# SOLVENCY II – THE NEW EU SOLVENCY REGIME ON THE INSURANCE MARKET

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***Abstract:*** *The main causes that lead to insurer's solvency issues such as the underwriting, investment or reinsurance deficiencies have remained the same over time. However, their incidence is increasing, as well as their complexity. Solvency II, the latest directive in this field is intended to be the legislative act that will settle the solvency issue on the European insurance market. The Solvency II Directive will lead to a new approach to the supervision process at the common European level, based on economic principles for assessing the assets and liabilities. It will use common principles when taking into account the multitude and variety of risks to which the company is exposed. These will form the basis for establishing the level of the capital and updating the calculation methods for the capital of the insurance companies under unusual circumstances.*
*The article summarizes the Directive and describes some difficulties arising in connection with its rendering and implementation at the Member State level.*

***Keywords:*** *solvency, insurance, insurer's risks*

**JEL Classification Codes: G15, G22**

## 1. INTRODUCTION

The volatility of financial markets and the increasingly dynamic business environment have strongly marked the financial security of the insurance companies and one of the most stringent issues is the insurer's solvency. The main causes of the insurer's solvency issues have not changed over time (for example, deficiencies concerning the underwriting, investment or reinsurance activity), but the probability that they occur with a high frequency and intensity is getting higher. Solvency II, the new directive in this area is intended to be the legislative act that will settle solvency issues on the European insurance market.

On 25 November 2009, according to the Lamfalussy process, the review of the solvency calculation methods and of the risk management standards was completed for the insurance activity within the European Union. The result was the adoption of the directive known as Solvency II, whose exact name is *DIRECTIVE 2009/138/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II),* as amended by the Omnibus II Directive. The legislation replaces 13 existing EU directives in the insurance field (Directives 64/225/EEC, 73/239/EEC, 73/240/EEC, 76/580/EEC, 78/473/EEC, 84/641/EEC, 87/344/EEC, 88/357/EEC, 92/49/EEC, 98/78/EC, 2001/17/EC, 2002/83/EC and 2005/68/EC).

The Omnibus II Directive will set the date when the Solvency II regime enters into force as well as the scope of the technical standards to be drafted by EIOPA. EIOPA strongly supports the entry into force of Solvency II from 1 January 2014 and will make every effort to secure this,

in accordance with the constraints of the final decisions of the Parliament and Council on the timeline and the scope of technical standards.

The directive will apply to all insurance and reinsurance companies with annual premiums of over 5 million euros or technical reserves of over 25 million euros. Although the Solvency II regime was approved in November 2009, this directive will be "transposed" into the national legislation of each member state; the initial implementation schedule was October 2012, but the deadline was extended to all EU countries due to the amendment of the initial directive.

The Solvency II Directive is a solution tailored to market conditions, but also a challenge for the European insurance industry regarding the achievement of a unitary framework for action, based on uniform supervision standards. Many insurers have already started implementing coherent risk management systems developing internal models to determine capital requirements, which provide them with a source of competitive advantage due to the role of pro-active players. Solvency II regulations attach great importance to groups, who have the opportunity to access  efficiency reserves in the use of capital and to develop unitary solvency management platforms, trying to align the supervision system to the realities of the insurance market dominated by global players.


## 2. THE PRESENTATION OF THE SOLVANCY II DIRECTIVE

The Solvency II Directive will lead to a new approach to the monitoring process at common European level based on economic principles for measuring the assets and liabilities. Using common principles, it will take into account the multitude and variety of risks to which the company is exposed. These principles will help establish the level of the capital and update the calculation methods for the capital of the insurance companies under unusual circumstances.

The main objectives of Solvency II are as follows:

a) Protecting consumers by increasing confidence in the products offered by the EU insurance market.

b) Modern Supervision: EU insurers and reinsurers will estimate capital requirements based on the exposure to risks; the solvency requirements of the companies must be supplemented by monitoring governance and organizational structure.

c) Thorough integration of the European insurance market through the harmonization of the monitoring regimes.

d) Increasing the international competitiveness of EU insurers.


The Solvency II project can be regarded both as a vertical representation and as a horizontal one. The vertical representation is given by the very construction of the system, on a three-pillar structure (the central elements of the Solvency II regime, which are quantitative and qualitative elements):

• Pillar 1 (quantitative) - refers to the size of the required capital for an insurance company to deal with the guaranteed obligations in an extreme situation;

• Pillar 2 (qualitative) - includes quality surveillance regulations;

• Pillar 3 (qualitative) - includes obligations concerning transparency, supervisory reporting and public disclosure.

The horizontal representation is the result of adapting the Lamfalussy process to the insurance industry. After adopting this work process, the Solvency II project was to be performed on four horizontal levels[i].

**Table no.1: Pillars of the Solvency II Programme**

| Pillar 1 | Pillar 2 | Pillar 3 |
|---|---|---|
| **Capital Requirements** | **Governance & Supervision** | **Reporting/ Disclosure** |
| • Two thresholds: <br>- Solvency Capital Requirement (SCR) <br>- Minimum Capital Requirement (MCR) <br>• SCR is calculated using either a standard formula or, with regulatory approval, an internal model. <br>• MCR is calculated as a linear function having specified variables: it cannot fall below 25%, or exceed 45% of an insurer's SCR. <br>• There are also harmonised standards for the valuation of assets and liabilities. | • Effective risk management system. <br>• Own Risk & Solvency Assessment (ORSA) <br>• Supervisory review & intervention. | • Insurers required to publish details of the risks they encounter, capital adequacy and risk management. <br>• Transparency and open information are intended to assist market forces in imposing greater discipline on the industry. |

*Source: Lloyds, Solvency II 2012 guidance notes, February 2012, available at http://www.lloyds.com/The-Market/Operating-at-Lloyds/Solvency-II, http://eur-lex.europa.eu/LexUriServ/ LexUriServ.do?uri=OJ:L:2009:335:FULL:EN:PDF*
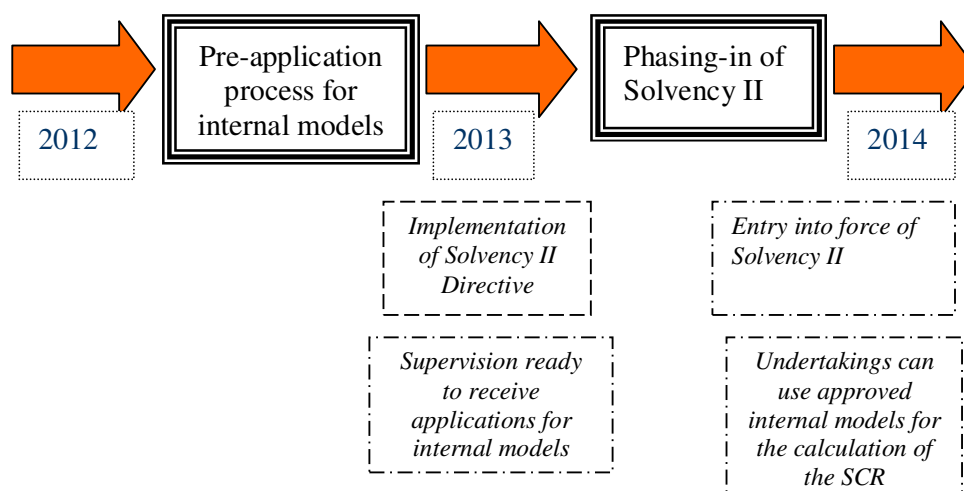
The first level dealt with the preparation of the EU framework directive on the solvency system, the second level is related to the preparation of implementation methodologies, the third level prepares monitoring guidelines, and the last level is designed to assess the compliance and implementation at the level of the European Economic Area.

| *Adoption of Omnibus II Directive by Parliament.* | → | *Commission proposal for Delegated Act.* | → | *EIOPA to launch public consultation on draft proposals for Standards and Guidelines.* | → | *EIOPA submits final proposals for standards to the European Commission and finalises guidelines* |
|---|---|---|---|---|---|---|
| 2012 | | | | Late autumn 2012 | | Spring 2013 |

**Scheme no.1 - Timeline Solvency II – Regulation**

The standards and guidelines are expected to cover the following areas:
• Internal models, Solvency capital requirements, Own funds, Technical provisions, Valuation of assets and liabilities
• Group supervision
• Supervisory transparency and accountability, Reporting and disclosure
• Governance, ORSA

- Supervisory review process, Capital add-ons, Extension of recovery period ("Pillar 2 dampener"), Finite reinsurance, Special purpose vehicles, Repackaged loan investments

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┌─────────┐   ╔═══════════════╗   ┌─────────┐   ╔═══════════════╗   ┌─────────┐
│  2012   │   ║ Pre-application ║  │  2013   │   ║  Phasing-in of ║  │  2014   │
└─────────┘   ║  process for   ║  └─────────┘   ║  Solvency II   ║  └─────────┘
              ║ internal models ║                ╚═══════════════╝
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*Implementation of Solvency II Directive*

*Entry into force of Solvency II*

*Supervision ready to receive applications for internal models*

*Undertakings can use approved internal models for the calculation of the SCR*

**Scheme no.2 - Solvency II Timeline – Supervision**

For the implementation of the Solvency II requirements it is recommended:

1. To designate a team within the company to bear the responsibility of preparing a viable implementation plan of Solvency II, mastering statistical and actuarial techniques. Given the consequences, it is better to obtain the approval of the general meeting of shareholders concerning the appointment of the team.
2. The existence of a risk management system which largely complies with the requirements set forth in Art. 44 of the Solvency II Directive, without being limited to them, the improvement of the risk management system also being "stimulated" by the global financial crisis. In addition, its quality will be studied in detail and it is possible to request justifications for each decision made.
3. Based on the short and medium term strategy, you can start calculating the capital requirements. Its importance is given by the degree to which these can influence the strategy.

a. The calculation of the MCR (Minimum Capital Requirement) is presented in Section 5, Article 128 and 129. MCR must be calculated quarterly. The formula was tested on the occasion of the QIS 5 exercise and did not create problems to insurers. However, the difference lies in creating separate MCR calculation formulas for life and non-life. Moreover, the separation of the calculations continues by highlighting four components of the linear formula, i.e.[1]:

a.1) non-life insurance on non-life technical bases;
a.2) non-life insurance on technical bases similar to life insurance;
a.3) life insurance on a technical life bases;
a.4) life insurance – additional duties charged on non-life technical bases.
Example:
For a.1): $MCRa1 = \Sigma max\ (\alpha j * RTn\ ;\ \beta j * PSn)$, where $RTn$ = net technical reserves for reinsurance without risk margin for each class of insurance (segmented into 15 classes); $PSn$ = premiums for each class in the last 12 months, net of reinsurance. The calibration of factors $\alpha j$ and $\beta j$ is based on the standard deviations of the premium and reserve risks using a lognormal

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[1] The calculation is not applied to composite insurance companies, for which there is another calculation method.

function, determining the statistic estimate VaR for a confidence interval of 85% instead of 99.5% applied to the SCR calculation.

  b. The calculation of the SCR (Solvency Capital Requirement) can be done in two ways: by standard formulas, based on more detailed risk modules in Section 4, Sub-section 2 and Annex IV or based on an internal model. If you choose to create an internal model to determine the SCR (Section 4, Subsection 3), you must explain why the company's risk profile is better described by an internal model, may it be only partial, compared to the standard formula. The company management must prove that they understand the internal model that fits the business model and that this is currently used in the decision making process, approaching sufficient risks to be useful, facilitating the analysis of the decisions and being integrated with the risk management system, which it improves. The SCR calculation using an internal model can be done annually or whenever a significant change in the risk profile, work assumptions or business plan of the insurer occurs.

Furthermore, insurance companies that participated in the quantitative impact study generically called QIS 5 have an additional advantage in understanding the Solvency II approach (at least covering the tables and associated technical specifications - a document containing detailed explanations in its 286 pages).

An insurer must be able to calculate what Solvency II requires as a minimum condition, i.e. the SCR using the standard formula. The Basic Solvency Capital Requirement set forth in Article 104(1) shall be equal to the following:

$$\text{Basic SCR} = \sqrt{\sum_{i,j} \text{Corr}_{i,j} \times \text{SCR}_i \times \text{SCR}_j}$$

, where $SCR_i$ denotes the risk module i and $SCR_j$ denotes the risk module j, and where 'i,j' means that the sum of the different terms should cover all possible combinations of i and j. In the calculation, $SCR_i$ and $SCR_j$ are replaced by the following:

- SCR non-life denotes the non-life underwriting risk module;
- SCR life denotes the life underwriting risk module;
- SCR health denotes the health underwriting risk module;
- SCR market denotes the market risk module;
- SCR default denotes the counterparty default risk module.

  The factor $Corr_{i,j}$ denotes the item set out in row i and in column j of the following correlation matrix:

**Table no.2: Correlation matrix for the Corr$_{ij}$ factor**

| i \ j | Market | Default | Life | Health | Non-life |
|---|---|---|---|---|---|
| Market | 1 | 0,25 | 0,25 | 0,25 | 0,25 |
| Default | 0,25 | 1 | 0,25 | 0,25 | 0,5 |
| Life | 0,25 | 0,25 | 1 | 0,25 | 0 |
| Health | 0,25 | 0,25 | 0,25 | 1 | 0 |
| Non-life | 0,25 | 0,5 | 0 | 0 | 1 |

*Source: DIRECTIVE 2009/138/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II) available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:335:0001:0155:en:PDF*

The calculation method was used for the QIS 4 exercise. It is advisable for those companies that did not take part in QIS 5 to perform the exercise, which can take on average around 3 months.

On the other hand, it will be critical for many insurers to calculate the capital regulation requirements using their business model, and that is because the standard formula is somewhat strict and cannot provide sufficient recognition of certain characteristics of the activity (for example, non-proportional reinsurance), and it is difficult to accept even for niche insurers. In this case, it is preferable to use an internal model that offers the possibility to motivate a capital level they can afford. However, it must be approved by the supervisory authority in order to be used, and the research work must begin now, in order to be able to use the appropriate resources and to be able to apply such a model in 2012.

4. After the calculations of the MCR and SCR, the next step could be to find ways to optimize the calculated values. For example, one of the basic exposures of an insurer results from the underwriting risk. By analysing the profile of the underwritten portfolio, in terms of the balance of the volume of underwritten premiums and of a possible concentration of exposures associated with natural risks (for example), and the level of costs and methods associated with the protection by reinsurance, we can identify the area with the highest exposure for the capital. This results in protection measures (portfolio diversification, geographic, target market etc.) oriented towards those areas and designed to optimize the risks. It has to be established to what extent they lead to the optimization of capital.

All these things can be done as long as:
- policyholders remain the current top priority, as the existence of the company is strictly related to them,
- and the company applies the one-third rule, which proposes to dedicate one third of the approximately 940 days to the implementation of the planning and design of the strategy and the other two thirds of this period to execution.

## 3. THE IMPACT OF THE SOLVENCY II DIRECTIVE ON THE ROMANIAN INSURANCE MARKET

The new European solvency regime, applicable from 1 January 2013, will have little impact on the Romanian insurance market, affecting to some extent the technical reserves, and consequently, the own funds of the company. The Romanian insurance market is mostly composed of general insurances. According to the Solvency II EU Directive implementation timetable, from 2014, following the entry into force of the Directive, insurance companies within the European Union with a gross premium income of more than 5 million euro will be required to establish their capital requirements in accordance with this Directive.

For the assessment of the impact the new solvency regime might have on the European insurance industry, the European Commission requested CEIOPS (now EIOPA) to perform, from 2005, a number of quantitative impact studies, called QIS. In the second half of the last year, the fifth study was performed. This was the second study that included Romania, after QIS 4.

The purpose of the fifth impact study undertaken by EIOPA was to evaluate the practicability, implications and impact of specific approaches on the value of the assets and liabilities as well as the calibration of the capitals of the (re)insurers as required by Solvency II, the new directive that will become effective from January 2013. In general, the quantitative impact study QIS5 showed that the financial position of the European insurance and reinsurance sector, compared to the capital requirements for solvency stipulated in the Solvency II Directive, remained strong.

## 4. CONCLUSIONS

According to the data of the European Insurance and Reinsurance Federation - CEA, from the approximately 5,000 insurance companies in Europe, around 3,600 will fall under the incidence of the Solvency II Directive from 1 January 2013, but only 65% of them took part in the quantitative impact studies QIS5.

Romanian insurers meet the solvency capital requirements under Solvency II. QIS 5 included 18 insurers from Romania, accounting for 93.9% of the gross premiums written for life insurances, or 79.8% of the gross premiums written for general insurances recorded in 2009.

Several parameters were analysed in order to evaluate the results of the QIS5 exercise, among which mention should be made of the impact on the balance sheet, the financial impact generated by the new solvency requirements. The analysis was performed by comparing the results obtained according to the technical specifications of QIS5 with the results obtained according to the actual solvency regime, with the reference date 31 December 2009. Given the representativeness of the companies taken into account and the results of the study, we can conclude that the impact of Solvency II on the assets of most insurance companies in Romania will not be a major one. At the same time a reduction in the value of the technical reserves will be made, especially in the life insurance activity. Consequently, an increase in the own funds will be recorded.

Furthermore, the solvency capital requirements have increased, especially in the general insurance business for which the underwriting risk is predominant.

Another conclusion that can be drawn from the study is that the number of companies which would be forced to adjust their risk profile to comply with the solvency capital requirements is not significant. All the participants meet the minimum capital requirements in accordance with CSA. At the aggregate level, there is a capital surplus of approximately 398 million euros, although it decreased by 17.5% compared to the level determined by the current solvency regime.

The same tendencies can be noticed if we compare QIS4 and QIS 5: reducing reserves, increasing own funds and the increase in the solvency capital requirements. Romania's report for QIS5 was included in the EU Report made by EIOPA and was made public on Monday, 14 March 2011.

Solvency II is not just about capital. It is a comprehensive programme of regulatory requirements for insurers, which covers important aspects such as the authorisation, corporate governance, supervisory reports, public disclosure, risk assessment and management, solvency and reserves. This Directive establishes a new and modern solvency regime for insurers and reinsurers in the European Union. It provides for an economic risk-based approach which provides incentives for insurance and reinsurance undertakings to properly measure and manage their risks.

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($^i$ The objective of the Lamfalussy process is to simplify and accelerate the EU legislative process in the financial service field within a four-level plan.

- Level 1 – Framework principles. Level 1 is represented by the traditional decision-making process at the level of the European Union, for example the adoption of directives or regulations proposed by the European Commission on which the European Parliament and the European Council decide.

- Level 2 – Technical implementation measures. This level refers to the technical implementation measures that support the operational principles of Level 1, also adopted under the EU legislation by expert committees composed of  representatives of national finance ministries, under the aegis of the Commission, and performing a purely advisory function concerning the technical implementing rules – the European Insurance and Occupational Pensions Committee, EIOPC)

- Level 3 – Guidelines and standards. In order to facilitate the consistent implementation and smooth application of the legislation of the European Union by the Member States, the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS) may adopt guidelines and standards on aspects that are not covered by the Community legislation. Such standards must be compatible with the legislation enacted at Level 1 and Level 2.

- Level 4 – Monitoring the degree of implementation of the legislation. This stage refers to monitoring the implementation of the legislation of the European Union into the national legislation by the European Commission, and in case of non-compliance, launching infringement procedures.)