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Unterlegung des Operational Risk mit ökonomischen Kapital

Sehr geehrte Damen und Herren,


unser Unternehmen verfolgt die Diskussion, das operationale Risiko der Finanzinstitute mit ökonomischen Kapital zu unterlegen, mit großem Interesse. Denn als Versicherungsunternehmen im Genossenschaftlichen Finanzverbund stellen wir seit Jahrzehnten Versicherungsschutz zu verschiedenen Risiken in dieser Bankengruppe zur Verfügung. Eine Auflistung ist zur Veranschaulichung in der Anlage beigefügt. Mit der dort erworbenen Erfahrung fühlen wir uns als Versicherungsunternehmen in besonderem Maße aufgefordert, unsere risikotragende Funktion für die Finanzinstitute in Erinnerung zu rufen bzw. darzustellen. Dabei unterstützen wir die Betrachtung der von EFIRM erarbeiteten Definition des Operational Risk (OR):


OR is the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events that is not already covered by other regulatory capital charges (i.e., credit, market, and interest rate risks). Business, strategic, and reputation risks are expressly excluded. Legal risks are included.

Wir empfinden die Darstellung von EFIRM, wie sie beispielhaft in der Stellungnahme „First Considerations on Risk Mitigation“ (siehe Anlage) vorgenommen wurde, sehr nützlich. Sie stellt eine Möglichkeit dar, die im Rahmen der traditionell versicherten Risikobereiche bereitgestellten Kapazitäten den ermittelten OR entgegenzurechnen, unabhängig von der zu entwickelten genauen Berechnungsmethode des OR.

Wir gehen davon aus, daß Sie Risikotransfer mittels Versicherung als Risikoreduzierung bei der Berechnung des zu unterlegenden OR Exposures berücksichtigen werden und sind natürlich gerne bereit, bei neuartig versicherbaren Risikobereichen diese Risikodeckung zu würdigen und ggf. entsprechende Versicherungsbeiträge in unser Risikoportfolio aufzunehmen. Wir bieten mit unseren Produkten die Übernahme von reinen Risiken an und leisten damit einen wesentlichen Beitrag zur Versicherung des OR.

Mit freundlichen Grüßen


(Meyer)


(Servatius)

No	Insurance Line	Scope of cover / insured perils
1	Bankers Blanket Bond (Fidelity/Crime Bond) Sach/Vertrauensschadenvers.	Infidelity of employees Fraud / forgery by third parties Computer Crime
2	Professional Indemnity (Errors & Omission) Vermögensschadenvers.	Legal Liability arising from any wrongful act committed while performing professional services.
3	D&O: Directors & Officers Liability Insurance D&O	Legal Liability of Directors & Officers (and any employee in their capacity as such) arising from wrongful acts.
4	Fire-Insurance Feuer	FLEXA / fire, lightning, explosion, aircraft
5	Extended-Coverage EC-Deckung	a) strike, riots, civil commotion, malicious damage b) – d) impact of vehicles, smoke, sonic boom, sprinkler leakage, burst pipes e) – h) storm, hurricane, tempest, earthquake, flood
6	Increased Cost of Working Betriebsunterbrechung Im spezifisch definierten Umfang	FLEXA / fire, lightning, explosion, aircraft a) strike, riots, civil commotion, malicious damage b) – d) impact of vehicles, smoke, sonic boom, sprinkler leakage, burst pipes e) – h) storm, hurricane, tempest, earthquake, flood
7	All Risk (Property) Allrisk	all risks of loss or damage excluding war, nuclear risks, wear and tear and gradual deterioration.
8	CAR Contractors – All – Risk – Insurance Bauwesen	Physical loss or material damage
9	Burglary/Theft/Robbery ED / Raub	Burglary, Robbery, Vandalism following burglary
10	Glass Insurance Glas	Breakage of glass
11	Electronic Insurance Elektrowesen	All risks of loss or damage, especially: false operation, negligence, short-circuit, power surge, sabotage, theft, act of god, fire, lightning, explosion, and water of all kind.
12	General liability Betriebshaftpflicht	Legal Liability in respect of damage to property and bodily injury to third parties.
13	Property owner's liability insurance Haus-und Bodenhaftpflicht	Legal Liability in respect of damage to property and bodily injury to third parties arising from ownership of property
14	Transit insurance Transport	All risks of loss or damage incl. political risks e.g. strike and riots; war is covered if the transit is by sea or air.
15	Insurance of valuable items/Documents in transit Valoren	All risks of loss or damage incl. political risks e.g. strike and riots; war is covered if the transit is by sea or air
16	Travel / Baggage insurance Reisegepäck	All risks of loss or damage if the baggage is in the care of a carrier or hotel. If not, the policy covers specified perils e.g. theft, burglary, loss
18	Motor Insurance Kfz-Versicherung	1. Third party liability 2. Accident damage
19	health-insurance for delegates / secondees Krankenversicherung	World-wide insurance cover is provided to all employees temporarily living abroad on business. Accompanying members of their families (husband / wife, nonmarital permanent partners, children) can also be insured.
20	Personal Accident Insurance Unfallversicherung	indemnification for a sudden and accidental impact on the body with a consequential permanent damage

Operational Risk includes such risk categories as

Physical Assets: Risk of damage or loss of physical assets and impact on the ongoing business.

Technology: Risk resulting from systems failure and/or unavailability, poor data quality, system errors or software problems.

Relationship: Risks resulting from relationship issues, such as sales practices, customer problems, unsuitable relationships, etc

People: Risk that business requirements are not met due to improper personnel policies, motivational issues, process risk or crime.

External: Risk that a transaction is or becomes unenforceable, as well as the risk of changes of law/regulation or relevant standards or crime.



**EUROPEAN FINANCIAL INSTITUTIONS
RISK MANAGERS FORUM**

JOINT WORKING PAPER

06/30/2000

**First Considerations on Risk Mitigation
in the Regulatory Discussion on Capital Charges
for Operational Risk**

Version 1.4

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Introduction

There are three risk mitigation activities and processes that should be reflected in a capital requirement for Operational Risk:

- 1) Regular management activities (e.g. Business Continuity Planning, Total Quality Management)
- 2) Special projects (e.g. preparations for Y2K)
- 3) Risk Transfer and Risk Financing.

In the event of a capital requirement generated under a supervisory review (Pillar II), then recognition should be given to the whole Operational Risk management framework in place.

In the event of a Pillar I minimum regulatory capital requirement, only Risk Transfer and Risk Financing products can be recognized since the effects of regular management and special projects are difficult to quantify. The text below goes into more detail.

1 General Thoughts on the Recognition of Risk Transfer and Risk Financing

1.1 Starting Point and Objective of this Working Paper

This paper is based on the assumption that the capital amount intended to underpin Operational Risk will initially not be derived from a loss-based model and will therefore not be risk sensitive. We further assume that in the initial stage the capital charge will be either the residuum before and after acknowledgement of internal ratings in the regulatory credit regime (crude Pillar I approach) or will be determined by a quantitative Pillar II approach (e.g. Box Approach). The capital charge could also be derived from a mixture of both, Pillar I and Pillar II. The key point is that in all cases the amount of regulatory capital required by the banking industry will not be risk sensitive.

Given this assumption, it is difficult to come up with a precise proposal concerning the impact of risk transfer on the capital needed to absorb unexpected operational losses. However, two conditions certainly have to be met:

- 1) The effects of risk transfer products on a bank's Operational Risk have to be expressed in terms of money.
- 2) The risk transfer value that can be deducted from the regulatory capital for a certain class of risk can be at maximum as high as the contribution of this risk to the total amount of the capital charge.¹

This paper aims at proposing a method by which risk transfer and risk financing products may be recognized consistently with a regulatory capital charge that is not derived from a loss-based model. The future development of loss models for the description and quantification of Operational Risk will allow for a more scientifically based recognition of risk mitigation. Since it will be, however, quite a long time before these models are in place, an interim solution has to be found for the recognition of risk mitigation under a less sophisticated operational risk regime.

1.2 Differing Risk Categories

The term Operational Risk still lacks a widely agreed definition, although there may be some consensus on what it covers. On the other hand, insurance contracts like risk financing contracts

¹ For the moment being, reasonable assumptions have to be made concerning the composition of the capital amount in terms of risk origins.

usually contain a clear definition concerning their scope of coverage. It is clearly stated under which condition the losses will be indemnified. However, these "insurance" loss causes may be spread over several risk categories in a definition of Operational Risk. It will therefore be necessary to map Operational Risks to insurance categories in order to be able to estimate the value of insurance.

We recommend adoption of the definition of Operational Risk included in Appendix A. This definition enables risk mitigation effects to be fairly and accurately evaluated.

1.3 Residual Risk

Indisputably, risk transfer and risk financing products reduce the impact of Operational Risk on a bank. However, there may be Operational Risk that can not be covered by insurance or mitigated by taking precautions through risk financing products. Other Operational Risk may even not be quantifiable and may therefore not be suitable for risk mitigation by transfer or financing initiatives.

In acknowledgement of these issues, it is recommended that mitigation through risk transfer or risk financing should be limited to a maximum of, say, 80% of Operational Risk capital requirements, leaving the residual 20% to form a contingency reserve.

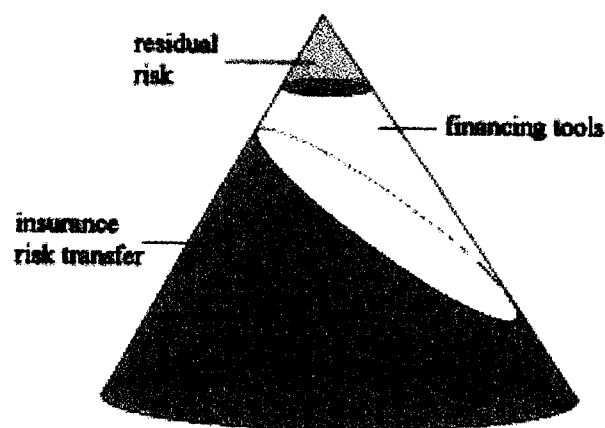


Figure 1: Operational Risk Cone

The above risk cone tries to illustrate how the Operational Risk profile of a financial institution may look. Depending on the risk propensity, the residual risk actively taken or accepted of necessity, could also cover wider areas, e.g. stretch down to the bottom of the cone.

2 Reflections on the Value of Risk Mitigation and its Advantages to Regulators

- (a) Capital/Funding is available from external sources by means of various risk transfer and risk financing products and can therefore be "rented" rather than owned by the bank.
- (b) Such products comprise financial instruments, insurance and other facilities under which capital can be provided. They show differing degrees of performance but are sufficiently reliable for a capital allocation to be reduced if products are in place to provide or restore capital in the event of an Operational Risk incident.
- (c) The regulator's interests are better satisfied if the impact of an Operational Risk incident is spread among a community wider than the regulated banking sector. The integration of insurers, re-insurers and capital market providers diversifies risk into sectors other than the community of financial institutions.

- (d) Risk transfer and financing products provide additional stability to the individual financial institution up to the purchased limits that ideally reflect the needs of the bank.
- (e) The use of instruments and capital suppliers borrowed from other sectors of the economy provides extra scope and capacity for risk transfer.
- (f) Professional insurance underwriters consider the individual differences and characteristics of financial institutions when evaluating Operational Risk before entering into risk transfer contracts. Security standards, policies, guidelines, reporting systems etc. are the dominant criteria and parameters to define their risk appetite and determine the risk-related premium.
- (g) If a bank procures insurance from insurers or underwriters having S&P rating AA or above, regulators can take comfort from knowing that the risk transfer involves only negligible counterparty risk. In this connection, equivalent internal rating should be as high as the S&P rating.
- (h) Institutional investors should be willing to carry the risk associated with Operational Risk financing tools in their investment portfolios, since the performance of these products bears at best locally restricted correlation with other investments.²
- (i) Banks derive considerable advantage in insurance coverage by co-operating with insurers to define wording standards for insurance policies as a basis for Operational Risk transfer.
- (j) A formulaic system for the mitigation of Operational Risk by risk transfer/financing techniques is comprehensive, transparent and fair. Moreover, it offers ready adaptability for future developments.

3 Practical Guidance for the Recognition of Risk Transfer and Risk Financing Products

3.1 Risk mapping – Step 1

The term Operational Risk needs a more structured definition, so that loss causes can be clearly identified and tracked with corresponding risk transfer and financing products. A recommended definition that may be acceptable to a large community of banks appears in Appendix A.

The insurable Operational Risks covered by this definition would be mapped to the following three main loss cause categories:

1. Property Damage or Loss / Business Interruption / Service and Electronic Break-Down
2. Crime (e.g. Infidelity, Fraud, Computer Crime, Forgery, Embezzlement, Rogue/Unauthorized Trading)
3. General and Public Liability / Professional Liability

When regulators have agreed a definition of Operational Risk, a standard mapping and risk matching process can be operated. After this risk mapping, ideally no loss cause should be left uncovered. Any residual mismatch between risk exposure and risk transfer or finance, however, should be catered for in the contingency reserve recommended in paragraph 1.3. above.

3.2 Development of Guidelines for Exposure Estimation – Step 2

It is evident that there are remarkable differences concerning the extent to which risk can be transferred. Some risks are too difficult to quantify to attract risk takers' interest. Nevertheless, they have to be considered when determining a bank's risk exposure. For other perils, the insurance capacity offered in the market is quite restricted. The limitations can affect the scope of coverage

² In the past, institutional investors showed a strong interest in Alternative Risk Transfer / Risk Financing instruments.

(exclusions) as well as the limits offered. These limitations have to be taken into account when evaluating the actual value of the insurance contract. For other classes of peril, comprehensive covers are available in the insurance market, enabling banks to divest themselves of 100% of the associated risk. However, this positive situation confronts us with two problems:

- (a) There can be a mismatch between the amount of risk mitigation concerning a certain risk and its - reasonably assessed – contribution to the total regulatory capital for Operational Risk. As a consequence, it is of questionable value simply to sum up all insurance covers.
- (b) In some countries and insurance branches the total amount paid under a contract is limited per year (annual aggregate limit). In such a case, one would overestimate the impact of insurance by summing up all single insurance covers.

For the above reason, it is not possible to derive a bank's exposure to Operational Risk directly from its insurance program. Instead, it is necessary to work out for each risk category a mechanism to determine the risk exposure for the individual bank. In Appendix B, a detailed description is given of how to determine for each traditional insurance risk category the operational risk exposure.

Note:

It makes sense to distinguish between traditional ways of risk transfer and the so-called Alternative Risk Transfer (ART) solutions. Since traditional risk transfer products are more standardized and widespread than ART products, this working paper will be focus for the present on the traditional forms of risk transfer. Concerning Alternative Risk Transfer (ART) and Alternative Risk Financing Products (ARF), recommendations are given in Appendix C on how they should be recognized with an Operational Risk capital charge. This appendix also includes a short description of ART/ARF products that are, so far, not used to mitigate Operational Risk but could be applied for this purpose according to their structure.

3.3 Survey of the Risk Transfer / Risk Financing Products – Step 3

The general exposures of the bank towards the Operational Risks consolidated under the insurance risk categories having been determined, it has to be recorded, which of these exposures are actually covered by insurance. However, when the insurance contracts in force are being assessed, it would be wrong to credit only the cover granted.

Not only the nominal values of the covers, but also qualitative characteristics of the mitigation products and counterparty reliability criteria have to be considered. For each insurance category these qualitative elements are translated into a factor up to a maximum of 1. These factor values are then multiplied. The resulting figure multiplied with the sum insured provides the eligible value of the relevant risk transfer / risk financing product. Appendix D includes a selection of qualitative elements that should be considered and makes suggestions on how they could be assessed.

The results of Steps 1 to 3 are summarized in the table in Appendix E.

As a final step, a gap analysis has to be performed: For each risk category, the exposure estimates are compared with the values of the insurance covers after considering qualitative elements. The nominal exposures not covered by risk transfer or risk financing products and the exposure remaining with the insured in the form of deductibles has to be underpinned by regulatory capital for Operational Risk. The contingency provision for this has already been suggested in paragraph 1.3.

4 Outlook

As already mentioned in the beginning, this proposal for the recognition of risk transfer and risk financing products with an Operational Risk capital charge should be understood as an interim

solution, until the effects of, and the exposure to, Operational Risk can be expressed through actuarial models³. To arrive at this more sophisticated stage, however, the banking industry has to learn more about Operational Risk, its exposure to it and has to collect loss information on a broad basis.

The use of actuarial models will enable the industry to reach a definitive understanding of the potential consequences of Operational Risk , e.g. the probability of extreme loss events. It will also allow for the incorporation of risk transfer and risk financing products in the model and facilitate accurate quantification of their mitigant effect. A proposal on the approach to loss modeling the incorporation of risk transfer and risk financing products in Operational Risk models will be submitted when the occasion arises.

³ Actuarial models use the individual loss information of a company as well as relevant peer group data and exposure estimates to come up with an aggregate loss distribution.

Appendix A

The Definition of Operational Risk

Operational Risk should be defined as

all threats to our business' assets and income, excluding credit, market and business risks, where the opportunity exists to achieve a loss or profit.

Operational Risk Includes such categories as

- Physical Assets:** Risk of damage or loss of physical assets and impact on the ongoing business.
- Technology:** Risk resulting from systems failure and/or unavailability, poor data quality, system errors or software problems.
- Relationship:** Risks resulting from relationship issues, such as sales practices, customer problems, unsuitable relationships, etc
- People:** Risk that business requirements are not met due to improper personnel policies, motivational issues or crime.
- External:** Risk that a transaction is or becomes unenforceable, as well as the risk of changes of law/regulation or relevant standards or crime.

Operational Risk covers such hazards as natural disasters like earthquake, windstorm, flood, fire, loss of building, theft, employee and electronic fraud, employee infidelity, liability, (poor) contractual negotiation, inadequate due diligence, misrepresentation, bad advice, rogue trading, sexual/workplace harassment, discrimination, health and safety issues, etc.

Reputational Risk: Is a derivative of Credit, Market and Business Risk as well as of Operational Risk.

Appendix B

Guidelines for Exposure Estimation in Traditional Risk Transfer Areas

INSURANCE CATEGORY 1

GUIDELINES FOR DETERMINING PROPERTY DAMAGE / LOSS EXPOSURE

Although the risks of property damage on buildings in different locations are under normal conditions independent, politically motivated attacks or other kinds of organized crime can create simultaneous losses. A bank's total exposure to property damage could therefore be estimated as the sum over the three or four biggest probable maximum losses (PML) as assessed internally within the bank. This amount has to be increased by the PML for valuables (e.g. the maximum value in one single safe) and the PML concerning securities. The latter could be the highest value of securities kept in safe custody in one location and belonging to the financial firm or being either in custody or on premises / in transit. If these value and security risks are transferred as part of a Banker's Blanket Bond, they can be deducted under category 2.

GUIDELINES FOR DETERMINING BUSINESS INTERRUPTION EXPOSURE

Stating the exposure for business interruption (BI) losses is difficult. The main reason for this is, that no correlation exists between the severity of a property loss and the severity of the business interruption following. Quite an insignificant property damage can be followed by a severe business interruption loss if this damage hits a key location within the company. Moreover, the allocation of tasks within a company is complex, making it difficult to detect non-redundant relationships which may cause problems.

To estimate the business interruption exposure, a bank must first identify concentrations of IT-activity and trading. In many cases, the hub with the highest trading activity will also be the one with the most complex and expensive IT-infrastructure. It is important to ensure that hubs are not inter-dependent in their IT-working environment.

Potential business interruption costs in each hub can be calculated as a function of fixed cost plus loss of profits. Increased costs of working in continuing the business can also be considered in this category. Since the hubs are independent, it can be assumed that not more than one hub at the same time would suffer a business interruption. The business interruption exposure of a bank could therefore be fixed at the highest business interruption exposure in a single hub.

Claims by third parties as a consequence of an electronic breakdown or other unavailability of service have to be considered within the determination of the Professional Liability exposure.

GUIDELINES FOR DETERMINING SERVICE AND ELECTRONIC BREAKDOWN EXPOSURE

The exposure to electronic breakdown could be calculated by applying the same scenarios that have been used for estimating the effects of an IT-breakdown. In addition, one would assume that one or two of the required contingency supports (e.g. Business Continuity Planning and back-ups) fail. Basically, similar problems as for Business Interruption have to be discussed and the highest PML valued for independent hubs has to be considered as the firm's electronic breakdown exposure.

It is important to recognize the requirement of business continuity programs and back-ups for nearly all parts of the IT-Environment (incl. Hardware, Electric Power Supply from different utilities and different power plants etc). At the same time, it has to be borne in mind that there may be overlaps with the BI considerations, which have to be counted only once.

Claims by third parties as a consequence of an electronic breakdown have to be considered within the determination of the Professional Liability exposure.

INSURANCE CATEGORY 2

GUIDELINES FOR DETERMINING EXPOSURE COVERED UNDER CRIME

- (a) When determining the exposure insured under Bankers Blanket Bond (BBB), one should consider that BBB covers different risks: a) the exposures to crime (theft/robbery/el. al.) and the loss of securities/valuables, b) infidelity/fraud, c) computer crime and d) rogue/unauthorized trading. These risks are insured within a blended program on a first loss limit. As a consequence, the exposure insured under BBB has to be calculated as a mixture of these single risk exposures based on individual experience and publicly known losses (see also infidelity/computer crime).
- (b) When estimating the bank's exposure to infidelity of own employees and fraud by third parties (external to the Bank and incl. clients), one should base the considerations on the experience suffered individually as a single bank and as part of the financial institution community. A firm's exposure depends mainly on the dealing limits of the employees, the regional mentality, the thresholds for motivation and the total size of the institution. Scenarios could be applied to allow for situations that have not been experienced yet. These scenarios could describe either extreme events not suffered so far or areas of new activity where loss experience is lacking.
- (c) Banks themselves are usually not fully aware of their actual exposure to computer crime risk. The individual maximum exposure of a bank would, of course, depend on its activities and its size. Definitely, in times of booming e-commerce activities this exposure needs increasing attention.
- (d) The exposure of rogue/unauthorized trading should be included within the total amount of this insurance category 2, specifically as part of an infidelity exposure against the individual bank.

Note: There is expert advice available to the banking industry from numerous experienced and professional sources, e.g., insurers, insurance brokers, specialists for data collection.

INSURANCE CATEGORY 3

GUIDELINES FOR DETERMINING GENERAL AND PUBLIC LIABILITY EXPOSURE

A financial institution's exposure to general and public liability depends mainly on the location and the governing legal environment. As a rule of thumb, it could be determined that in each country a bank's general and public liability exposure is at maximum ten times the highest amount ever awarded in a single judgement in the financial institutions market. The sum of the three highest local amounts of the countries in which the bank conducts business can be reasonably accepted as its global exposure.

GUIDELINES FOR DETERMINING PROFESSIONAL LIABILITY EXPOSURE

The assessment of professional liability exposure is one of the most problematic areas. Since the professional environment is changing rapidly, this exposure cannot prudently or reliably be derived solely from historic losses. Instead, use of catastrophe scenarios should supplement the loss history to allow for extreme situations not yet encountered. Other factors that complicate the exposure estimate are the "long tail" nature of professional liability, the great differences in control standards and disinclination of organizations towards transparency in confidential issues of this nature.

The volume of transactions and the activities in different business areas could be used as exposure indicators and could be a starting point for calculations.

Note: There is expert advice available to the banking industry from numerous experienced and professional sources: insurers, insurance brokers, specialists for data collection.

NOTE: - applicable to all categories – the sums insured in blended programs have to be allocated

Appendix C

Guidelines for the Recognition of Alternative Risk Transfer / Risk Financing Products

The following risk transfer and risk financing products are called "alternative" when compared with traditional ways of risk transfer for different reasons. The insurance markets can be alternative (e.g. Captive Insurance Companies), the way risk is ceded may be alternative (e.g. Finite Risk Insurance) and the risk takers may be alternative (e.g. capital markets). To reduce the confusion about the different ART products, they can be roughly divided into pure risk transfer products (ART) and pure risk financing products (ARF). The demarcation between these two categories is of course fluid: A mixture of ART and ARF is, for example, Finite Risk Insurance, one of the main products in the area of alternative risk concepts.

Most ART/ARF products are designed as multi-year commitments. For the regulatory discussion, however, it is important to consider the products' effect for the financial institution within a one-year time horizon.

Talks with leading insurance and reinsurance companies have confirmed that, as long as financial institutions and risk takers find it such difficult to quantify the whole range of Operational Risk, the market in ART/ARF products will be quite restricted. At present the broad observation is that only self-financing via Captive Insurance Companies as well as Finite Risk Insurance are used to mitigate Operational Risk. However, since these products are usually tailor-made, benchmark market standards do not exist. Nevertheless, possible rules for the regulatory recognition of these products can be suggested, because Captive insurance as and Finite Risk Insurance products are characterized by certain common features always present in each. All other classes of ART and ARF products will be described only briefly to illustrate how they might be used for Operational Risk mitigation in the future.

ART/ARF CATEGORY 1

SELF-FUNDING VIA CAPTIVE INSURANCE COMPANIES

Captive (Re-) Insurance Companies ("Captives") are classified as ART since the risk taker, or more generally, the insurance market, is alternative. A Captive is usually fully owned by a company and its main corporate goal is the financing and managing of its owner's risks. However, many Captives also take on significant external risks for regulatory or commercial reasons and become therefore similar to public insurance companies. Moreover, most regulatory authorities accept insurance premiums paid to a Captive as tax-deductible expenditure, provided that the contracts are priced in conformity with market conditions giving no incentive for questionable insurance deals within a group. For these reasons, Captives should be treated in the regulatory discussion like external insurance companies. The same should apply to Rent-a-Captive solutions (with protected cells). The mitigation value of a contract with a Captive should be the same as the value as an equivalent contract with a public insurance company.

An open question is how to assess the financial strength of a Captive, since company-owned Captives are usually not rated separately from their parents. Regulators also need to consider the extent to which the parent uses capital to support the Captive in order to avoid duplicating capital requirement between Captive and parent.

ART/ARF CATEGORY 2

FINITE RISK INSURANCE

Finite Risk Insurance developed from Financial (Re-) Insurance and has been reshaped over several years by accounting and regulatory pressures. In contrast to Financial (Re-) Insurance, it always comprises risk transfer with an ultimate limit on the liability of the risk taker in a given transaction.

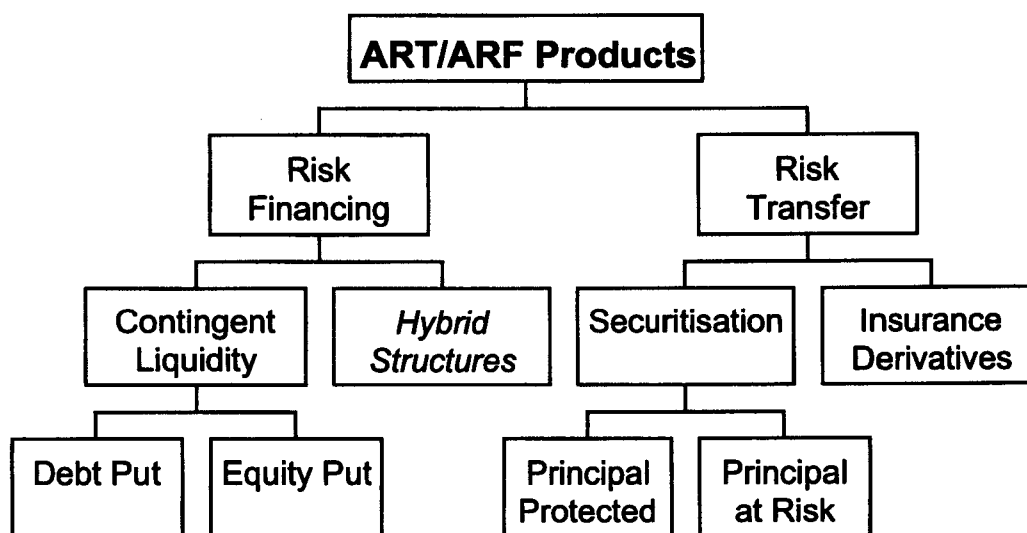
Beyond this limitation, there are no real constraints as to the exposures that can be covered and the duration of the commitments. Finite Risk Insurance contracts can therefore be categorized somewhere between risk transfer and risk financing.

The risk transfer part of a Finite Risk Insurance contract can be treated like traditional insurance (see relevant covers above). In most cases it will be a multi-risk or aggregate cover with a multi-year contractual commitment that provides stability as far as conditions, premiums and cover are concerned. For the funding part, treatment of funds has to be differentiated between two circumstances. If funds are already tied up in the form of loss reserves, they are no longer available to cover risk and must therefore be deducted from the funding volume. Funds not encumbered in this way in a Finite Risk Insurance contract covering Operational Risk could be fully deducted from the regulatory capital charge since they can be used to pay for operational losses.

Description of further ART/ARF products

The ART/ARF products described below are presently not, or are very rarely, used to mitigate Operational Risk. One reason, already mentioned, is that it is still extremely difficult to quantify certain Operational Risks and it is obvious that risks that cannot be quantified can hardly be transferred. Another reason that the ART/ARF market is still quite small compared to the traditional insurance market is the high cost involved in the development of ART/ARF products like securitisation or contingent liquidity. This cost argument is extremely powerful in times of low prices for traditional insurance covers.

The following diagram gives an overview of the most important ART/ARF products applied so far to transfer risks from the insurance industry to the capital markets or which utilize the financial strength of this market for risk financing purposes. The products launched so far cover exclusively property exposed to catastrophes like California Earthquake, hurricanes in the US or hailstorms in Switzerland. So far, none of these ART/ARF products is used to cover complex risks like liability, huge single risks or operational risks.



FURTHER ARF PRODUCTS: CONTINGENT LIQUIDITY

Contingent Liquidity products guarantee capacity to the Insured after the occurrence of the catastrophe defined as the trigger event. When the trigger is set off, the Insured can raise capital by either using a credit facility or issuing equity capital or surplus notes at predefined conditions. The way liquidity can be raised depends on the terms of contract. The insured gains this right through buying a put option, either an equity put or a debt put.

Contingent Liquidity products could be used for the mitigation of Operational Risk by defining the trigger event as an operational loss that meets certain criteria.

FURTHER ARF PRODUCTS: HYBRID STRUCTURES

Hybrid Structures are quite close to Contingent Liquidity products. They also provide the right to raise liquidity at predetermined conditions when the trigger event occurs. However, in this case loan capital is raised. With it, Hybrid Structures offer an additional advantage to insurance companies: In the financial accounts, Hybrid Capital is treated like borrowings but for the determination of the company's solvency margin it is regarded as equity. Since banks do not face the same solvency rules, they may not use Hybrid Structures in the future for Operational Risk mitigation.

FURTHER ART PRODUCTS: SECURITISATION

Insurance companies already use securitisation to transfer natural catastrophe risk to the capital markets. Since these insurance-linked securities are rarely correlated with other investments and offer attractive interest yields, institutional investors are highly interested in these so-called Cat Bonds. Unlike the ARF products described above, Cat Bonds make available the investor's capital ex ante. Depending on the product conditions, the investor loses the principal or only the interest yield when the predefined trigger sets off. The trigger can be related either to an index or to the actual loss affording possibilities for Cat Bonds with Operational Risk triggers issued by financial institutions. Term and volume of Cat Bonds can be structured according to the individual needs. Owing to high issue costs, however, the volume should not be lower than US\$ 50 Mio.

FURTHER ART PRODUCTS: DERIVATIVES

So far, the insurance industry uses OTC derivatives and marketable derivatives to transfer risks to the capital market. These products, e.g. catastrophe futures, are very flexible and involve to lower costs than Cat Bonds. Transactions are usually based on an index or publicly known parameter. Therefore, the need for disclosure by the issuer is reduced. However, this feature could be an obstacle to using derivatives for Operational Risk mitigation, since no adequate index currently exists. Unlike Cat Bonds, these derivatives cause counterparty risk.

Note:

Capital market solutions such as catastrophe futures or contingent liquidity differ from traditional insurance solutions in an important point: They do not grant indemnity for a loss occurred but make available capital upon pre-agreed triggers. A potential risk therefore arises from the mismatch between the risk covered and the trigger of the mitigation product.

Appendix D

Recommendations Concerning the Recognition of Qualitative Factors

Exclusions

Insurance can contain specific exclusions. The mitigation value should be reduced by:

"Market-standard" contract	Deduction	20%	Factor 0,8
Modified exclusions	Deduction	10%	Factor 0,9
Free of relevant exclusions	Deduction	Nil	Factor 1

Disclosure

Insurance contracts have implied conditions of disclosure and good faith that, if breached, enable insurers to avoid payment. The scale percentage should be further increased (non-cumulatively) on this broad basis:

"Market-standard" contract	Deduction	20%	Factor 0,8
"Wilful concealment only" condition	Deduction	Nil	Factor 1

Speed of Payment

It is critical within a financial year that first party losses should be reimbursed or interim financed (even in the nature of a loan facility) within the accounting year of the OR incident which triggers the policy.

"Market-standard" contract	Deduction	20%	Factor 0,8
Firm commitment to pay	Deduction	Nil	Factor 1

Security of Insurance Carrier or Provider of Funds

S&P AA or above	Deduction	Nil	Factor 1
S&P A or above	Deduction	10%	Factor 0,9
S&P BB or above	Deduction	20%	Factor 0,8
(S&P rating or equivalent internal rating)			

Summary of Step 1-3

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- the Exposure is the sum of all individual categories of risk without the portfolio reduction which an actuary would incorporate in a mathematically based model.
- the guidelines for determining the different exposures prescribes high multiples in calculating possible/probable maximum losses, by adding up the 3 largest (property) or 10 times the highest amount (liability);
- the Uninsured Exposure also is added up, i.e. the required regulatory capital per insurance category (or sub-category) produces a safety margin for all single high severity losses.