



Abteilung A: Versicherungswirtschaft

Risk and return in industrial insurance

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0	Abstract	2
1	Introduction.....	3
1.1	Insured's perspective	3
1.2	Insurer's perspective	4
1.3	Industrial insurance market in Germany.....	5
2	Preliminary remarks on value-based management for insurance companies	8
3	Fundamentals of a value-based-management approach	12
3.1	Top down perspective	12
3.2	Step 1: Measuring the risk-exposure.....	12
3.3	Step 2: Managing the success contribution.....	14
4	Managerial options in the business interruption line.....	15
4.1	Market overview	15
4.2	Reinsurance-policy.....	17
4.3	Underwriting-policy.....	18
4.4	Alternative Risk-Transfer	19
5	References	20

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0 Abstract

The following paper discusses the challenge between risk and return in the context of the industrial insurance market in Germany. The industrial insurance market is highly competitive. Companies have to cope with low premium levels and high losses resulting in high underwriting deficits. Decreasing investment income reduces the overall profitability of the insurance companies.

The industrial insurance market is analysed from the perspective of the insured companies and the perspective of the insurance provider. This analysis gives an insight in the specific circumstances and problems of this market. After screening the situation of the market, aspects of a value based management in an insurance company are explained. The mandatory considerations of regulatory aspects on the capitalization in insurance management are summarised.

In the next chapter, the fundamental steps of a value based management approach in an insurance company are explained. Operational Management has the very task to balance risk and return. The first step is to determine the capital needed to carry the risks taken by the insurance contracts. This includes the estimation of the amount of virtual capital in each line of the insurance company. The second step deals with the management of cash-flows, both on the top-company and on the department level.

In the last chapter, the managerial means within the context of value based management are put in concrete forms for the line of business interruption. The technical instruments of reinsurance, underwriting, and alternative risk transfer are analysed.

1 Introduction

Opportunities and threats of the globalisation with its consequences for the global economy are of permanent attention in theoretical as well as in practical discussions. While focussing on the greater picture of the global economy, the consequences for the individual business entity should be considered, too. This perspective is chosen in the following discussion by analysing the industrial insurance industry. Describing the changes within the industrial insurance market would be inaccurate without displaying the market players' individual motivations and business objectives. Furthermore, processes in information-gathering, communication, manufacturing, and pricing between the market-participants will be considered.

1.1 Insured's perspective

The national or even regional perspective of business in medium and big industrial operations has been replaced by a multi-national and global one. The change in traditional value-added activities and business processes within and especially between companies goes along with a completely different way of manufacturing and management.² This global challenge requires adequate adjustments in corporate management. The global perspective also changes the company's requirements on a worldwide risk management and insurance program.³

Besides the developments towards a global oriented business, corporate management has to conquer the challenging conditions in the international capital markets. The modern information and communication technology made a great contribution to today's existing efficiency in international capital markets. The capital markets require a sober balance between risk and return from the management of any international company.⁴ Increasingly, the shareholder's wealth comes into focus: the shareholder's value becomes the driving force of corporate decisions and policy.⁵

² See Sigma (1993), p. 15.

³ See Kielholz, Schanz (1998), p. 310. Specific characteristics that determine the demand for insurance of multi-national companies are displayed in Sigma (1993).

⁴ Risk management serves as an effective instrument to balance risk and return. For the implementation of a risk management program see KPMG (1998). For critical discussion on balancing risk and return see KPMG (1998), pp.9.

⁵ The emphasis of the shareholder value in managing a company is displayed in Rappaport (1998).

Analysing these changes in the business environment does not strive to rate them as good or bad. Rather, it is the consequence for the individual company in this changing environment that comes into focus. The following chart summarises the developments that have a major impact on any individual company and thus, on the industrial insurance:

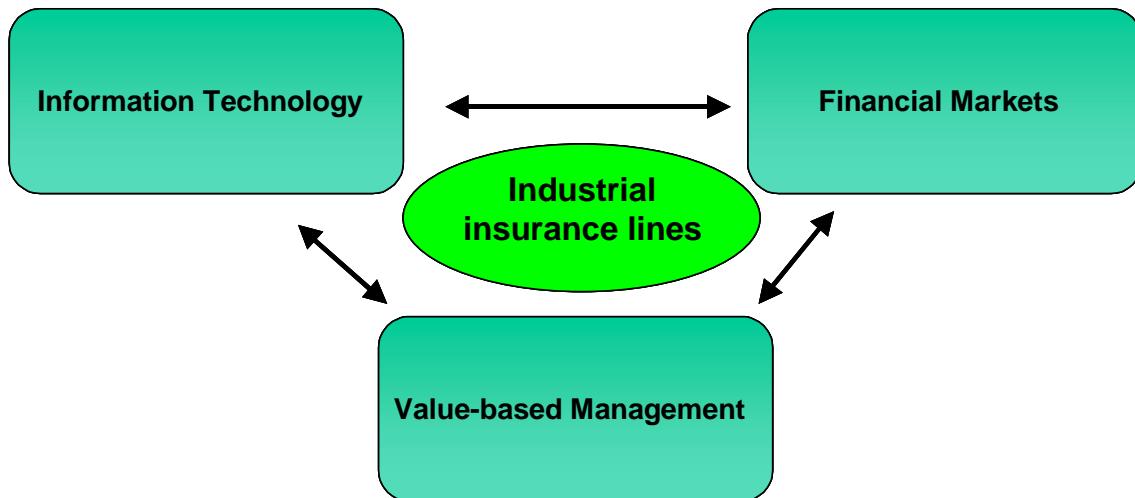


Exhibit 1: Impacts on the industrial insurance market

1.2 Insurer's perspective

The conditions displayed above are valid for the insurance companies, too. At least since the middle of the nineties, the German insurance market was released from its strict supervision.⁶ As a consequence, insurance companies have to face an increased competition for clients, qualified employees, and capital. Caused by these developments, management finds itself in a dilemma: on the one side, the profit margin in traditional insurance lines has reduced substantially. This is due to the decreased premium level caused by competition. Additionally, management cannot decrease the costs in the industrial segment, since the process of evaluating and writing a risk is fairly complex and absorbs a lot of (human) capacity. Furthermore, clients expect very high service levels from their risk management and insurance provider. On the other side, investors require high returns on their capital invested in

⁶ The deregulation in the German insurance market was completed with the transformation of the 3rd directive by the 3rd EU-implementing regulation for the Law on the Supervision of Insurance Companies. Especially the deregulation of the terms of policy was considered as a major step to an increased competition. See Farny (2000), p. 112. In the industrial insurance lines, the deregulation of the terms of policy was already accomplished in 1990.

insurance companies.⁷ These high expectations of the players in the financial markets can be hardly met by companies in the industrial insurance segment.

The situation is aggravated by a shrinking lack of subsidisation between the different lines in the insurance business. In the global insurance market, one can observe the trend that the reduction of profit margins in one line or geographical segment is accelerated compared to a reorganization of sectors with systematic insufficient premium levels. This makes business and cross-subsidisation more and more difficult not only for specialised industrial insurers and reinsurers but also for companies with a well diversified business-portfolio.⁸

1.3 Industrial insurance market in Germany

In 2000, the German industrial insurance market (fire, business interruption, extended coverage, and all-risks; excluding: technical insurance) accounts for 3.4 bill. DM⁹ premium income which equals 1.3 percent of the whole German insurance market of approximately 255 bill. DM¹⁰. It is estimated that the industrial segment accounts for 10–20 percent of the premium written in the whole reinsurance market. This fairly big proportion explains the attention spent on the industrial lines by reinsurance companies.

Studies and research confirm the intense structural changes in the industrial insurance market since 1988. At the end of the 80s, the insurance and reinsurance market has been very fragmented and the companies had to bear huge technical deficits. The incidents in the London retrocession-market during this time are still well known. Despite the increased losses especially caused by major damages in property insurance¹¹, the capacity available in the market is still remarkable and of high quality. The terms of policy are highly flexible in sums insured, deductibles, and layer structure. Further, the underwriters offer their clients very attractive settlement

⁷ This phenomenon and dilemma is often cited as the “ROE-squeeze”.

⁸ See Pohlhausen (2000), p. 1930.

⁹ See Buhk (2001), p. 898.

¹⁰ See GDV (2000), p. 2.

¹¹ In the context of major damage, the statistic on the million-Mark-damages in fire is very important. In the insurance year 1999, the whole premium income was needed to cover those losses greater than or equal to one Million DM in fire and business interruption without having any spectacular singular loss. See GDV (2000), p. 98. For a list of important losses in the years 1988 to 1994 see Rösler (1999), p. 1768.

of accounts. Therefore, although the insurers have to cope with decreasing technical deficits, they still sell highly qualitative insurance products. This high level of quality is not only apparent in the risk coverage but also in the services besides the terms of policy (for example in additional risk management services like loss procurement and claims settlement).¹²

The insurer's problems have their roots in the liberalisation of local markets and the deregulation process in Europe. Along with this comes a consolidation-process within the last four to five years resulting in fewer but even bigger risk carriers. The concentration did not result in any disadvantages for the insurance market, especially from the client's perspective. In fact, the bigger companies are more capable than their smaller peers to offer global and flexible policy terms accompanied by a worldwide attendance. It is more than obvious that a certain underwriting volume is necessary to maintain a global underwriting service. Smaller companies cannot afford to hold the global subsidiaries and the staff needed to support global acting clients in their insurance programs. Thus, from the policyholder's perspective, the market seems to be in a good condition.

But, the one's advantage is the other's disadvantage. The provider of industrial insurance face severe problems caused by these market conditions. The insurer suffers from high underwriting losses due to insufficient premiums, high losses, and high administrative expenses. The following chart displays the situation in the German industrial property insurance market.¹³

¹² See Rösler (1999), pp. 1767 .For examples refer to Rösler (2001), p. 552.

¹³ Since there is no reliable data on the administration costs of the industrial insurance available, it is estimated that the costs in relation to premium are 35 percent. See Söhler, Zilkens (2001), p. 1002.

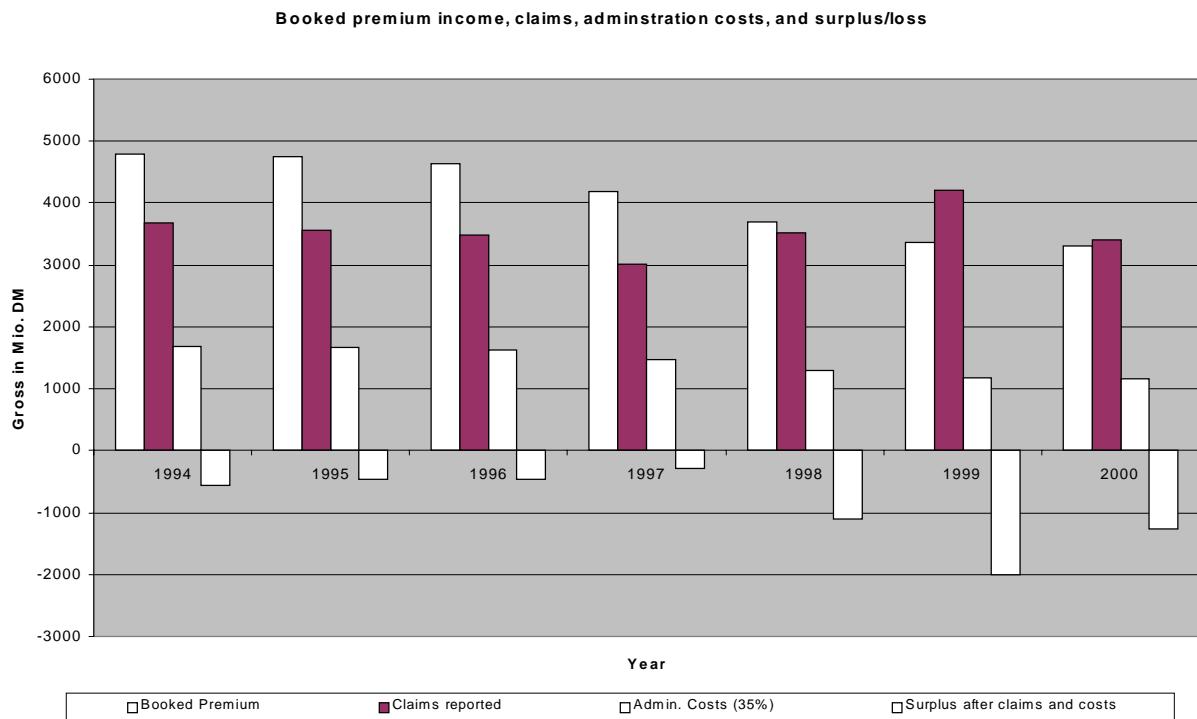


Exhibit 2: Financial situation in the German insurance market.¹⁴

Seeing the negative development in industrial insurance one has to take into account that the situation is comparable to other countries in the world. The well-known underwriting cycle does not differ in its stages among the countries anymore.¹⁵ Rather, a general downward trend can be observed in the whole world. For a global acting insurance company, the lack of these regional differences makes it extremely difficult to achieve a regional diversification in its books. Following the underwriting cycle and the generally unsatisfying situation in this business, one can expect a rise in the premiums: "the market will harden".¹⁶

Bringing together the insurer's and the insured's perspective and the development in the market, one has to consider the following basic aspect: The top-management as

¹⁴ See Söhler, Zilkens (2001), p. 1003. In Germany, displaying accurate market data on the industrial insurance market is fairly difficult. This is due to the following reasons. First, the definitions of the industrial segment differ between the companies. This leads to inconsistent reporting to the GDV. Second, different lines include industrial insurance premiums which cannot be isolated. For example: liability, marine, fleet. On the problem of inaccurate and incomplete figures on the German industrial insurance market refer to Schimming (1997), p. 234.

¹⁵ For a critical discussion on the existence of the underwriting cycle refer to Brendel, Gouzoulli, Reinl (2001).

¹⁶ See Strietzel (2001) or Fromme (2001).

well as any other department in the organization have to balance the risk taken by a contract and the return “squeezed” out of this contract. In the meaning of a value-based management and the described circumstances, for the insurance company in general and especially for the industrial lines, the following question comes into focus:

„Considering the risks taken by the insurer, do the shareholders receive an appropriate return on their investment ?“

After displaying the actual relevance of this issue out of the perspective of the industrial insurance industry, one has to analyse the principles of value-based management in general and discuss the managerial means to achieve a return that is appropriate compared to the risks. Thus, in the two following chapters, we deal with the specific circumstances of value-based management in insurance companies (Chapter 2) and the steps taken, that enable the company to earn a sufficient return on capital in the industrial insurance business (Chapter 3).

2 Preliminary remarks on value-based management for insurance companies

It is the very task of top management to set the requirements for balancing the risks taken and the return achieved through the written insurance contracts. It is crucial to enforce this balance not only in the top management but also in the departments and the responsible line managers. However, these decision cannot be taken without considering regulatory circumstances. Supervisory offices set capital requirements due to the risks written by the insurers. The risk portfolio has to be backed up by a specific amount of capital resources, mostly equity.¹⁷ From a company's perspective, risk means the danger of a negative difference between realised and planned figures.¹⁸ The capital resources serve as a buffer to compensate for possible losses caused by negative deviations from the planned figure.

¹⁷ For the regulations on the capital resources needed in Germany see §53 VAG.

¹⁸ The meaning of risk is often used in an imprecise way. Often, one understands the meaning of risk in terms of positive and negative deviations from an expected value of target figures, where the positive deviations are often interpreted as chances. In the context discussed, we focus on the negative deviation, for example, the shortfall-risk, that the company has a shortcoming in financial results.

The NAIC, supervisory office in the USA, uses the RBC-Model (=risk based capital) since the mid of the nineties as a model to determine the amount of capital needed by an insurer.¹⁹ The nature of buffer capital is also supported by the current discussion on solvency for non-life insurance in Europe. The current European solvency regulations take the amount of risk of a business only partially into considerations. Recent drafts suggest that the amount of capital should be determined by the lines of business conducted. For example, industrial insurance should be backed by much higher amounts of capital than other less risky lines. One draft for the regulation on solvency has been presented by the Groupe consultatif des associations d'actuaires des pays des communautés européennes. It includes specific consideration on the risk incurred by the different lines of an insurer. The different insurance lines are evaluated by their provisioning and their equalisation risk resulting in different solvency quotes on the premium. The following exhibit reflects the idea behind this approach:

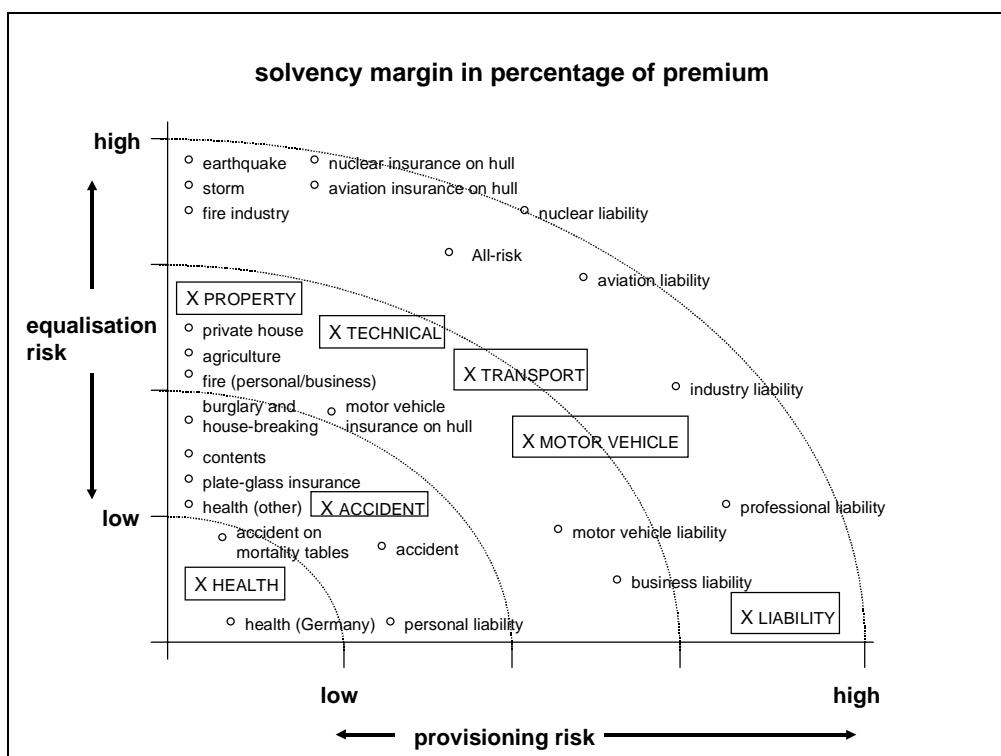


Exhibit 3: Suggestion for solvency estimation

¹⁹ For RBC see Cummins (2000), pp. 13 and Schradin, Telschow (1995), pp. 363.

Besides the supervisory regulations, the rating agencies have a major impact on the equity-standards. Their ratings influence the capitalization of the companies and set strict requirements for a specific rating.²⁰

In contrast to the supervisory office and the rating agencies, shareholders have a different interest in an insurance company. They want to receive a risk-appropriate return on their investment. Thus, the shareholder's risk consists of decreasing or instable dividend payments and share-prices.²¹

In order to provide the investors and other stakeholders with actual information on the company's risk and return achievements, more and more companies report in internationally accepted accounting standards.²² The international account standards prevent that companies smooth losses over accounting periods through freedom of choice in the valuation of assets and liabilities, as applicable in the German accounting standards (HGB). Earnings evaluated by true and fair view result in more volatile earnings than the ones derived by past-oriented accounting standards. The conflicting interests between shareholders and the other stakeholders of a company is reflected in the following statement:²³

„Stakeholders set capital requirements while shareholders set performance benchmarks.“

Further, we have to keep in mind that compared to any other business insurance companies work in a different way. The ability of providing insurance coverage and safety for the insurer's client is highly related to the company's ability to accomplish its financial goals.²⁴

²⁰ See Sigma (2000), pp 28. Especially in the industrial business, the rating has become an important factor for choosing an insurance company.

²¹ For the conflict between high returns on shareholder's equity and the capitalization requirements set by rating agencies and the supervision refer to Sigma (2000), pp. 26. Research conducted by Tillinghast-Towers Perrin suggests that "investors assign a higher value, all else equal, to organizations whose earnings are more consistent than those of their peers." See Tillinghast-Towers Perrin (2000), p. 8.

²² For advantages of employing international accounting standards in the insurance company refer to Fourie, Lang (2000), p. 246.

²³ Ryan (1999), p. 8.

²⁴ See Schradin (1993), pp. 62.

Usually, enterprise's primary goal of a risk-oriented return on investment is achieved through a satisfaction of market needs by manufacturing and distributing products and services for money. For that financial reason, a car manufacturer produces and distributes cars or trucks and a fridge manufacturer produces and sells fridges. The technical devices and production standards determine the product-quality. The quality is independent of the manufacturer's financial strength. In fact, it is widely understood that an advanced product with a high quality-standard has a positive impact on the financial goals of the company. Thus, the extent to which a good product quality is produced determines the formal objective, e.g. achieving a high surplus.

This situation does not equally hold for an insurance company. In fact, it is the other way round. Only the company that is able to produce surpluses will be able to fulfil its contractual obligations. Therefore, in contrast to the aforementioned situation at a usual manufacturing company, one can state: the extent to which the formal objectives of the insurance company are met determines the insurer's claim paying ability. Investors as well as cover seeking clients might abandon insurers that are not able to generate sufficient returns.²⁵ From a managerial aspect, this fundamental difference induces the necessity of a specific internal coordination in terms of planning, decision processing, and controlling of the resources in the risk-return-context.

Following Ryan's statement, one can raise the question, how the equity and capital funds can be employed in a manner that sufficient returns for the shareholders and sufficient safety for the other stakeholders can be accomplished. How can the management achieve a sufficient risk-adjusted return on equity? In the following part, we try to answer these questions by explaining the general steps in a value-based-management approach. Afterwards, we try to work on the control of value-based-management in the line of business-interruption.

²⁵ See Schradin (1993), pp. 62.

3 Fundamentals of a value-based-management approach

3.1 Top down perspective

The aforementioned internal and external requirements determine the principal task of a value-based management by integrating the control of risk-exposure into the context of risk-adjusted return. The determination of the risk exposure is always conducted for the company as a whole. The company's entire capital is available to pay claims from any specific policy or line of business. If the insurers becomes insolvent, it is the whole company that enters bankruptcy and not the individual segment or line of the company.²⁶ This holds not only for carrying the risks and its consequences but also for the returns earned by the entire company. However, it is crucial to consider the linkage between the top executive level and each segment within the company. Surplus and security, meaning return and risk, respectively, represent the same side of the coin: the individual management of the insurance company.

The management of the entire company is determined by multiple decisions in all management and responsibility levels. The achievement of the primary goals for the entire company is predisposed by each decision taken at lower levels, e.g. at every single department. In this context, it is unimportant whether legally independent subsidiaries or departments within the company represent the different management levels and segments. Although, the important thing is to achieve the risk-return objectives set by internal and external stakeholders through internal coordination.

3.2 Step 1: Measuring the risk-exposure

Fundamental for steering the risk-exposure is the identification and analysis of any individual risk and its affecting factors. The company is not only exposed to insurance risk like insufficient premium and insufficient technical reserves but also to risk resulting from the (capital) markets such as credit risks, interest rate risks, pricing risks, and operational risks. The following exhibit displays the risk categories of an insurance company.

²⁶ See Cummins (2000), p. 8.

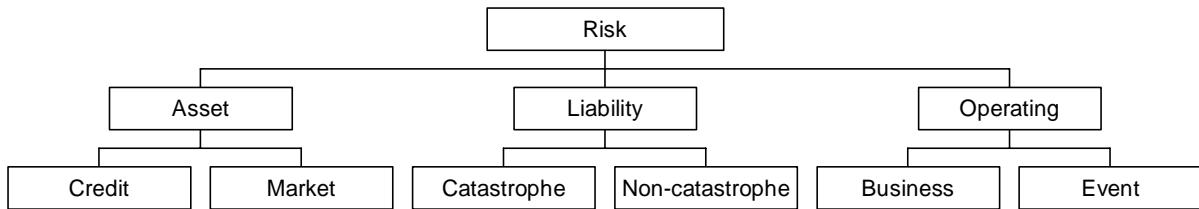


Exhibit 4: Risk categories for insurance companies²⁷

Further, the exhibit below defines the various risks and identifies possible exposures.

Risk type	Definition	Key exposures
Credit	Variability in losses arising from counterparties failing to honor their contractual obligations. This can be based on either inability to pay (default) or unwillingness to pay (agent balances, non-performance of reinsurers)	Reinsurance recoverables Corporate bonds
Market	Variability in value due to changes in the market prices of securities, the market discount rates implied by Treasury bond prices	Equity investment Asset liability mismatch (interest rate risk)
Catastrophe	Variability in losses arising from natural disasters, such as earthquakes, hurricanes, tornados, floods etc.	Catastrophic elements of property lines
Non-catastrophe	Variability in the amount and timing of insurance claims. Both process and parameter risk are considered.	All insurance lines besides property catastrophe
Business	Variability in intrinsic value due to fluctuations in volumes and margins driven by the competitive environment	
Event	Variability in losses arising from idiosyncratic events such as fraud or systems interruptions	

Exhibit 5: Risk definitions and key exposures²⁸

In its realisation, the permanent process of scanning and evaluating all displayed and relevant risks is challenging especially under a communicative and organisational perspective. It requires constant motivation for the people involved and intense communication between the responsible staff.

For a value-based management, it is crucial to quantify the identified risks. Aggregating and disaggregating result in a quantified risk-exposure either for the insurance company as a whole or the different segments. Only a thorough quantification enables a comparison of the risks and an aggregation among the

²⁷ Nakada, Shah, Koyluoglu, Collignon (1999), p. 4.

²⁸ Nakada, Shah, Koyluoglu, Collignon (1999), p. 6.

different segments in the company. The aggregation is challenging, too. First, all risks have to be identified at the different segments. Second, one has to account for the interdependencies between the individual risks by using accurate measurement or hypothesis on these interdependencies. From a technical perspective, this means to determine the stochastic distribution of the company's total return. By this, management is capable to quantify the risk exposure of the whole company. Only this enables a founded technical and managerial operation of the company. Further and more important in the value-based management approach, the quantification allows determining each segment's contribution to the aggregated risk exposure.

After quantifying the risk exposure, management has to allocate an adequate basis of capital to carry the risks. The very interests and preferences of the internal and external stakeholders have to be considered in allocating the capital basis.²⁹ By allocating capital, management limits the risks that can be carried and determines the basis for the return that has to be earned on this capital / equity.

For the implementation of the value-based management approach, it is necessary to allocate the whole capital to the different corporate sectors. The capital allocation is dependent on the individual risk-contribution of each sector.³⁰ This risk-related capital allocation is not necessarily the "actual" capital basis for the sector. The actual capital basis is more or less determined by managerial objectives within the corporation's or group's policy, for example due to the tax system. Rather, it is a "virtual" capital-allocation, which follows the statement of Davies:³¹

„Risk based capital theory suggests that capital should be allocated to an insurance business according to its expected volatility. A volatile portfolio of risk requires more capital as a safety margin than a predictable one.“

3.3 Step 2: Managing the success contribution

The basis for the managerial decision in each line is evaluated in its specific risk and return context. Taking the capital basis in each business-sector as a given figure from

²⁹ Often, a specific rating-class determines the capital basis.

³⁰ For a systematic approach of allocating capital to different company sectors either within an insurance company or an insurance group, see Schradin (2001).

³¹ Davies (1997), p. 9.

step one, it is the very task of sector management to achieve a cash-flow that earns the required rate of return on the allocated capital. The requirement of an overall return on the capital basis as a hurdle rate has important consequences for each individual line: the higher the risk within a particular line, the higher is the individual capital basis to carry the risks taken, and as a consequence, the higher are the requirements on profit contribution. The sectors that carry the most volatile risks have to generate the highest surplus.

This simple consideration has far reaching consequences: sectors that miss the hurdle rate have to be thoroughly audited. There are two managerial approaches to get the sector back on appropriate surpluses. Either one has to reduce the risks taken by the sector resulting in less capital allocated or one has to increase the profits generated by the sector.³² If both means are not successful, corporate management has to consider how long this underperformance may be tolerable. It might be tolerable to use complementarities such as cross selling. This results in the decision on the role of the sector within the company. If corporate management decides to withdraw from these lines of business, the freed capital can be used to invest in the sectors that comply with the risk and return requirements. Alternatively, the capital can be paid back to investors.

In the following section, managing a specific line in a value based management context is put into concrete means. The section deals with a problematic sector, the business interruption section that produces high deficits within the discussed risk-return context.

4 Managerial options in the business interruption line

4.1 Market overview

From a first impression, one could rate the business interruption line as being fairly attractive. Accumulation of values in the manufacturing sector through larger and more expensive manufacturing sites induce high exposure to business interruption

³² It has to be considered, that most managerial instruments have impact on both sides of the fraction: For the example of reinsurance see Schradin (1993), pp. 18.

risks.³³ Usually, these circumstances induce a high demand for appropriate cover. High demand should enable the insurance provider to write insurance contracts at sufficient premium-levels. Furthermore, the tremendous improvements in information technology enhance transparency in the market allowing the industrial clients to have a fairly good overview about the terms offered in the market. The industrial clients are very capable in determining their need for business interruption cover. From the client perspective, using the figures from business accounting as a basis for deriving the business interruption loss potential is more than feasible.

However, the (German) industrial insurance market is fairly loose. A very low premium level and high underwriting losses indicate this. The following table displays the premiums written and the loss ratios in the German business interruption market.

	1996*	1997*	1998	1999
Premium BI [Mio. DM]	1,055	856	823	684
Loss-Ratio**	86%	81%	119%	121%

* including major damage
** Lossratio in earned premiums

Table 1: Premium and loss ratios in the business interruption line, 1996-1999³⁴

For insurance companies, the unsatisfactory market does not only show up in the losses but also in the huge lack of information. The policies with highly customized wordings lead to reduced transparency. In Germany, the wordings in the business interruption insurance have existed for more than fifty years. It is hardly surprising that there is a great need to renew the wordings and adapt them to actual customer needs.³⁵ Due to these old-fashioned wordings, insurance brokers created their own

³³ See Sigma (2000), pp 15.

³⁴ See GDV (2000), pp. 95; GDV (1999), pp. 79; GDV (1998), pp. 79. Seeing the development in premiums, one has to consider that policies have been transferred from business interruption to All-Risks-Policies. However, the development of the loss-ratio displays that the premiums are not sufficient. Further, the data is not completely comparable, since the statistical basis is not fully consistent.

³⁵ Refer to Morongowski (2000), pp. 65.

terms resulting in different definitions for coverage, sums insured, and premiums. The differences in policy terms did neither lead to legal security nor to precise contractual terms. Instead, uncertainty and misleading wordings led to complications especially in the settlement of claims.

The inconsistent wordings make it difficult to evaluate the risks, to calculate the correct premium, and to build up appropriate reserves. The statistical basis of homogenous risks becomes too small and the differences in policy terms result in a heterogeneous risks portfolio. Thus, insurance and reinsurance companies find themselves in an increasingly irresponsible situation of writing business interruption contracts, since

It is irresponsible to sign contracts that are non-quantifiable in terms of the risks covered.

Having in mind the aforementioned rudiments of a value-based-management, one can conclude that the business interruption line is determined by a situation in which the risk-transfer cannot be calculated anymore and where the premium level is too low to earn the required return on the allocated capital.

One approach is to increase the capital reserves. This takes care of the volatility in this business. However, it also leads to increased costs of capital and a further decreasing rate of return. Following the value based management approach, management has to find instruments to get the business interruption sector back on the right track. The appropriate measures include general management means and insurance related instruments.

4.2 Reinsurance-policy

From the perspective of the insurance company, an appropriate mean is to buy reinsurance coverage, especially, if the low premium levels also hold for the reinsurance market. However, the reinsurance market also runs through a hardening process. Ceding reinsurance coverage means transferring the insufficient situation from the insurance to the reinsurance companies. At the end of the day, reinsurance companies face the same problems as their ceding peers. They also have to manage their risk-return position. In the long run, the reinsurer's claims paying ability depends on a risk related premium level as it does for the insurer. If the situation continues

that the reinsurers do not earn sufficient returns more and more reinsurers will reduce their capacity, too. As a consequence, the insurer will not be able to transfer the losses to their reinsurance partners and have to adjust their programme and signing policy, too.

4.3 Underwriting-policy

The insurer will receive a decent return on its risk-adjusted capital if the underwriter and all staff-members thoroughly analyse and manage the risk exposure. In an insurance-related context, this means to reduce the parameter-risk and the process-risk through selecting and writing only risks that fit in the risk portfolio, in order to achieve a homogenous portfolio with independent risks. Especially in the context of industrial insurance, homogenous means that the contracts do not only include the same sums insured (after reinsurance), but also that the terms are equal. This means that the risks and losses in the policy are equally defined allowing the management to obtain a balance of portfolio. This portfolio-effect can only be achieved by a constant strive for homogenous and independent risks and equivalent terms. This might reduce the cost of capital, since the capital reserves can be reduced due to a more homogenous portfolio. Finally, this improves the risk-return-relationship.

Designing contracts in underwriting aims at the conceptual work in risk transfer. A sound foundation of any contract is accurate information about the risks and values covered. The insured has to put actual and relevant information to the insurance company's disposal. This is especially relevant for the technical estimation of the sum insured and of the premium. The information has to go beyond the accounting figures. Assimilations and international standardization in wordings seems to be more than feasible. Last but not least, loss adjustment and claim settlement have to strive for economical appropriateness and comparability.

Another option in policy designing is risk-re-transfer. If the insurance company cannot earn an appropriate return in carrying the business interruption risks, parts of the risk have to be retransferred to the insured company or to the ceding company. Besides the well-known techniques of experience rating and no-claim bonus, means of finite reinsurance are increasingly important. Further, the integration of the business interruption risk into holistic contracts such as multi-line / multi-years, all-risks-policies, and self-insurance through captives can be contractual options. Any of

the aforementioned instruments aims for a more goal-congruent management of this sector.³⁶

4.4 Alternative Risk-Transfer

Within the context of policy terms, the current developments of alternative risk transfer are a reasonable consequence of the displayed problems. By applying alternative risk transfer, the insurance companies do not longer function as a risk carrier. Instead, the insurance company takes more of a role as a risk-broker, e.g. by fronting the risks to the capital market. Taking this role in the way of risk transfer, the insurance company will no longer receive any premium income but will earn fees for placing the risk in the capital markets. Whether the insurance company is going to act as a risk broker or whether it is going to continue as a risk carrier, is a question of efficiency: if the sector of business interruption might not be conducted with a sufficient rate of return, the risks have to be carried by somebody else, in this case, by investors in the capital markets. The role of the insurance company might be totally different from the one we see today.

Using and exploiting the managerial options displayed above, will bring advantages not only for the (re)insurance company but also for the insured industrial companies. Lower transaction and administration costs through increased transparency are beneficial for all market-parties. Ongoing capacity in business interruption cover is important not only for the insurance companies but also for the parties taking out insurance.

³⁶ It has to be considered that these means have two effects. First, they reduce the risk carried by the insurer. Second, the instruments usually reduce the premium written and the loss-exposure, too. Management has to decide whether a positive compensation between the instruments can be achieved.

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