

DOI 10.20544/HORIZONS.A.20.1.17.P23

UDC 368.03©005.52:005.334(497.7)

## **ENTERPRISE RISK MANAGEMENT IN MACEDONIAN INSURANCE COMPANIES<sup>38</sup>**

***Darko Blazhevski, MsC***  
**Insurance Supervision Agency**  
**Contact: darko.blazevski@aso.mk**

### **ABSTRACT**

The aim of the paper is to perceive how much the insurance companies headquartered in the Republic of Macedonia follow the risk management trends, whether they are familiar with the enterprise risk management (ERM) concept and to what extent they practice it.

The paper presents a brief overview of the insurance sector in R.Macedonia, and reports the results of a survey examining ERM practiced by the insurance companies in R. Macedonia.

The study reveals that ERM is practiced at a different scale in the insurance companies. The main finding is that the most of the companies does not have an explicit statement of risk appetite, reviewed and approved by the board of directors. Also, most of the companies do not practice quantitative risk measures and do not use stress testing as a regular activity.

Another important finding is the pronounced awareness about the implementation barriers the companies are facing, such as deficiency of appropriate tools and skills that will alleviate implementing more prudent ERM techniques.

More general finding is that the insurance sector is increasingly recognizing the need of improving risk management methods, and values high the importance of ERM.

*Keywords:* ERM, risk management, insurance companies, insurance sector

---

<sup>38</sup> Original scientific article

## INTRODUCTION

Risk management is becoming an increasingly important part of companies operations, while at the same time the shareholders are becoming more aware and concerned about potential risks that the companies are facing. The goal of risk management is to create a reference framework that will allow companies to handle risk and uncertainty.

The risk management process has unfolded from traditional risk management (TRM), where the effort is departmentalized and focused primarily on hazard (pure) risks. Using this approach, an organization rarely makes relative comparisons among its risks to determine how they interact with one another or to evaluate their cumulative effect on the organization.

Unlike traditional risk management where individual risk categories are separately managed in risk “silos”, enterprise risk management (ERM) is a relatively new concept getting a lot of attention in recent years. The popularity of ERM is evident lately. The number of organizations that have implemented or are considering ERM programs is increasing, consulting firms have established specialized ERM units, rating agencies have included ERM in the ratings process, and universities have developed ERM-related courses and research centres (Hoyt and Liebenberg, 2011).

The motive for the paper was the concept of the ERM itself – having in mind the growing echo of this term in the scientific articles, white papers, as well as in the consultants and insurance industry magazines. What is more, there are more and more ERM seminars, and ERM is progressively present in the annual reports of the insurance groups, especially those active in EU and OECD countries, that I came across while performing my regular work as an insurance supervisor in the Insurance Supervision Agency<sup>39</sup>.

The aim of the paper is to perceive how much the local insurance companies follow the risk management trends, whether they are familiar with ERM and to what extent they practice it.

The research has benefits both for the practice and academia. There is an immense literature on ERM, especially in the developed countries, but still there are deficiencies in empirical studies that explore ERM in the Southeast Europe. In these terms, the empirical study conveyed on the Macedonian insurance companies can be considered as a pioneering analysis which can be upgraded in different areas of ERM further on.

---

<sup>39</sup> Independent supervisory body in the insurance sector in R. Macedonia founded in November, 2009.

## LITERATURE REVIEW

Insurance companies' core business is to accept clients' unwanted risks, but if they do not have efficient mechanisms to manage these risks they are unlikely to be profitable or even to remain in business. Taking into account that many insurance companies have been in the business for a long time and have been serving the business community and society, it is obvious that they have some established and tested mechanisms to manage those risks in order to produce profit and meet the expectations of their stakeholders.

Risk management is not new to the insurance industry, but the pace of change is new. The last ten years considerable changes have been seen (KPMG, 2013), with risk emerging as a separate function and the CRO becoming a significant Board level role at many insurance companies. Innovation from the capital and risk modelling work in this period has been used to influence current practices.

In their report, AON Benfield (2012) find that a significant proportion of this development of ERM in the insurance companies has been triggered by regulatory need, which has for many insurance firms tended to be interpreted as requiring a 'compliance' focus rather than being primarily driven by the business itself. For some, these changes have been driven by the volatile and challenging market environment and the need to have a greater understanding of the risks being run. Solvency II Directive in EU is a good example of where many insurers have sought to use advanced internal models and risk frameworks as part of their Own Risk and Solvency Assessment (ORSA).

Acharyya and Johnson (2006) conveyed a study examining ERM practiced by four European-based insurance companies. In particular, the study explores the understanding, evolution, design, and performance of ERM in these organizations and the challenges which they face in implementing ERM. Although, it is presumed that ERM is an interdisciplinary subject and needs to be handled from a variety of disciplinary perspectives (e.g., finance, economics, psychology and philosophy, etc.), the research concludes that ERM, as currently practiced by insurance companies, still remains a subject of a single discipline (finance). It was found that the key distinction in various perceptions of ERM remains between risk measurement and risk management. It is found that the people who work with numbers (e.g., actuaries, finance people, etc.) are involved in the risk modelling and management (mostly concerned with the financial and core insurance risks) and tend to believe ERM is a tool. On the other hand, internal auditors, company secretaries, and operational managers,

whose job is related to the human, system and compliance related issues of risk, are more likely to see ERM as a process.

## DEFINITIONS

ERM has only recently grown into a new discipline which is garnering more attention from both academia and the business community despite that the processes and techniques for risk management exist and have been implemented for years by the companies. As a discipline which is continuously evolving, ERM has various meanings for different people, depending on their individual profile, position within the company, and company exposure to the different types of risks. Perhaps this is the most important reason why so far, there is no generally accepted definition about what ERM really represents. Nevertheless, several concepts in the academic literature and business community can be found.

The Casualty Actuarial Society (CAS) defines ERM as a “*process by which organizations in all industries assess, control, exploit, finance, and monitor risk from all sources for the purpose of increasing the organization’s short and long term value to its stakeholders*” (CAS, 2003).

According to the Committee of Sponsoring Organizations (COSO) ERM is defined as “*process, effected by an entity’s board of directors, management or other personnel, applied in strategy settings and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance of entity objectives*” (COSO ERM Guidance, 2010).

Standard & Poor’s (S&P), along with other rating agencies often tend to include ERM as integral part of insurance companies evaluation procedure within the final outcome of their rating review and assessment. Based on a definition, according to S&P “*insurer has extremely strong capabilities to consistently identify, measure, and manage risk exposures and losses within the company’s predetermined tolerance guidelines. There is consistent evidence of the enterprise’s practice of optimizing risk-adjusted returns. Risk and risk management are always important considerations in the insurer’s corporate-decision making*” (S&P, 2013).

Despite of the differences in ERM definitions, D’Arcy and Brogan (2001) consider that ERM is, in essence, the latest name for an overall risk management approach to business risks. Precursors to this term include corporate risk management, business risk management, holistic risk management, strategic risk management and integrated risk management. The new focus on the concept of ERM provides an opportunity for risk

managers to apply their well established and successful approaches to risk on a broader and more vital scale than previously.

Miccolis at al (2000) characterise ERM as a clear approach for identification, prioritization, quantification, reduction and financing all kinds of risks (both operational and financial) which may be seen as a potential obstacle on the way of achieving the strategic and financial goals of the firm. According to these authors, the main purpose of ERM is to increase enterprise value through:

- Improving capital efficiency:

  - Ensuring resource allocation based on specific goals;

  - Reducing costs associated with intangible risks;

  - Exploiting natural hedge;

- Providing support in the process of strategic decision making:

  - Detecting the areas which can have a substantial negative effect on the company's value;

  - Identifying and exploiting the areas where the company has (risk related) competitive advantage;

  - Building confidence of the shareholders:

  - Implementing a process which will assist in stabilizing the company results (e.g. reducing the income volatility of different categories);

  - Setting up an appropriate reward system for the risk takers.

Formulating ERM in such a way practically represents an attempt to synthesize the most important aspects that can be seen in various definitions in the risk management literature.

## **IMPLEMENTATION OF ERM**

Examining factors associated with the implementation of ERM to provide insights as to why some organizations are responding to changing risk profiles by embracing ERM and others are not. The results from the study conveyed by Beasley at al. (2005) suggest that board and senior management leadership on ERM is critical to extensive ERM deployment, and other organizational characteristics, such as size, auditor type, industry, and country of domicile also help to explain the extent of ERM implementation.

Even greater challenge in evaluating the implementation of ERM comes from the fact that that ERM is hard to study because companies are not required to disclose their ERM processes (Gates, S. at al., 2012). Even companies with some ERM disclosures may not fully reveal their components or stage of ERM implementation.

Also, the introduction of ERM cannot be seen as an unqualified sign for the company's progress. According to the study conveyed by Altuntas at al.

(2011) managers are more likely to adopt ERM in case of negative changes in past performance. If firm performance deteriorates top management may get fired. Hence, top management might adopt ERM to signal that it can get the firm back on track.

Very often the adoption of ERM is equated with the existence of a CRO in the company. Liebenberg and Hoyt (2003) research results suggest that there is no unconditional linking between ERM implementation and CRO appointment. The authors find that the firms with greater financial leverage are more likely to appoint a CRO in order to reduce information asymmetry regarding the firm's current and expected risk profile. These findings are also supported from the study conveyed on the annual reports of 13 largest insurance companies (Cruz, 2009) - all members of the European CRO forum<sup>40</sup>, and are generally considered to be representatives of the best practices used in the European market. The position of the CRO in the analyses varies, both as a board member and as a direct reporter to the CFO, or it is not mentioned (Table 1).

Table 1. Disclosed risk governance in annual reports

| Company    | CRO position       | Risk Committee  |
|------------|--------------------|---|
| Aegon      | CRO reports to CFO | Non-executive risk committee and executive group risk and capital committee |
| Allianz    | CRO reports to CFO | Non-executive risk committee, 2 executive committees                        |
| Aviva      | Not mentioned      | Group Alco and operational risk committee                                   |
| Axa        | Not mentioned      | 3 separate committees   |
| Eureko     | Not mentioned      | 7 separate committees   |
| Fortis     | CRO reports to CFO | Non-executive risk committee, executive insurance risk committee            |
| Generali   | Not mentioned      | Non-executive internal control committee and executive Group risk committee |
| ING        | CRO in the board   | 7 separate committees   |
| Munich Re  | CRO in the board   | Group risk committee and global underwriting and risk committee             |
| Prudential | CRO in the         | Multiple committees   |

<sup>40</sup> The CRO Forum is a group of professional risk managers from the insurance industry that focuses on developing and promoting industry best practices in risk management. See more at: <http://www.thecroforum.org/> [Accessed 26<sup>th</sup> September 2014].

|          |                  |   |
|----------|------------------|---|
|          | board            |   |
| Swiss Re | CRO in the board | Group risk and capital committee, group products and limits committee |
| Zurisch  | CRO in board     | Non-executive risk committee, 2 executive committees                  |

*Source:* Cruz (2009)

The previous findings lead to conclusion that without further analyses, it is impossible to evaluate the implementation and the maturity of ERM in a company.

On the other hand, Harner (2013) consider that ERM success depends on governance structure in the company. The author considers that the board of directors should take an entity level role in the implementation of ERM. The entity level (usually risk committee) should be responsible for ERM implementation and the board of directors should participate more strategically – to design and rollout of ERM program, take the lead in cultivating a risk-aware culture, set the company’s risk appetite and align that with the company’s risk profile. According to a survey conveyed from the author, only 45.9 percent of the respondents out of 600 executives indicated that their boards of directors have formally assigned risk oversight responsibility to a board committee.

#### **LINKAGE TO INTERNAL AUDIT.**

One of the most important elements in the organizational structure regarding the implementation of ERM is the Internal Audit (IA). Deloitte (2013) considers the Internal Audit (IA) as the third line of defence after management implementation of controls (first line of defence) and risk management program and procedures (second line of defence).

The IA’s roles in ERM implementation derives from the new definition of internal auditing (IIA, 2008), where ERM is considered part of the main IA responsibilities besides internal control and governance. The Institute of Internal Auditors (IIA) had issued a specific framework with regard to the roles of IA in ERM implementation (IIA, 2009).

On the other hand, Kasim & Hanafi (2012) reveal that almost all of ERM frameworks do not incorporate the roles of IA in ERM. What is more, all of the frameworks do not attempt to appropriately quantify the measurement of ERM and this is evidenced by the use of Likert-type scales.

## **RISK CRITERIA AND MEASURE**

S&P (2013) has started evaluating the insurance companies' ERM as a component of their rating analysis. The analysis is tailored to each insurer's risk profile and focuses on five main areas: (1) risk management culture, (2) risk controls, (3) emerging risk management, (4) risk models, and (5) strategic risk management. That implies that the cornerstone of ERM is the risk management culture that encounters defining of the basic risk criteria such as risk appetite, together with the risk capacity and risk tolerance. Although sometimes these terms are used interchangeably, they represent related, but different concepts.

Risk appetite represents how much risk an organization is willing to assume consistently with its strategy (Bennet and Cusick, 2007). Each business strategy implies some amount of risk, in terms of the uncertainty of the results will be achieved; therefore, risk appetite represents a fundamental element of ERM as it sets the risk strategies and allows framing for the current risk profile.

Risk capacity refers to the maximum potential impact of a risk event that the firm could withstand and remain a going concern. Risk capacity is usually stated in terms of capital, liquid assets, or borrowing capacity. Risk appetite should not exceed an entity's risk capacity, and in fact, in most cases, appetite will be well below capacity (COSO, 2009).

Risk tolerance reflects the acceptable variation in outcomes related to specific performance measures linked to objectives the entity seeks to achieve. So to determine risk tolerances, an entity needs to look at outcome measures of its key objectives, such as revenue growth, market share, customer satisfaction, or earnings per share, and consider what range of outcomes above and below the target would be acceptable (COSO, 2009). The insurer's risk tolerance is framed having regard to the insurer's strategy and business plan (RIMS, 2014). The risk tolerance shares the same time horizon as corporate strategy, typically 3 to 5 years, and therefore should not respond to annual targets, and it would be highly unusual to change every year.

As part of its ORSA, an insurer should determine the overall financial resources it needs to manage its business given its own risk tolerance and business plans, and to demonstrate that supervisory requirements are met. The insurer's risk management actions should be based on consideration of its economic capital, supervisory capital requirements and financial resources.

Economic capital is a measure of risk, not of capital held (FDIC, 2014). As such, it is distinct from familiar accounting and regulatory capital measures. Whereas most traditional measures of capital adequacy relate existing capital levels to assets or some form of adjusted assets, economic capital relates capital to risks, regardless of the existence of assets. Economic capital is based on a probabilistic assessment of potential future losses and is therefore a potentially more forward-looking measure of capital adequacy than traditional accounting measures. Conceptually, economic capital can be expressed as protection against unexpected future losses at a selected confidence level.

Except for the economic capital, the insurance companies might calculate the Embedded value (EV), defined as a key metric used by insurance companies in assessing the performance of long-term business (Frasca and LaSorella, 2009). It is a measurement of the value that shareholders own in an insurance enterprise, comprised of capital, surplus, and the present value of earnings to be generated from the existing business. More formally, EV has been described as the consolidated value of the shareholders' interests in the covered business (AAA, 2011).

The history of EV in the insurance industry dates back at least to the 1980s, when companies in the UK started routinely to disclose EV. In December 2001 the Association of British Insurers (ABI) developed guidelines for the calculation of EV for long-term insurance business. European embedded value (EEV) is a variation of EV which was set up by the CFO Forum (2009) which allows for a more formalised method of choosing the parameters and doing the calculations, to enable greater transparency and comparability. The CFO Forum released new guidance in June 2008 on market-consistent embedded value (MCEV). MCEV is a more generalised methodology, of which EEV is one example.

In conjunction with economic capital (SOA, 2010), MCEV can help management better understand the risk-adjusted performance of the individual components of their business, allowing capital to be targeted more efficiently.

## **FRAMEWORKS**

The process of introduction and execution of ERM is often seen as a set of rules and principals that should be obeyed by the company and is commonly assumed as ERM framework.

The most well-known ERM framework is the Enterprise Risk Management—Integrated Framework of the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The COSO released

ERM framework in September 2004 in order to support the efforts of the senior managers comply with a series of laws, regulations, and listing standards calling for strengthened corporate governance and risk management, that came as a result of the highly publicized business failures, scandals, and frauds over the past several years (Ballou and Heitger, 2005).

In 2009, the International Organization for Standardization (ISO) issued ISO 31000, a standard on ERM. ISO 31000 can be used at a strategic or organizational level to help manage processes, operations, functions, projects, programs, services and assets. The standard was created by a working group that included technical advisors from 18 countries. In a series of six meetings over several years, the group revised the Australia/New Zealand risk management standard (AS/NZS 4360:2004) to create a standard that can be used by a wide variety of organizations in any country for any type of operation, regardless of complexity, size or type (Purdy, 2010).

One of the key differentiators between traditional operational risk management and this new practice of risk management as defined in ISO is the linking of key risks and the risk management process to an organization's strategic objectives. Other differentiators include identifying risks beyond insurable or industrial safety risks (including strategic, reputational and financial risks), expanding the responsibility for managing risk broadly across the organization to "risk owners" and defining a framework for managing risk that will build resilience and continual improvement throughout the process (Gjerdrum, D et al., 2011). The ISO 31000 outlines the principles that make risk management effective, the framework in which risk management occurs and the process for managing risk.

The International Association of Insurance Supervisors (IAIS) has identified the need for ERM and has developed a special ICP 16. This ICP recognises the importance of an ERM framework from a supervisory perspective in underpinning robust insurance legal entity and group-wide solvency assessment. It is also important, that the IAIS recognises the different levels of sophistication of supervisors and insurance markets around the world and acknowledges that this ICP may not be fully achievable by some insurers and in some markets in the near future (IAIS, 2011).

Nevertheless, the IAIS believes that good risk management practices and procedures need to be in place for a solvency regime to be effective. ERM that follows this ICP is expected to enhance confidence in assessing an insurer's financial strength. The IAIS envisages that solvency regimes will, over time, be developed towards conformity with the ICPs.

Another regulatory effect in the development of ERM in the insurance industry causes the concept of ORSA as a key component of the regulatory reform. An ORSA will require insurance companies to issue their own assessment of their current and future risk through an internal risk self-assessment process and it will allow regulators to form an enhanced view of an insurer's ability to withstand financial stress.

The ORSA leads companies towards a better understanding and an optimal management of their risk profiles, consistent with their strategic choices (Vedani and Devineau, 2013). It is part of a cyclical and iterative system involving the board of directors, senior management, internal audit, internal control and all employees of the company.

Preparing for ORSA gives insurers an opening to boost existing ERM practices—provided they look beyond a strictly "check the box" compliance-driven attitude. In an operational way, the ORSA is part of global process of ERM. According to Whittingham (2012), ORSA can help bolster ERM functions because of its focus in these areas:

- Better use of risk capacity, while remaining within stated risk appetites;

- Improved risk-based decision-making through a single framework for risk, capital and performance management;

- Increased understanding of risk exposures across the enterprise;

- Promotion of a risk-management culture and greater visibility for risk at the executive level;

- Deeper insights into the solvency impacts of future economic conditions; and

- Clearer visibility into capital tiers supporting risk-taking activity and optimization of capital structures.

**The common ground of ERM frameworks.** ERM framework should identify and address all reasonably foreseeable and relevant material risks to which an insurer is, or is likely to become, exposed (IAIS, 2011). Such risks should include, at a minimum, underwriting risk, market risk, credit risk, operational risk and liquidity risk and may also include, for example, legal risk and risk to the reputation of the insurer. The level of risk is a combination of the impact that the risk will have on the insurer and the probability of that risk materializing. The level of risk borne by the insurer should be assessed regularly using appropriate forward-looking quantitative techniques such as risk modelling, stress testing and scenario analysis.

## METHODOLOGY

### Research strategy

The methodological framework will be case study research. As a research endeavour, case studies have an important role in social science research (Yin, 1993, Yin 1994, Schramm, 1993). For Schramm, the essence of the case study is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented and with what results (Schramm, 1993). For Yin (1984), a case study is appropriate research method because the researcher could investigate a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident

A successful case study needs to link the key research question, its propositions and its unit of analysis into a logical framework (Yin, 1984). The validity of a certain case study is heavily reliant on the sources used when conducting the research. Evidence of case studies can come from several sources such as: interviews, questionnaires, direct observation, participant observation, archival records, physical artefacts, statistics and other relevant information (Yin, 1994).

### Target population and sampling

We set the target population for the survey by making a choice out of all potential elements that could theoretically be measured or observed. Taking into account that there are 15 insurance companies in the country, we have considered a realistic goal to convey the survey on the whole population. Using the sampling would not have been appropriate, since there is no high concentration in the insurance sector and any potential exclusion from the population will have a significant influence on the conclusions.

### Data sources

The research data are gathered from both primary and secondary sources. Primary data collection refers to distribution of questionnaires while the secondary data includes reviewing journals, articles and research papers, as well as the data from publicly available financial reports of the insurance companies. We derive the data on the financial statements from the Insurance Supervision Agency (ISA) register. The ISA dataset is available for the period from 2009 – when ISA was established till present.

### Collection techniques

As the secondary data collection responds to the second objective, the third objective will be met through questionnaire, as a primary qualitative technique. The choice of sources is made based on the fact that it is the fastest way of collecting first-hand information.

The questionnaire consists of open-end and close-end questions (such as multiple choice, dichotomous choice, Likert scale and numerical rating scale questions from 1 to 5) covering several segments such as: defining and explaining the importance of ERM; the perception, treatment and measurement of the risk, the risk governance mode, the role of the Chief Risk Officer, the value of ERM, and ERM implementation challenges. The questionnaire has been distributed via e-mail to the executive board members of all insurance companies. The questionnaire is included in Appendix A of this research paper.

The data regarding the type of the company, the area in which the company has significant market share on the Macedonian insurance market, amount of written premiums, and sales methods or distribution channels has been collected through the publicly available financial reports of the Macedonian insurance companies, as well as, from the analyses and data publicly available at the web-site of the Insurance Supervision Agency.

Data analysis techniques are defined by Hindle (2004) as methods for analysing data irrespective of, either the methodical cluster within which the technique is applied, or the methods used to collect the data. In line with this, the process of data processing includes employment of different methods of analysis and presentation of results:

Analysis of the data obtained from ISA in order to perform time-series analysis, provide trends, frequency dispersion, percentages, graphs and tables. In interpreting the results descriptive analysis will be used as well; and

Microsoft Office Excel has been used in evaluating the data gathered through questionnaires.

The rational argument for the choice of these specific methods and techniques could be found in the fact that they are custom-made for this research and the gathered data is expected to be up to date. However, there are certain limitations to this approach, mainly because designing the questions, conducting the research and interpreting data is considered to be time consuming.

## **ANALYSIS AND FINDINGS**

### **Market overview**

At the end of 2013, there were 15 insurance companies on the insurance market of Republic of Macedonia, of which 11 operating in the area of non-life insurance, and 4 operating in the area of life insurance. 87.76% of the insurance companies were in dominant ownership of foreign investors, whereas the share of domestic shareholders was 12.24% (ISA, 2014). At the

same time, 11 insurance companies on the insurance market of R. of Macedonia are owned by insurance groups headquartered in EU (Table 2).

Table 2: Insurance companies in R. Macedonia

|    | Company            | Non-life/<br>Life | Insurance<br>Group                        | Country<br>of origin | GWP<br>(€ mil) | Number<br>of<br>employees |
|----|--------------------|-------------------|---|----------------------|----------------|---------------------------|
| 1  | Insig              | Non-life          | Insig                                     | Albania              | 2.92           | 49                        |
| 2  | Alsig              | Non-life          | Alsig                                     |                      | 5.55           | 109                       |
| 3  | Makedonija         | Non-life          | Vienna Insurance Group (VIG)              | Austria              | 11.38          | 194                       |
| 4  | Winnert            | Non-life          | Vienna Insurance Group (VIG)              |                      | 11.00          | 167                       |
| 5  | Winnert - life     | Life              | Vienna Insurance Group (VIG)              |                      | 0.86           | 18                        |
| 6  | Uniqa              | Non-life          | Uniqa Group                               |                      | 10.38          | 100                       |
| 7  | Uniqa - life       | Life              | Uniqa Group                               |                      | 0.67           | 5                         |
| 8  | Grawe              | Life              | Grawe group                               |                      | 5.10           | 18                        |
| 9  | Evroins            | Non-life          | Euroins Insurance Group                   | Bulgaria             | 7.42           | 133                       |
| 10 | Croatia - non life | Non-life          | Croatia osiguranje                        | Croatia              | 5.73           | 97                        |
| 11 | Croatia - life     | Life              | Croatia osiguranje                        |                      | 5.15           | 35                        |
| 12 | Triglav            | Non-life          | Triglav Group, Zavarovalnica Triglav d.d. | Slovenia             | 17.60          | 232                       |
| 13 | Sava               | Non-life          | Sava Re Group   Sava Reinsurance          |                      | 11.00          | 126                       |

| Company d.d. |                  |          |                       |        |       |
|--------------|------------------|----------|-----------------------|--------|-------|
| 14           | Eurolink         | Non-life | Not a part of a group | 12.74  | 200   |
| 15           | Insurance Polisy | Non-life | Not a part of a group | 9.47   | 132   |
| <b>Total</b> |                  |          |                       | 116.97 | 1,615 |

Source: ISA, Annual report 2013

There is a positive trend on the market (Table 3). The life-segment has register double digit growth of the GWP which is one of the highest growths among the countries in SEE, and for the first time in the insurance history of R. Macedonia, life insurance exceeded the limit above 10% of the share in the total GWP of the insurance sector.

The insurance sector is characterised with moderate market competitiveness. Herfindahl index, calculated via the GWP in 2013 was 891.77 (2012: 951.07). A similar result was obtained in 2013 by measurement of the index through the assets of insurance undertakings at 869.25 (2012: 896.28).

Table 3. Market portfolio 31.12.2013

| Line of business                  | GROSS WRITTEN PREMIUMS |        |        | PAID CLAIMS |        |        | Weight in all GWP |        |
|-----------------------------------|------------------------|--------|--------|-------------|--------|--------|-------------------|--------|
|                                   | FY2013                 | FY2012 | Change | FY2013      | FY2012 | Change | FY2013            | FY2012 |
|                                   | EUR m                  | EUR m  | %      | EUR m       | EUR m  | %      | %                 | %      |
| <b>TOTAL MARKET</b>               | 116.95                 | 114.04 | 2.55   | 48.11       | 49.00  | -1.83  | 100.00            | 100.00 |
| <b>TOTAL LIFE</b>                 | 11.86                  | 9.73   | 21.93  | 1.86        | 1.50   | 24.18  | 10.14             | 8.14   |
| <b>TOTAL NON-LIFE, of which:</b>  | 105.09                 | 104.32 | 0.74   | 46.25       | 47.51  | -2.65  | 89.86             | 91.86  |
| <b>Overall property insurance</b> | 21.39                  | 22.65  | -5.58  | 7.15        | 9.55   | -25.15 | 18.29             | 19.74  |
| Fire and allied perils            | 7.90                   | 9.95   | -20.61 | 2.11        | 4.20   | -49.77 | 6.75              | 8.34   |
| Damages to property               | 13.49                  | 12.70  | 6.20   | 5.04        | 5.35   | -5.83  | 11.53             | 11.40  |
| <b>Overall motor insurance</b>    | 66.68                  | 65.67  | 1.55   | 32.28       | 30.99  | 4.15   | 57.02             | 57.02  |
| Motor Hull                        | 11.73                  | 12.39  | -5.26  | 7.07        | 8.14   | -13.13 | 10.03             | 10.03  |
| MTPL                              | 54.95                  | 53.28  | 3.13   | 25.21       | 22.85  | 10.31  | 46.99             | 46.99  |
| GTPL                              | 2.61                   | 2.28   | 14.55  | 0.34        | 0.21   | 66.36  | 2.23              | 2.23   |
| Other non-life insurance          | 14.40                  | 13.72  | 5.00   | 6.48        | 6.76   | -4.14  | 12.31             | 12.31  |

Exchange rate for calculations: 1EUR = 61.5MKD 31.12.2013; 1EUR = 61.5113MKD 31.12.2012

Source: ISA, Annual Report 2013

## ERM QUESTIONNAIRE ANALYSES

The survey questionnaire was set on a web application survey tool and the link to the questionnaire was distributed via e-mail to all the insurance companies in Macedonia in order to be fulfilled from the members of the board or designated person involved in the risk management.

The survey participants entered the data through specially designed electronic mask for data entry at the web application survey tool. The database contained 144 variables, which have been previously mapped and defined according to the structure contained in the questionnaire. The research was conducted in October 2014.

The total number of responds is 15, representing all of the insurance companies in the country. With this, the survey fulfilled its goal which was to cover the whole population. The participants in the survey gave their answers and opinions regarding 6 thematic areas that were defined in the questionnaire:

- Definition and importance of ERM;
- The perception, treatment and measurement of the risk
- Risk governance model;
- The role of the Chief Risk Officer;
- Value of ERM; and
- ERM implementation challenges.

The analysis of the survey results is presented in separate segment in accordance with different thematic area.

**Definition and importance of ERM.** To a great extent, the survey participants supported ERM definition suggested by Miccolis et al (2000). Only 2 (13.33%) of the respondents answered that their working definition of ERM is different or non-existent from the one presented.

In addition to the given definition (other than identifying the risks which may be used as a competitive advantage), it was stated in the questionnaire that the objective of ERM was to increase the value of the company through 3 key segments (improving the capital efficiency, providing support in the strategic decision making process, and increasing the confidence of the shareholders), for which the management of the insurance companies in R.Macedonia needed to give subjective assessment for the level of their importance (where 1 denotes lowest level, while 5 represents highest level of importance).

Results have shown that all three segments are considered as important. *“Providing support in the strategic decision making process”* has an average score of 4.40, *“Improving the capital efficiency”* has an average score of 4.29, while the average score for *“Building confidence of the shareholders”*

is 3.93. The lower score of the third segment relative to the other two categories to some extent was expected, having in mind that the shareholders structure in most of the companies consists of dominant shareholder, usually insurance groups headquartered in EU, and small number of minority shareholders. The insurance companies are not among the companies listed on the MSE with the exception of two insurance companies that are listed because they meet the criteria from the Securities Law regarding the obligatory listing in a special segment. But, with the present shareholder structure the companies have very little free float, and that makes them incompliant with the listing rules for the official segment, even in case they decide to do this.

Regarding the presence of ERM in the insurance companies, 7 survey participants (46.67%) reported that their company has an ERM programme in place and 2 are currently implementing one (13.33%). The other companies have answered that they have ERM with limited scope, and only one company reported that they do not have an ERM programme at present.

From the companies (93.33% of the participants) that have ERM programme or are in some phase of implementation, 9 (64.29%) reported that their ERM programme is developed in compliance with the insurance group they belong to. Having in mind the structure of the market, that 11 out of 15 insurance companies belong to the EU insurance groups, it is evident that they are using, or better said, they are relying on the knowhow and ERM implemented by the mother companies. The other 5 (35.71%) reported that they are developing self-tailored ERM programme. What is of special interest is that the insurance companies don't apply any of the previously mentioned frameworks, such as COSO and ISO 31000.

Among survey respondents, ERM programs almost always covered the major traditional risk categories of underwriting risk (100%) and liquidity risk (93.3%).

Also the other traditional risk categories such as regulatory/ compliance risk (60%) and market risk (53.3%) are covered in more than half of the survey participants. New risk categories such as operational (86.7%) and IT security risks (86.7%) have also emerged as critical focus areas. This is partly due to the by-law<sup>41</sup>, enacted December 2013 and becoming operational from 01.01.2015, obliging the companies to measure IT security risks, to create risk register, and to report on a specially set IT risk committee or at the risk committee that mandatory includes the Chief IT Officer.

---

<sup>41</sup> Rulebook on minimum standards of information systems of insurance companies (Official Gazette in R. Macedonia 187/ 2013)

Strategic (33.3%) and reputation risk (33.3%) have not become critical yet. In some comparable studies (Deloitte, 2013) the last two risks are given more attention with creation of a more competitive landscape due to new, more established entrants from more advanced markets, effects of mergers and acquisitions and greater scrutiny by the media (including social media).

**Perception, treatment and measurement of the risk.** Although working in the same macroeconomic environment, and mostly in the same lines of business, the insurance companies have different perception about the risk volume and complexity of risks that increased over the past five years. Still, if interpreting the trend line, it is obvious that companies consider that the risks are increasing.

In that direction, the companies should consider having an explicit statement of risk appetite, reviewed and approved by the board of directors as an important part of their oversight responsibilities in order to support the effectiveness of an ERM program. Only that way, the risk appetite statement can then be translated into specific limits and tolerances for business and for specific risk categories. From the survey results, we found that no one from the companies has their risk appetite both quantitatively and qualitatively defined, and only one company (6.7%) has it quantitatively defined. 40% of the companies have an informally defined risk appetite statement while 13.3% are in the process of seeking approval for their risk appetite statement. Unfortunately, a high 40% do not have the risk appetite statement.

Furthermore, 60% the survey participants reported that have adopted some measure of risk which corresponds with the number of companies that has risk appetite statement at some level, adopted or in procedure for adoption. Distributed by the type of business (life/non-life), 72.7% from the non-life companies measure risk in comparison to only 25% from the life insurance companies. From the 9 companies that answered yes to the question whether they measure risk, 7 are using Likert-type scale and 5 numerical.

On their readiness to calculate other than regulatory imposed risk measures of risk, 40% of the survey participants answer positively. This question was enacted in order to reveal the degree to which the companies are prepared to the up-coming Solvency II regulation or other industry set standards. From the total number of 6 (40%) survey participants that answer that they calculate other the regulatory imposed risk measures, 4 calculate economic capital and 2 other measures that are introduced within the group they belong to.

From the total number of 6 (40%) survey participants that answer that they calculate other the regulatory imposed risk measures, 4 calculate

economic capital and 2 other measures that are introduced within the group they belong to.

Since the 2008 global financial crisis, there has been increased attention on managing systemic risk. Systemic risk refers to the potential likelihood that risk events affecting one institution could threaten the financial system as a whole. Stress testing is one tool that financial institutions can employ to help prepare for potential systemic risks by assessing the potential impact of extreme, but rare, events. 46.7% of the organizations represented by the respondents of the survey carry out stress testing. This number is relatively higher with the life insurance companies (75%, 3 out of 4), because the long term character of their business makes them more vulnerable to the systemic risk.

Regardless of the way in which the insurance companies are managing their exposure to different types of risk, it appears that there is a consensus among them regarding the importance to integrate risk within their strategic, operational and financial plans. Apart from one company, all other entities in the insurance sector are currently engaged in the process of integrating risk in their plans and they value this activity as very important with 4.13 on scale to 5. However, all companies without exception stated that they are faced with many potential barriers. Most commonly mentioned ones are expenses, process and organizational culture, while tools appear at the bottom of the list.

The senior management of the insurance companies pointed out the most significant sources of risk they are facing and gave a subjective assessment of their importance (where 1 stands for the lowest level, while 5 represents the highest level of significance). According to the results, it can be concluded that most important risks are expenses, liquidity risk and products. Contrary to our expectations, credit risk, capital market risk, currency risk, and the risk associated with changes in the interest rate were at the bottom of the list. The relatively low importance of these risks can only be explained through the rather conservative investment strategy followed by the insurance companies and consequently their portfolio structure.

Namely, the low importance of these sources of risks is directly correlated with the asset classes where the funds are invested in. Those funds consist of the available capital and reserves, both mathematical and technical, and they can be invested in compliance with the Insurance Supervision Law and supporting by-laws. The regulation sets the limits, but the insurance companies invest mostly on the domestic market in bank deposits, government securities, and a very small part in shares of open-ended investment funds and a niche of equities (ISA, 2014).

However, the importance of these risks is expected to increase in the future. It is very likely that the portfolio structure of insurance companies will be rebalanced gradually overtime towards riskier instruments (and possibly including other asset classes) while the deposits and other money market instruments will be reduced.

**Risk governance model.** The role of clear and active risk governance has gained currency in the recent past. Recent corporate governance breaches, fraud and related malfeasance have shone the spotlight on the level and oversight role played by the board. The risk governance model represents a key risk program element that is typically defined in the risk management policy and in ERM framework. The risk governance model should:

- Establish risk governance and oversight;

- Define the institution's risk management roles and responsibilities, including the role of business units;

- Specify the process for on-going monitoring of risk management.

Companies surveyed usually develop governance models under the impetus of the expectations of their regulators or as part of their strategy. However, more than half of the respondents (66.6%) do not have their risk governance models, with 54.3% having it under consideration. The smaller part of the respondents (33.3%) has their risk governance model at various stages of implementation with only 6.7% that have the models already implemented.

Survey findings showed that for more than 60% of the companies, the board of directors receives and reviews regular reports on the risk management program and approves ERM policy and framework. This is in line with the regulatory requirements and good corporate governance expectations. The Insurance Supervision Law and derived by-laws issued by the Insurance Supervision Agency emphasize the need for active board oversight over the risk management process within the organization. 26.7% of the respondents indicated that the board is involved in approving the risk appetite statement. This is in correlation with the fact that 40% of the respondents indicated that they have not yet defined a statement of the company's risk appetite.

With regard to the information reported to the board, majority of the respondents indicated that reporting about new products and business (86.7%) and operational failures (66.7%) were critical reporting items to the board. Risks concentration (53.3%) and utilization vs. limits (40%) were also vital information reported to the board.

On the question who within the company receives risk reporting, the broader category of C-fellows topped the list at 86.7%. Next on list is board of directors (66.7%) indicating visibility of the risk agenda by the board.

Management risk committees, CEO's and CFO's were also recipients of the risk reports. Across the survey sample, it is evident that risk management oversight is most often a board-level responsibility which is considered to be the best practice.

Taking into account that the board of directors receives risk reporting, it is of great importance to understand how risks are communicated from business unit leaders to senior executives. The survey respondents indicate that this mostly occurs at ad hoc discussions at management meetings (73.3%) and then through written reports prepared on certain dynamics (60%). The present practice reveals that it is a rare practice to have a standardized procedure that will set the data that should be exchanged (20%) or even lesser, to form a risk map through creation of a risk management database (13.3%).

**The role of the CRO.** The presence of a CRO who is a member of the senior management team may help risk management efforts and initiatives receive appropriate high-level attention.

With the results from the survey participants it is clearly shown that this is not the case with the Macedonian insurance companies, because only 20% of the companies have this position. In all cases, the CRO comes from the internal position.

Out of those without a specific CRO function, risk management responsibilities are carried out mostly by the CFO, followed by the Head of Internal Audit and Head of Underwriting.

The answers to the question what are the responsibilities of the Chief Risk Officer (CRO) should be interpreted with precaution. That is the case, because due to the very small percentage of the independent CRO these responsibilities when answering the question are connected with the position that is acting CRO. In any case, the top pick duties connected are escalating issues to the CEO or Board of directors (73.3%) and developing and maintaining risk management framework (60%).

Regarding the question to whom the CRO Formally Report the survey respondents answer that the CRO reports to the CEO (55%) and to the Board of directors (45%). Also, in this case, we take the data with the restraint that the answers are connected with the position that is acting CRO.

Unfortunately, the question where survey participants are asked to list the risk management and compliance committees in their company, only 3 respondents (20%) list the risk management committee as the only one committee relevant for the risk managements. This is evidence that the companies fail to take the entity level role in the implementation of ERM.

The benefits of entity level, mainly seen as a the risk committee with the companies, should be responsible for ERM implementation and the board of

directors should participate more strategically – to design and rollout of ERM program, take the lead in cultivating a risk-aware culture, set the company's risk appetite, and align that with the company's risk profile. In the case of the Macedonian insurance companies, the board of directors takes more operational role functioning without risk committee, instead of gaining more strategic role.

Since, Internal Audit is regarded as the third line of defence after management implementation of controls (first line of defence) and risk management program and procedures (second line of defence) we asked the survey participants about the integration of ERM and the internal audit. 33.3% of the respondents indicated that ERM is integrated and linked to the internal audit plan. This means that their internal audit plan is based on prioritized risks identified through an ERM process. A further 60% indicated that this is not formalized as yet. In any case, the internal audit plan includes the financial risk (93.3%) and operational risk (80%).

**The value of ERM.** Although the full value of ERM may not be easily quantified, most respondents felt ERM provided significant value in specific areas-an improved understanding of risk and controls (4.27), enhanced risk culture and a better balance of risk and rewards (3.93), increased ability to escalate critical issues to senior management (3.87) and improved perceptions by the regulators (3.73). The average rating across the 5 value-scores (1 -lowest to 5 - highest) was 3.95 indicating that most believed that ERM provided significant value.

**ERM Implementation challenges.** While the value of ERM has been endorsed, there are challenges of implementing an effective ERM program. The top rated issue are developing, implementing or selecting the right risk technology system(s) with was rated as a significant challenge by 60% of the respondents, and integrating risk data across the organization, which was rated as an extremely or significant challenge by 53.3% of the respondents. Having appropriate risk methodologies and metrics was also a key concern at 46.7%, followed with the appropriate skills at 53.3%. The complaint or excuse on lack of budget and getting support from top management and the board were not rated as key challenges. These were rated at 13% and 20% respectively. This is a very perceptive finding as it indicates that there is active support from the top management and the board to ERM programs.

Solvency II Directive implementation is at the door. Also, the other relevant directives for insurance are not transposed completely into the Macedonian legal system. While at the moment they these are not obligation for the insurance companies in Macedonia, we sought to find out the level of preparedness or adoption state of players in the sector.

60% indicated that they are moderately prepared while 33.3% of the companies are already implementing the standards in phases, while 6.7% are not prepared at all. Those that are implementing the standards are the daughter companies that have mandatory compliance requirements from their parent company jurisdiction. No one from the companies has fully implemented the standards.

The last question in the survey was devoted to the key challenges that the companies face if compliance to the above industry standards were to be made compulsory. 73.3% of the survey participants consider that lack of suitably qualified personnel in the market would hinder their implementation, while 60% identified that lack of affordable technology systems in the market might be an issue. 33.3% of the respondents identified lack of sufficient data to meet the industry standards requirements as the most significant obstacle to their implementation, together with the lack of budget resources.

### **CONCLUDING REMARKS AND RECCOMENDATIONS**

Summarizing the questionnaire we can distinguish that companies are familiar with ERM concept and they consider that ERM contributes in their performance through 3 key segments: improving the capital efficiency, providing support in the strategic decision making process, and increasing the confidence of the shareholders.

Most of the companies have ERM programs in place, either implemented or in some phase of development. Their ERM programs are either developed in compliance with the insurance group they belong to, or they are self-tailored. What is of special interest is that the insurance companies don't apply any of the frameworks, such as COSO and ISO 31000. This should be taken with precaution, because most of the companies develop their ERM programme in compliance with ERM developed within the group. With this practice, they receive the know-how for granted, although ERM in the mother companies might be compliant with some of the frameworks. This connection might open interest for further research.

Among survey respondents, ERM programs almost always covered the major traditional risk categories of underwriting risk and liquidity risk. It is a positive finding that regulatory/ compliance risk and IT risk are covered in more than half of the companies. On the other hand, strategic and reputation risk have not become critical yet.

The companies perceive that the risk volume and complexity of risks increased over the past five years. Regardless of this fact, the companies do not pay enough attention to the risk appetite statement. Most of the

companies have an informally defined risk appetite statement, or they are in the process of seeking approval for their risk appetite statement. That implies that their ERM programmes are made with insufficient quality, because, without the risk appetite statement the insurance companies are neither in a position to determine quantitatively the risk capacity, nor to determine the risk tolerance.

A positive finding is that half of the companies employ risk measures, either numerical or Likert type, and some of them even use both types. On the other hand, just a few of them calculate other the regulatory set risk measures, such as economic capital.

Almost half of the companies carry out stress testing. This number is relatively higher with the life insurance companies, because the long term character of their business makes them more vulnerable to the systemic risk.

Regardless of the way in which the insurance companies are managing their exposure to different types of risk, it appears that there is a consensus among them regarding the importance to integrate risk within their strategic, operational and financial plans. The companies find that most important risks are expenses, liquidity risk and products.

The risk governance model in the companies is underdeveloped. The main finding in this area reveals that the risk management oversight in most of the companies is a board-level responsibility which is considered to be the best practice. On the other hand, it is a rare practice in the companies to have standardized procedure that will set the data that should be exchanged or, even lesser, to form a risk map through creation of risk management database.

The presence of a CRO who is a member of the senior management team may help risk management efforts and initiatives receive appropriate high-level attention. The survey results suggest that this is not the case with the Macedonian insurance companies, because only 20% of the companies have this position. We must take into consideration that some of the companies are really small in terms of business and number of employees. What is more, this is in compliance with the findings in the literature review. That is way, the CRO function cannot be considered as an equivalent for the existence of ERM programme without detailed assessment.

Since the companies are mostly without a specific CRO function, risk management responsibilities are carried out mostly by the CFO, followed by the Head of Internal Audit and Head of Underwriting.

What is of great importance for the further development of ERM in the insurance companies is the fact that most respondents felt ERM provided significant value in specific areas, such as improved understanding of risk and controls, enhanced risk culture and a better balance of risk and rewards,

increased ability to escalate critical issues to senior management and improved perceptions by the regulators.

While the value of ERM has been endorsed, we find that the top challenges of implementing an effective ERM program are selecting the right risk technology system, integrating risk data across the organization, as well as finding the employees with the appropriate skills. The complaint or excuse on lack of budget and getting support from top management and the board were not rated as key challenges. This is a very perceptive finding as it indicates that there is active support from the top management and the board of directors to ERM programs.

Implementation of the Solvency II Directive is going to be transposed into the legislation for the insurance sector in R.Macedonia on mid-term (SEP, 2014). While at the moment, the compliance with the Solvency II Directive is not an obligation for the insurance companies in Macedonia, we sought to find out the level of preparedness by the players in the sector. Regarding the preparation for the Solvency II Directive implementation, companies are moderately prepared, or better said they are aware of the forthcoming changes they should apply. Most of them are the daughter companies of EU headquartered companies that have mandatory compliance requirements from their parent company jurisdiction. The key challenges that insurance companies are faced with, if compliance with the new regulation becomes compulsory, is the lack of suitably qualified personnel in the market and the lack of affordable technology systems.

## **RECOMMENDATIONS AND IMPLICATIONS**

Based on the above conclusions we recommend that insurance companies in the following period keep their focus at developing their ERM programmes. They should take a special care on defining quantitatively the risk appetite as the main component of ERM programme. The companies should implement more quantitative risk measures and see the benefit in conveying stress testing as a regular activity. Also, they should consider implementing CRO function, but not as a necessity for existence of ERM in the company. The board of directors should take an entity level role in the implementation of ERM, usually through a risk committee. This way, the board of directors can participate more strategically, in designing ERM program, and promoting the risk-aware culture.

## **LIMITATIONS OF THE STUDY AND THE NEED FOR FURTHER RESEARCH**

One significant limitation is the geographic focus of the research, because it takes into consideration only the Macedonian insurance companies that operate locally. This implies that it might happen that the results of the study be limited to the local insurance companies. However, given the fact that most of the insurance companies are foreign owned (mostly EU) it is expected that the results of the study will invoke further research on a wider geographical area.

## **REFERENCES**

- AAA (2011) Market Consistent Embedded Values [online]. Available from <http://www.actuary.org/files/MCEV%20Practice%20Note%20Final%20WEB%20031611.4.pdf/MCEV%20Practice%20Note%20Final%20WEB%20031611.4.pdf> [Accessed 26th September 2014]
- Acharyya, M. and Johnson, J. (2006) Investigating the development of enterprise risk management in the insurance industry: an empirical study of four major European insurers. The Geneva Papers on Risk and Insurance, Special Issue July, p.55-80.
- Altuntas, M. at al. (2011) Dynamic determinants of enterprise risk management adoption in the property-liability insurance industry: evidence from Germany. Journal of risk management, 123(17), p.1234-1244.
- AON Benfield (2012) Looking Back to Anticipate Change Moving Forward. Chicago
- Ballou, B. and Heitger, D. L. (2005) A building block approach for implementing COSO's Enterprise Risk Management-Integrated Framework. Management Accounting Quarterly, 6(2), p.1-10.
- Beasley, M. S. at al. (2005) Enterprise risk management: An empirical analysis of factors associated with the extent of implementation. Journal Of Accounting & Public Policy, 24(6), p. 521-531
- Bennet, C. and Cusick, K. (2007) Risk Appetite: Practical Issues for the Global Financial Services Industry. Institute of Actuaries of Australia
- CAS (2003) Overview of enterprise risk management [online]. Available from <http://www.casact.org/research/erm> [Accessed 15th May 2014].
- CFO Forum (2009) Market Consistent Embedded Value – Principles. [online] Available from [http://cfoforum.eu/downloads/MCEV\\_Principles\\_and\\_Guidance\\_October\\_2009.pdf](http://cfoforum.eu/downloads/MCEV_Principles_and_Guidance_October_2009.pdf) [Accessed 26th September 2014].

COSO (2009) Strengthening Enterprise Risk Management for Strategic Advantage [online]. Available from: [http://www.coso.org/documents/COSO\\_09\\_board\\_position\\_final102309PRI-NTandWEBFINAL\\_000.pdf](http://www.coso.org/documents/COSO_09_board_position_final102309PRI-NTandWEBFINAL_000.pdf) [Accessed 15th May 2014].

COSO ERM Guidance (2010) RiskSolutions LLP [online]. Available from <http://risksolutions.com/wp-content/uploads/2010/09/COSO-ERM-Guide2.pdf> [Accessed 15th May 2014].

Cruz, M. (eds) (2009) The Solvency II Handbook: Developing ERM Frameworks in Insurance and Reinsurance Companies. Risk Books. London

D'Arcy, S. P. and Brogan, J. C. (2001) Enterprise risk management. *Journal of Risk Management of Korea*, 12(1), p. 207-228.

Deloitte (2013) Enterprise Risk Management Survey Report 2012: Where do you stand? [online]. Available from <http://www.deloitte.com/assets/Dcom-Kenya/Local%20Assets/Documents/Deloitte%20ERS%20Report%202012.pdf> [Accessed 15th May 2014].

FDIC (2014) Economic Capital and the Assessment of Capital Adequacy [online]. Available at [http://www.fdic.gov/regulations/examinations/supervisory/insights/siwin04/economic\\_capital.html](http://www.fdic.gov/regulations/examinations/supervisory/insights/siwin04/economic_capital.html) [Accessed 15th May 2014].

Frasca, R. and LaSorella, K. (2009) Embedded value: practice and theory. Actuarial Practice Forum. Society of Actuaries.

Gates, S. at al. (2012). Enterprise Risk Management: A Process for Enhanced Management and Improved Performance. *Management Accounting Quarterly* 13(3), p.28-38.

Gjerdrum, D. at al. (2011) The New International Standard on the Practice of Risk Management—A Comparison of ISO 31000: 2009 and the COSO ERM Framework. *Risk management*, 31, p.8-13.

Harner, M. M. (2013) Corporate Culture and ERM. University of Maryland Legal Studies Research Paper No. 2013-34, 5, p.1-11.

Hindle, K. (2004) Choosing qualitative methods for entrepreneurial cognition research: A canonical development approach. *Entrepreneurship Theory and Practice*, 28 (6), p. 575-607.

Hoyt, R. E. and Liebenberg, A. P. (2011) The value of enterprise risk management. *Journal of Risk and Insurance*, 78(4), p.795-822.

IAIS (2011) Insurance Core Principle 16 Enterprise Risk Management [online]. Available from: [http://www.iaisweb.org/\\_temp/ICP\\_16\\_Enterprise\\_Risk\\_Management\\_standards\\_and\\_guidance\\_material.pdf](http://www.iaisweb.org/_temp/ICP_16_Enterprise_Risk_Management_standards_and_guidance_material.pdf) [Accessed 15th May 2014].

IIA (2008) Definition of internal auditing. The Institute of Internal Auditors [online]. Available from: <https://na.theiia.org/standards->

[guidance/Public%20Documents/IPPF\\_Definition.doc](#) [Accessed 20th September 2014]

IIA (2009) Position Statement, The Role of Internal Audit in Enterprise-wide Risk Management. The Institute of Internal Auditors. Available from: <https://na.theiia.org/standards-guidance/Public%20Documents/PP%20The%20Role%20of%20Internal%20Auditing%20in%20Enterprise%20Risk%20Management.pdf> [Accessed 20th September 2014].

ISA (2014) Insurance Market Annual Report 2013 [online]. Available from: [http://www.aso.mk/dokumenti/izvestaj/godisni/Godisen%20izvestaj%20za%20pazarot%20na%20osiguruvanje\\_2013\\_finalen\\_26.06.2014.pdf](http://www.aso.mk/dokumenti/izvestaj/godisni/Godisen%20izvestaj%20za%20pazarot%20na%20osiguruvanje_2013_finalen_26.06.2014.pdf) [Accessed 26th September 2014].

Kasim, M. A. B. and Hanafi, S. R. B. M. (2012). The Enterprise Risk Management (ERM) and role of internal auditors in ERM implementation: A review of related literature on measurement instruments. *African Journal of Business Management*, 6(36), p.9883-9891.

KPMG (2013) Insurance risk and capital transformation [online]. Available from: <https://www.kpmg.com/PE/es/IssuesAndInsights/ArticlesPublications/Documents/Insurance-risk-and-capital-transformation.pdf> [Accessed 15th September 2014].

Liebenberg, A. P. and Hoyt, R. E. (2003) The determinants of enterprise risk management: Evidence from the appointment of chief risk officers. *Risk Management and Insurance Review*, 6(1), p.37-52.

Miccolis J. et al. (2000) Enterprise Risk Management in the Insurance Industry: 2000 Benchmark Survey Report, Tillinghast – Towers Perrin [online]. Available from: <http://www.towersperrin.com/tp/getwebcachedoc?webc=till/usa/2000/200001/2000060107.pdf> [Accessed 15th May 2014].

Purdy, G. (2010). ISO 31000: 2009—setting a new standard for risk management. *Risk Analysis*, 30(6), p.881-886.

RIMS (2014) 2013 Enterprise Risk Management Survey. [online] Available from: <http://www.zurichna.com/internet/zna/sitecollectiondocuments/en/knowledge%20center/security%20and%20privacy/2013-rims-enterprise-risk-management-erm-survey.pdf> [Accessed 26th September 2014].

S&P (2013) Enterprise Risk Management. Available from [www.standardandpoors.com/ratingsdirect](http://www.standardandpoors.com/ratingsdirect) [Accessed 20th September 2014]

Schramm, W. (1993) Notes on Case studies of Instructional Media Projects (working paper), the Academy for Educational Development, Washington, DC.

SEP (2014) National Programme for Adoption of Acquis Communautaire [online]. Available from <http://www.sep.gov.mk/en/content/?id=151#.VFOGLjTF9e8> [Accessed 26th September 2014].

SOA (2010) 2010 Annual Meeting & Exhibit [online]. Available from <https://www.soa.org/Workarea/DownloadAsset.aspx?id=5708>. [Accessed 26th September 2014].

Vedani, J. and Devineau, L. (2013) Solvency assessment within the ORSA framework: issues and quantitative methodologies. Bull. Fr. d'Actuar, 13(25), p.35–71.

Whittingham, P. (2012) Unlocking the mystery of the risk framework around ORSA [online]. Available from: [http://solvency2experts.net/blog/?page\\_id=132](http://solvency2experts.net/blog/?page_id=132) [Accessed 20th September 2014].

Yin, R.K. (1984) Case Study Research – Applied social research methods, 5, SAGE Publications Inc., Newbury Park, London, New Delhi.

Yin, R.K. (1993) Applications of case study research - Applied social research methods, 34, SAGE Publications Inc., Newbury Park, London, New Delhi.

Yin, R.K. (1994) Case Study Research – design and methods. 2nd edition. SAGE Publications Inc., Thousand Oaks.

## **APPENDIX A. QUESTIONNAIRE**

Definition for enterprise risk management (ERM): “Clear approach for identification, prioritization, quantification, reduction and financing all kinds of risks (both operational and financial) which might be seen as a potential obstacle on the way of achieving the strategic and financial goals of the firm.”

In addition, ERM programme identifies those risks that represent corresponding opportunities to exploit for competitive advantage. The objective of ERM is to enhance enterprise value through:

- Improving capital efficiency
- Providing an objective basis for allocating resources
- Reducing expenditures on immaterial risks
- Exploiting natural hedges
- Providing support in the process of strategic decision making

- Uncovering areas of high-potential adverse impact on the drivers of enterprise value
  - Identifying and exploiting areas of risk-based advantage
  - Building confidence of the shareholders
  - Establishing a process to help stabilize results by protecting them from disturbances
  - Properly rewarding owners for risk assumed
- Questions:

ERM

Does the working definition in your company for Enterprise Risk Management (ERM) is substantially different from the one presented above? *(Select one answer).*

- Yes
- No
- No answer

Does your company have an ERM programme or equivalent? *(Select one answer).*

- Yes, program in place
- Yes, currently implementing one
- No, we don't have an enterprise-wide program.
- It focusses on a limited aspect e.g. Operations, IT and Credit Risk.
- No we don't have one/ I don't know

Three objectives are presented in the definition for ERM. Please rate the importance of those objectives regarding your company (scale from 1-lowest to 5-highest).

| Objectives  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Improving capital efficiency                                  |   |   |   |   |   |
| Providing support in the process of strategic decision making |   |   |   |   |   |
| Building confidence of the shareholders                       |   |   |   |   |   |

Does your company's ERM program is developed: *(Select all that apply)*  
 Using some of the existing frameworks (i.e. COSO, ISO 31000 etc.).  
 Please indicate the framework   
 In compliance with the insurance group your company is part of

Self-tailored

What major risk areas in your organization does your ERM program cover? *(Select all that apply)*

- Underwriting risk
- Credit risk
- Market risk
- Liquidity risk
- Operational risk
- Strategic risk
- Regulatory/ Compliance risk
- Legal/Litigation risk
- IT Security risk
- Business Continuity risk
- Hazard or Insurable risks
- Reputation risk

RISK

To what extent has the volume and complexity of risks increased over the past five years? *(Select one answer)*

- Not at all
- Minimally
- Somewhat
- Mostly
- Extensively

Does your organization have an enterprise level statement of Risk Appetite? *(Select one answer)*

- No, we do not have a statement of our firm's risk appetite
- We are currently developing or seeking approval for our risk appetite
- We have an informally defined or not approved statement of risk appetite
- Yes, our risk appetite is qualitative defined and approved
- Yes, our risk appetite is quantitatively defined and approved
- Yes, our risk appetite is quantitatively and qualitatively defined and approved

Do you measure the risk in your company?

- Yes
- No

If the answer is yes, please describe the scale you use for measuring the risk (*Select all that apply*).

Numerical

Likert-type scale (e.g. low, moderate, high)

Other – please describe [REDACTED]

Do you calculate some measure of risk other than the supervisory required

Yes

No

If the answer is yes, please indicate which (*Select all that apply*).

Economic capital

MCEV

Other – please describe [REDACTED]

Does your organization perform stress tests?

Yes

No

Do you integrate risk into your strategic, operational and financial planning?

Yes

No

Do you believe this is important?

Yes

No

From the following potential barriers to integration listed below, please check all that affect your organization (*Select all that apply*).

Expenses

Tools

Process

Technology

Intellectual capital

Skills/talent

Culture

Time

Other

No answer

For each of the following sources of risk, please indicate their importance (column *importance*, scale from 1-lowest to 5-highest).

|                            | <i>Importance</i> |
|----------------------------|-------------------|
| Changes in interest rate   |                   |
| Expenses                   |                   |
| Products                   |                   |
| Reputation                 |                   |
| Human/intellectual capital |                   |
| Technology                 |                   |
| Liquidity                  |                   |
| Credit risk                |                   |
| Reinvestment               |                   |
| Political/Regulatory       |                   |
| Liabilities                |                   |
| Catastrophe                |                   |
| Capital markets            |                   |
| Currency risk              |                   |

#### RISK GOVERNANCE MODEL

Does your company have a defined risk governance model and approach which delineates functional responsibilities of risk management? (*Select one answer*).

- Yes, fully implemented
- Yes, being implemented
- No, but under consideration
- No

Which of the following describe the roles in risk management of the Board of directors in your organization? (*Select all that apply*).

- Receipt and review of regular risk management reports
- Review and approval of overall risk management policy and/or Enterprise Risk Management (ERM) framework
- Approval of the risk appetite statement
- Approval of individual risk management policies, e.g. for market, credit, liquidity, or operational risk
- Approval of risk management framework adopted by management
- Executive sessions with Chief Risk Officer (CRO)
- Approval of the charters of management risk committees
- Review of the compensation plan to consider its impact on risk factors

Which of the following type of risk information does your organization currently report to the Board of directors? (*Select all that apply*)

- Risk concentration
- Operational failures
- Stress testing
- New and emerging risks
- Utilization vs. limits
- New product and business
- Risk exceptions reporting
- Code of the ethics violations
- Systemic risk
- Shareholder/customer complaints
- None

Which of the following individuals or groups receive risk reporting at the enterprise level? (*Select all that apply*)

- Board of directors and/or designated Board Risk Committee
- Management Risk Committee
- CEO and/or CFO and/or CCO and/or CIO (Chief investment Officer) and/or Treasurer
- CRO
- Business Unit Heads (executive level)

How are risks communicated from business unit leaders to senior executives? (*Select one answer*)

- Ad hoc discussions at management meetings
- Scheduled agenda discussion at management meetings
- Written reports prepared either monthly, quarterly, or annually
- Risk data is entered into a risk management database at least quarterly

CRO

Does your organization have a Chief Risk Officer (CRO) or equivalent?

- Yes
- No

If the answer is yes, for how long this position exists in within your company? (*Select one answer*)

- Less than 1 year
- Between 1 and 2 years
- Between 2 and 4 years

More than 5 years

If the answer is yes, did the CRO come from an internal position or an external source?

Internal position

External position

If your organization does not have a Chief Risk Officer (CRO), who manages or is responsible for coordinating Risk Management within the organization? *(Select one answer)*

Head of Internal Audit

Head of Operations

Head of Underwriting

Head of Finance/CFO

IT Manager

Other. Please specify

What are the responsibilities of the Chief Risk Officer (CRO)? *(Select all that apply)*

Developing and maintaining risk management framework

Developing risk reporting mechanisms

Chairing or participating in management risk committees

Escalating issues to the CEO or Board of directors

Developing and documenting the institution's risk appetite statement

Calculating and reporting of economic and regulatory capital

To Whom Does the CRO Formally Report? *(Select one answer)*

Board of Directors or Committee of the Board

Chief Executive Officer or President

Chief Financial Officer

Please list your risk management and compliance committees.

  
  

Is ERM integrated and linked to the Internal Audit Plan i.e. annual internal audit plan is based on prioritized risks identified through an ERM process *(Select one answer)*

Yes

No

Not formalised / Not sure

Is the financial risk included in your internal audit plan? *(Select one answer).*

Yes

No

No answer

Is the operational risk included in your internal audit plan? *(Select one answer).*

Yes

No

No answer

**VALUE OF ERM**

In what areas does ERM provide most significant value (scale from 1-lowest to 5-highest)?

| Improved understanding of risk and controls                        |  |  |  |  |  |
|--|--|--|--|--|--|
| Improved perceptions by the regulators                             |  |  |  |  |  |
| Increased ability to escalate critical issues to senior management |  |  |  |  |  |
| Enhanced risk culture and a better balance of risk and rewards     |  |  |  |  |  |

**ERM IMPLEMENTATION CHALLENGES**

What are the greatest challenges of implementing an effective ERM program in your organization? *(Select all that apply)*

Integrating risk data across the organization

Lack of appropriate data, including data integrity issues

Developing, implementing or selecting the right risk technology system(s)

Having appropriate risk methodologies and metrics

Having the appropriate skills

Getting support from top management and the board

Lack of budget

Lack of a risk culture and awareness within the organization

**IMPLEMENTATION OF INDUSTRY STANDARDS**

In your view, how prepared is your organization to adopt and implement international industry standards such as Solvency II if the regulator were to enforce mandatory compliance? *(Select one answer).*

We are implementing the standards in phases  
Moderate Prepared  
We have fully implemented the standards  
Not prepared

In your view, what are the key challenges that may face your organization or your industry if compliance to the above industry standards were to be made compulsory? (*Select one answer.*)

Lack of suitably qualified, skilled or experienced personnel in the market  
Lack of sufficient data to meet the industry standards requirements  
Lack of affordable technology systems in the market  
Insufficient budget to be able to implement the industry standard