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## RISK MANAGEMENT AS A TOOL TO IMPROVE THE RELIABILITY: CASE OF INSURANCE COMPANY

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### ABSTRACT

Risk management is one of the most critical and important areas that affects every insurance company's activity and development. The goal of the research is to identify and establish the most important parts of risk management with the aim to improve the insurance company's reliability with the risk self-assessment. Also risk management is one of the most significant functions under Solvency II Directive framework. The methods chosen for conducting the research are: literature exploring, comparative methods, modeling, analysis, methods of expert evaluation.

KEY WORDS: *risk management, risk self-assessment, Solvency II Directive.*

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### Introduction

Risk management is the process of identifying potential danger and undesirable cases that include risk occurring probability evaluation and risk expected harm assessment. Risk management is a very important area in insurance because of the main aim to guarantee the insured person's safety, and to pay the promised claim sum to an insurant, beneficiary, or insured legatee in case of a risk event occurrence. Therefore, one of the risk management points is to provide the clients with a sense of protection.

The Solvency II regime sets many challenges for every insurance company's risk management. Risk management principles should be improved under Solvency II Directive, the main purpose of which is to establish economic risk – the specified solvency requirements across all the European Union countries.

The goal of the research is to improve the reliability of every insurance company with the risk management tool. The Hypothesis of the paper is that risk factors, which affect an insurance company's activity and development, can be assessed, managed, and improved by a risk self-assessment test.

The object of the paper is an insurance company registered in the European Union. Therefore, the subject is the improvement of the insurance company's reliability with the risk management, according to the Solvency II Directive requirements. In order to achieve the stated objective the authors use a theoretical analysis of the scientific literature, analytical methods, and comparative method with the aim to study the elements and functions of the risk management and Solvency II Directive requirements elements and functions. The

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authors also use expert evaluation and priority chart's methods with the purpose to improve the insurance company's reliability.

The main problem resolved during the research was to interconnect the reliability of the insurance company with the risk management improvement possibilities like the establishment of the risk self – assessment principles. The article consists of five main sections. The overview of the risk management is presented in Section II. In Section III there is a brief review of the risk management function under the Solvency II regime presented. The risk self-assessment analysis is performed in Section IV to establish the principles of possible solutions for the insurance company's reliability improvement. The final section summarizes the findings and conclusions of the study and assesses the role and significance of the risk management.

## 1. Risk Management System

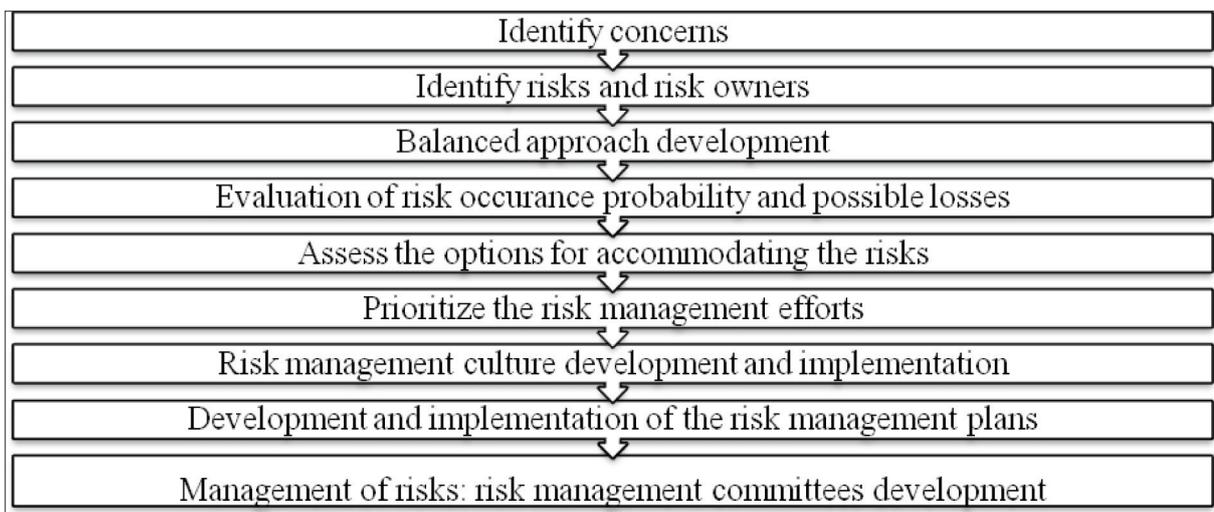


Figure 1. Risk management system description

Source: created by the authors

Risk management is the process of organizing, planning, leading, and controlling the activities of an insurance company with the purpose to minimize the effect of possible risks on the insurance company's activity, profit and development. The risk management expands all the processes to involve not only risks that are associated with possible and accidental losses but also operational, credit, underwriting, market risks.

By risk management we also mean any kind of considerations which enable businesses to detect critical developments and to take countermeasures early enough (Henschel, 2007). Therefore risk management is the process of identification, analysis, assessment, control, elimination and evasion of unacceptable risks. The concept of the risk management system is presented in Figure 1.

Effective risk management system is a base to establish strategic reliability program for every insurance company. Therefore risk management should include the following requirements:

- A documented process for developing requirements that meet customer needs: are realistic, reliable, and achievable within budget and schedule constraints.
- Actions directed at the consolidation of reliability. This includes a special form of the risk self-assessment development with user-friendly interface that can be performed in MS Excel program.

- Risk management should identify and analyse every insurance company’s weak points with the purpose to eliminate or minimize the effect of failures and to validate the specified requirements reliability.
- Risk management should include statistical process control and periodic testing in order to ensure the reliability of all the processes.

Every insurance company’s risk management system should be promoted with the aim to control and manage the reliability of business strategy.

## 2. Risk Management Function Under Solvency II Framework

The Solvency II Directive is based on the three-pillar approach where each pillar fulfils its own function: quantitative requirements, qualitative and supervision requirements, disclosure requirements that mean prudential reporting and public disclosure (EC, 2009). In fact, risk management function under Solvency II framework should be fit and proper in order to identify, measure, monitor, manage and report the risk through the strategy and process development.

Also according to Solvency II Directive requirements, every insurance company should establish better real risk coverage through more sensitive and sophisticated risk analysis. The Solvency II Directive requirements are presented in Figure 2.

Risk management function goes under Pillar 2 that sets out risk management and measurement objectives to ensure adoption of robust risk management processes that are carried out across the entire organization and that form the basis for informing and directing the insurer’s decision-making (PricewaterhouseCoopers, 2010). Risk management is about to define risk profile that goes to align with the stakeholder’s risk appetite and risk tolerance, likewise keeping risks and losses to within insurer’s risk tolerance.

Solvency II framework principles that require improvement of the risk management in order to ensure every insurance company’s reliability should be established till 31<sup>st</sup> December, 2014 therefore the authors more concentrate on practical issues of the research. Under the Solvency II Directive requirements the notion of the risk management system should be reviewed and focused on the key areas that are presented in Figure 3.

The main idea of Solvency II framework is to place risk dimension in the heart of every insurance company in order to improve business strategy and capital management reliability. The following rules are to be set in order to provide better risk framework:

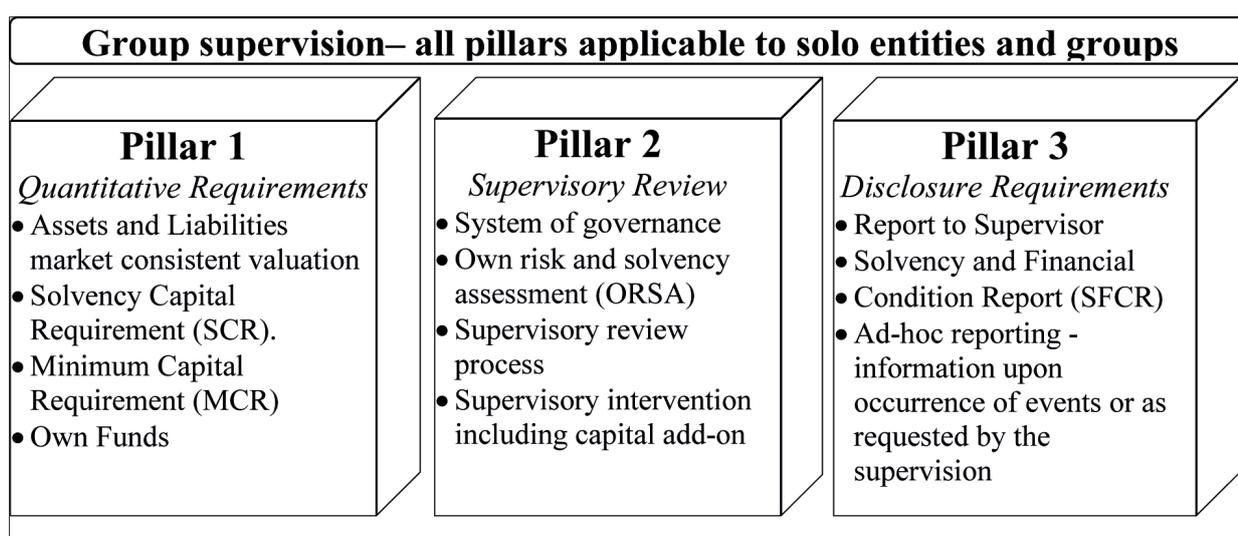


Figure 2. Solvency II approach

Source: PricewaterhouseCoopers 2010 with the authors’ changes



Figure 3. Risk management key points  
Source: created by the authors

- risk appetite requires a company to consider what its overarching attitude is to risk taking and how this attitude relates to the expectations of its stakeholders (Towers Watson, 2010);
- risk limits require a company to consider at a more granular level how much risk individual managers throughout the organization should be allowed to take within their assigned responsibilities (Towers Watson, 2010);
- risk tolerance requires a company to consider in quantitative terms exactly how much of its capital it is prepared to put at risk (Towers Watson, 2010);
- mission clarity with the term long value creation proposition;
- real time risk budget that allows stress testing through different scenarios modelling.

The point is that the main idea of the risk governance is to consider the most effective way for implementing the best risk management practice. Moreover, the risk governance elements help to develop risk management culture that emphasizes at all levels the significance of managing risk as a part of each person's daily activities. Risk tools allow improving an internal risk and capital models which are the heart of risk management, by customizing risk dashboards and developing improved benchmark framework.

Tower Watson Audit Company on 2010 has held the Financial Crisis Puts Spotlight on ERM study among 233 insurance companies on core risk controls during the recent financial crisis. The main results of the study are presented in Figure 4.

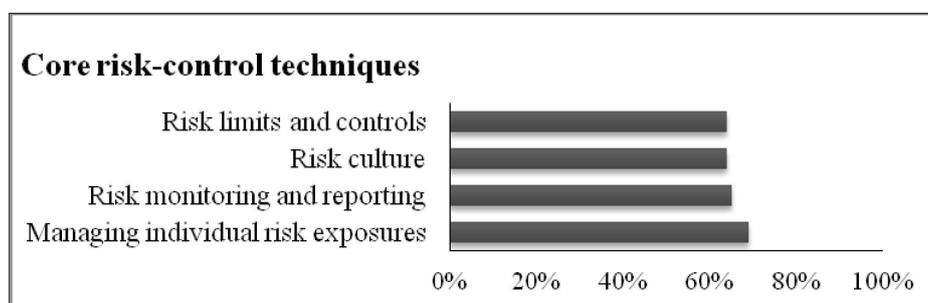


Figure 4. Core risk controls were the most effective techniques  
Source: Towers Watson with the authors' changes

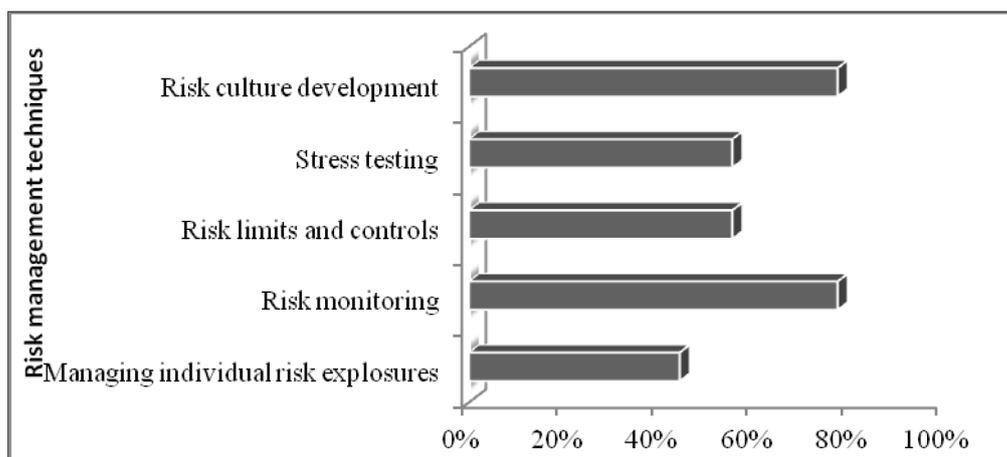


Figure 5. Latvian insurance companies' risk management techniques

Source: Created by authors

In addition, it was discovered during the study that the insurance companies also use as a part of risk management techniques economic capital in decision-making, allowances in risk, risk governance structure, risk recourses, skills and capabilities, stress or scenario testing as planning capabilities, risk appetite statement, economic capital modelling, risk optimization capabilities, different risk technologies or systems and other risk models.

Insurance companies in Latvia also use different risk management techniques presented in Figure 5.

The point is that Tower Watson study and the authors' research presents useful information about the possible ways of improving risk management system's reliability of the insurance company.

All in all, the authors can conclude that it is really important to ensure risk management integration in all insurance company's business processes.

### 3. Risk Self-Assessment as part of Insurance Company's Reliability

The Latvian insurance market is rather narrow, therefore the development of the risk management system is a complicated process.

The main figures of the Latvian market are presented in Figure 6.

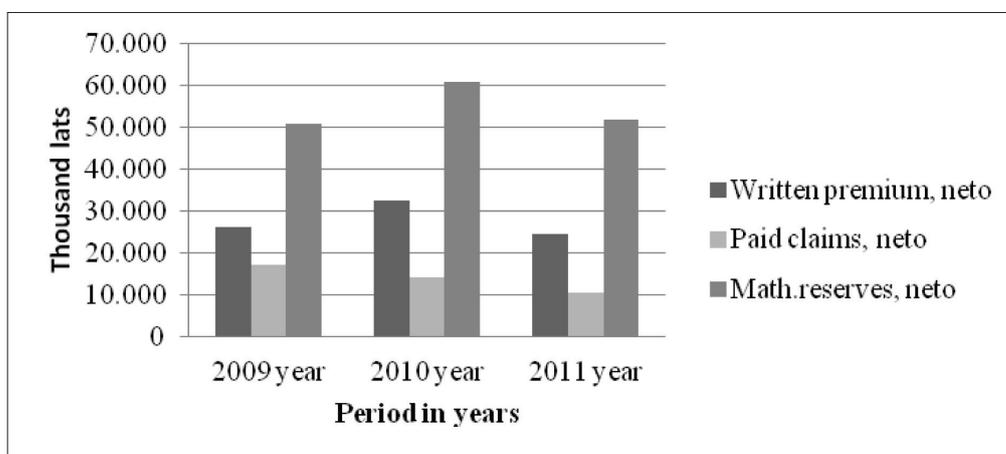


Figure 6. Core risk controls were the most effective techniques

Source: Latvian Financial and Capital market commission with the authors' changes

The point is that because of the Latvian insurance market every insurance company's reliability and activity depends on risk management system. The first step to improve every insurance company's reliability within the risk management system development is to develop and integrate the risk self-assessment tool.

The risk self-assessment is the risk management tool that increases every insurance company's reliability by means of risk monitoring at each business unit level. The aim of the risk self-assessment framework is to identify, assess, control and mitigate insurance company's risks and to champion effective reporting of risk and emerging risk issues.

The risk self-assessment tool is also used to evaluate and map the most significant insurance company's risks and their occurrence probability and possible losses.

The main company's risk should be included in the risk self-assessment process. The main insurance company's risks according to Solvency II framework are based on the Solvency Capital Requirements and are presented in Figure 7.

Solvency capital requirements standard formula includes the following main risk groups:

- Market risk is caused by changes in values caused by market prices or volatilities of market prices differing from their expected values (CEA and Groupe Consultatif, 2007).
- Operational risk is the risk of a change in value caused by the fact that actual losses, incurred for inadequate or failed internal processes, people and systems, or from external events (including legal risk), differ from the expected losses (CEA and Groupe Consultatif, 2007).
- Credit risk is the risk of a change in value due to actual credit losses deviating from expected credit losses due to the failure to meet contractual debt obligations (CEA and Groupe Consultatif, 2007).
- Life or non-life underwriting risk is caused by underwritten insurance contract.

Therefore the risk self-assessment process is an excellent opportunity for every insurance company to coordinate risk management efforts and generally improve the understanding of risk management strategy. The most convenient and cheap way is to implement risk self-assessment tool into MS Excel form. The risk – self-assessment tool is based on the main positions and principles presented in Table 1.

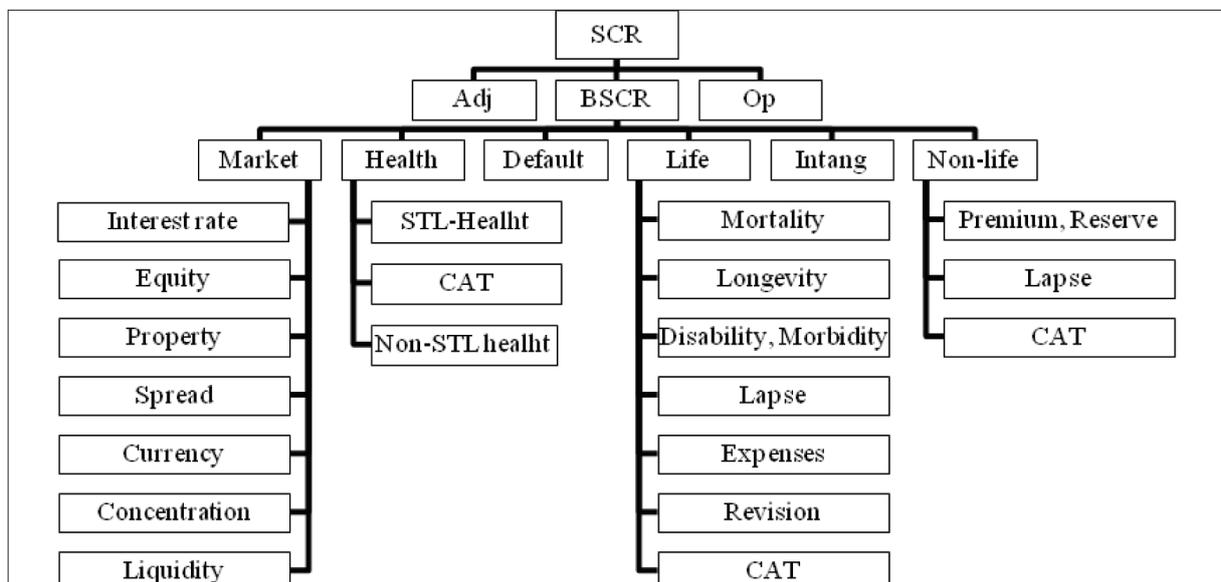


Figure 7. Core risk controls were the most effective techniques

Source: European Insurance and Occupational Pensions Authority (EIOPA) with the authors' changes

Table 1. Risk self-assessment principles

No.	Heading	Description
1	Number	Number of the line
2	Identified main risk	Description of the identified risk: situation analysis, risk factors that increase risk occurrence probability and possible losses
3	Control system	Description of existing control system to avoid risk occurrence probability
4	Assessment result of risk occurrence probability in scale 1–5	Risk probability in scale 1–5: 1 – rare (less than 1 %); 2 – unlikely (1.1 %–10 %); 3 – moderate (10.1 %–50 %); 4 – almost possible (50.1 %–80 %); 5 – possible (80.1 %–100 %)
5	Assessment result of risk possible losses in scale 1–5 (direct and indirect expenses)	Risk occurrence impact in scale 1–5: 1 – insignificant (<1000 EUR); 2 – low (1000–5000 EUR); 3 – average (5 000–20 000 EUR); 4 – significant (20 000–100 000 EUR); 5 – maximum (> 100 000 EUR)
6	Assessment of existing risk final result in scale 1–25	Estimated risk occurrence probability multiplied by estimated risk possible losses
7	Risk trend (increasing, stable, decreasing)	Give indication or compare with previous year assessments
8	Risk ranking	20–25 points – very critical risks with the necessity of the immediate actions towards managing and controlling the risks; 12–19 points – critical risk with the necessity of managing and controlling; Less than 12 points – normal risk with the minimal impact on company’s activity, therefore it is necessary to pay attention to their future development
9	Evaluation of risk control system in scale 1–5	Risk control system in scale 1–5: 1 – risk control system is implemented and provide maximum security; 2 – risk control system is implemented but provide security at average level; 3 – risk control system is implemented but provide low security level; 4 – risk control system is in implementation process; 5 – risk control system is not implemented
10	Assessment of existing risk control system effectiveness in scale 1–25	Estimated risk occurrence probability multiplied by evaluation of risk control system
11	Risk control ranking	20–25 points – risk control system need to be improved immediately; 12–19 points – risk control system need to be improved as soon as possible; Less than 12 points – normal risk control system but it is necessary to pay attention to future development

Source: Towers Watson, PricewaterhouseCoopers, created by authors

Risk self-assessment can be performed and reviewed for every insurance company’s business line according to organizational structure monthly, quarterly or annually. Risk self-assessment is an excellent start point for Baltic insurance companies to improve their risk management system according to the Solvency II Directive with the aim to increase reliability.

## Conclusions

Risk management according to the Solvency II Directive requirements is one of the most significant functions of every insurance company. First of all, with the effective risk management system it is possible to ensure every insurance company's reliability, thus affecting the intent of insurance to provide the clients with a sense of protection.

The Solvency II Directive requirements should establish common risk management principles that set many challenges and offer a new vision of business strategy implementation for every insurance company within the European Union. The Solvency II Directive framework requires risk management integration in all insurance company's business processes. The authors suggest implementing risk self - assessment tool as a start point for improving every insurance company's reliability that is performed for every business line according to the insurance company's organizational structure in order to cover exiting risks according to the standard formula of Solvency capital requirements. Risks are assessed and evaluated taking into account an occurrence probability, a possible damage in case of a risk occurrence and the effectiveness of the control system.

The suggested approach of risk management improvement will enable every insurance company to control trends within its development towards the sustainability, solvency, and growth, with the purpose to increase reliability. In the future the authors would seize the opportunity to continue the present research on the insurance company's reliability increase by developing the possibilities of improving the risk management.

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## **RIZIKOS VALDYMAS, KAIP PATIKIMUMO DIDINIMO PRIEMONĖ: DRAUDIMO BENDROVĖS ATVEJO ANALIZĖ**

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Santrauka

Rizikos valdymas yra viena svarbiausių ir kritinių sričių, lemiančių draudimo bendrovės veiklą ir plėtrą. Šio tyrimo tikslas – nustatyti svarbiausias rizikos valdymo dalis, siekiant padidinti draudimo bendrovės patikimumą įvertinus riziką. Be to, rizikos valdymas yra viena pagrindinių Mokumo II direktyvoje numatytų funkcijų. Tyrimui atlikti pasirinkti šie metodai: literatūros analizė, lyginimas, modeliavimas, ekspertizė.

PAGRINDINIAI ŽODŽIAI: *rizikos valdymas, rizikos įvertinimas, Mokumo II direktyva.*

JEL KLASIFIKACIJA: G22