incentives to use insurance, while other risk mitigation techniques will not be recognized under the Basic and Standard Approaches.

5.2.2 Pillar two and three

Considering that the capital charge for operational risk is a minimum charge and cannot be guaranteed to cover all operational losses an argument can be made that banks may not be so heavily influenced in their decision to buy insurance. If a bank normally would hold capital for operational risk amounting to 12 % or more of the total charge in addition to its insurance coverage, then that bank would seem to be unaffected. Still, this does not take into account that the insurance market is developing and that banks may want to change their behavior. If a

⁸⁴ Insurance Working paper p 18.

⁸⁵ Such an allowance is thought to especially benefit investment firms, which may be much needed in international competition. See European Commission, *Commission Services' Second Consultative Document on Review of Regulatory Capital for Credit Institutions and Investment Firms*, p 44. Interestingly enough the Financial Services Authority envisions an opposite approach; that is granting a waiver from Professional Indemnity Insurance to firms with sufficient capital. See Financial Services Authority, *Integrated Prudential Sourcebook*, Consultation Paper 97, June 2001, available at <http://www.fsa.gov.uk/pubs/cp/cp97.pdf>

⁸⁶ See Comments by Mr Fritz Bolkestein, Commissioner in charge of the Internal Market and Taxation, *Bank regulation in the EU – current issues*, Speech before the Board Meeting of the European Banking Federation, 26 October 2001

new and attractive policy is introduced to the market the bank will have reduced incentives to purchase the policy if it is still required to hold capital for full amount of the insured risk. At the minimum a bank's insurance strategy should be an important factor for the regulators to consider under pillar two, when the soundness of the overall risk policy is determined. Regulators already clearly already monitor operational risk as part of their supervisory activities. In the U.S. operational risk or transaction risk is part of assigning CAMEL ratings to banks.⁸⁸ In any case, direct advice regarding the assessment and development of an insurance strategy should be included in the sound practices paper.

Insurance companies could also help improve the market discipline of risk management in banks. The disclosure of insurance coverage under pillar 3 could be important for the ability of the market to assess operational risk in financial institutions, and insurance premiums can act as indicators of market confidence. If a bank is charged higher than average premiums for its insurance coverage that should be a signal for the regulator that the level of risk is above normal and action may be required.

⁸⁷ Remarks by John D. Hawke before the Institute of International Bankers, Washington, D.C., March 4, 2002.

6 Conclusions

This paper tries to focus on the basic idea that regulators should be careful not to create distortion of preexisting risk management best practices when imposing capital regulation for operational risk. We cannot be certain that the managers of banks will get the level of insurance and capital right, but we can be sure of that capital charges changes the parameters of the decision. Even though the problems are clear, regulators should not forget the benefits of insurance, both from existing forms of insurance coverage, and from new developments. Insurance is part of sensible operational risk management for all banks, small as well as large, and Basel may be too restrictive in its efforts to consider this. Internal models are not the solution for all banks, at least not in the nearest future. It is clear that the market for operational risk management is developing, and interesting products such as basket insurance are developed to cure many of the deficiencies of insurance compared to capital, such as delayed payments and gaps in coverage. Many of the efforts mandated by the Basel Accord such as industry wide data collection and developments of models to quantify operational risk could also serve as tools for developing better insurance. Other products and securitization of risks may be future developments that are also important for regulators not to inhibit. Although it certainly is important not to allow banks to increase the risk of failure by purchasing dubious insurance coverage and reducing capital, the good will of the regulator requires at least the opportunity to recognize an insurance solution within strict quantitative and qualitative requirements. However, it is questionable that sufficient information will be available to solve the issue before the new Capital Accord is to be completed. If it is not, then it might make more sense to move operational risk to treatment under Pillar two.

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