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# **Abstract**

Regulations are critical for a market's smooth operation. These regulations served as a set of guidelines for all business operators, managers, and key stakeholders in a given domain to follow in order for each business to have an equal opportunity to earn money and expand their operations. Since the mid-eighteenth century, several laws have been enacted in Europe to regulate the market in order to protect investors', businesses', and stakeholders' rights, as well as to create a free and fair market for all. Insurance companies and their executives faced a problem with information asymmetry, which means they either don't share important information with one another or access to information is prohibitively expensive. It was necessary to keep track of economic activity and establish certain licencing requirements. Since the 1800s, a series of regulations have been introduced to regulate the insurance market in Europe according to a single market policy, the most recent of which are known as the Solvency II regulations. New risk-based economic capital requirements introduced by Solvency II regulations may have an impact on corporate financing and capital markets throughout Europe. Solvency II, on the other hand, imposes no restrictions on market risk, so it's safe to assume it won't affect insurers' strategies. The impact of the Solvency II regulations on insurance companies and their operations will be examined in this paper.

# **Introduction**

The primary goal of regulation is to eliminate flaws, reduce or eliminate costs, resolve information issues, and resolve agency issues such as differences between management and policymakers, which arise from a lack of information alignment. Obtaining such information comes at a price. To address these concerns, a series of regulations covering information disclosure and sharing, capital requirements supervision and monitoring, and the licencing process were enacted for a period of 200 years.

Some rules were introduced by European Union member countries in the 1970s to regulate insurance companies, and new regulations were proposed in 2004 to meet the needs of a new single European market, with the current Solvency II regulations formally incorporated in European countries in 2016.

The European Union's primary goal is to create a common single market for its member countries, and the Solvency II regulations were proposed to improve the region's regulatory oversight process. When the 1970s insurance directives were first introduced, they primarily focused on coverage, licencing, and the relationship between regulators and supervisors while offering the product to the entire European Union.

In the 1990s, it was felt that the framework was outdated, and while Basel II regulations were being implemented in banking, the union took steps to improve insurance regulation. Solvency I regulations were proposed and implemented in 2004 to replace the old 1970s insurance directives, but the original structure remained the same, whereas Solvency II changed the structure and supervision process of the regulation in the Union.

Several other regulatory rules aligned with Solvency II were also implemented to improve the situation. Internal Capital Assessment Standards (ICAS) in the United Kingdom, Solvency Test in Switzerland (SST) in Switzerland, and Financial Assessment Framework (FTK) in the Netherlands. Eling and colleagues looked at a variety of solvency systems (Eling et al. 2007). The International Association of Insurance Supervisors (IAIS) has also launched a number of initiatives aimed at improving solvency frameworks. Solvency II stands out from the rest for two reasons. First, because it is a proper legal set of regulations rather than principles, and second, because of the implications when applied to a larger market. This regulatory framework is built on three pillars: first, financial requirements, insurance liabilities and assets, second, supervision, and third, market discipline. The balance sheet valuation, market consistency, and assets and liabilities are the first pillar capital requirements. There are two additional requirements: Solvency Capital Requirement (SCR) and Minimum Capital Requirement (MCR), the latter being the upper value of solvency. When the lower value of the minimum capital requirement is violated, the supervisory came into action according to Solvency II article 136. Solvency II regulations protect policyholders' interests in this way.

According to the International Association of Actuaries, the standard internal model has four major risk classifications, namely SCR first underwriting risks, SCR second credit risk, SCR third operational risk, and SCR fourth market risk, all of which are further subcategorized into different classifications, as well as twenty formulae in total.

# **Solvency II regulations, Critical analysis**

The implementation of capital risk-based Solvency II regulations, which require asset allocation for market risks, is the most significant regulatory reform in Europe for insurance companies. This can impact insurance companies in a variety of ways, particularly their investment strategies. In a letter to the insurance industry, Michel Barnier, European Commissioner for Internal Market and Services, stated that there has been widespread criticism of these regulations, but that this is not the case. Similar questions were raised when similar risk-based capital standards were introduced in the United States in 1994, when Petroni and Shackelford pointed out that there is no response to the asset risk component of risk-based capital while examining extensive data from life insurance companies in the United States. The committee on the Global Financial System (CGFS) stated that the new risk charges may require insurance companies to rebalance their asset sets, which raised both hopes and fears among market participants.

# **Commins Criteria**

Commins et al. (1994) developed a formula based on seven points, and the following is a critical analysis of the Solvency II regulations based on those seven points, all of which revolve around the core idea of a competitive market where relevant information is accessible to all stakeholders. Doff (2008) analysed data from around 300 insurance guarantee fund assessments from 1969 to 1990, finding that about 80% of the total were caused by the top 25 failures. This indicates that larger companies have a higher risk of bankruptcy than smaller companies.

# **Increments for small companies**

There were no incentives discussed in Solvency I, so significant risks were overlooked, disrupting good risk management. However, under Solvency II regulations, an SCR system was implemented, with higher SCR values for companies with higher risk profiles. There are no additional incentives for financially weak companies under Solvency II, but every company is encouraged to take steps to eliminate risks and value liabilities using economic rules. Finally, it appears in Solvency II regulations that different companies face different risks depending on their exposure size, scenario, and other factors, so it is risk specific and risk sensitive. These scenario-based components provide the right incentives for the weaker companies by lowering their risk exposure and improving their position.

# Companies that use internal models typically assume risks correctly because these models are aligned with management and company policy and process, which reduces company problems. According to Sijben, the standard approach does not provide adequate incentives for financially weak health and non-life companies (2002). Many stakeholders debate the role of supervisors in determining the hard limit value if a company breaches the SCR. They also debate whether this breach must always be public or whether a temporary breach can be kept private between the supervisor and the company. Capital is assumed to work as a buffer in the Solvency II regulations to absorb any uncertainty or capital risks, and too strict supervisory actions taken in the event of a breach in SCR can result in unfair incentives, which is why SCR is used as a target value and has support from Pillar II. In a nutshell, these regulations provide equal incentives for weak and strong companies, but their capital reaches SCR at different rates, resulting in different behaviour for weak companies, which is why we can say that these regulations meet the first point.

# **Reflection of major types of risk**

Because supervisors cannot distinguish between financially weak and stronger companies if financial requirements are not risk sensitive, it is critical to cover all types of possible risk factors in the risk-based capital framework. This is also indicated in the Sharma Report (2003), which critically examined several insurance failure cases and concluded that financial problems are not caused by a single problem, but rather by a series of interconnected issues, and that capital requirements are less important than internal controls and corporate governance in determining a company's success or failure. Financial requirements for market, underwriting, credit, and risks are included in the Solvency II regulations. In Pillar I of these regulations, all of these risks are thoroughly discussed. Liquidity risks are not discussed in Pillar I because there is no proper method to measure this risk and, second, these regulations focus on solvency rather than liquidity, but this risk is addressed in Pillar II. The next type of risk is operational risk, which is also debatable because there are differing perspectives on how to measure it. These regulations use a relatively simple method of calculating operational risk based on premiums and technical provisions. Complex calculations are not useful in predicting operational losses, according to Ven den Tillaart (2003), and all three Pillars of Solvency II are addressed using a simple formula.

The strategic risk, according to Kuritzkes and Scheuermann (2006), is not a direct concern for the supervisor; rather, it is the other stakeholders, such as shareholders, who are directly concerned by this type of risk. However, the Sharma report (2003) suggests that business risk is a concern for the supervisors because bad decisions usually lead to a company's failure. Doff (2006) stated that other methods and tools, rather than financial requirements, will be more useful in addressing business risk. Overall, we can say that these regulations address major risks by addressing capital requirements extensively, and thus the Solvency II framework has proven to be the most logical and comprehensive method of addressing risks.

# **Impact on overall risk of insolvency**

# The third criterion suggests that risk capital weighting should be proportional to their overall impact. Internal model and standard approaches for SCR in Solvency II both require insurers to keep their gross capital value at risk at 99.5 percent, so we can say that this covers the third criteria to keep insolvency risk to a minimum. Furthermore, the parameters must be carefully set because too high standards require more capital.

# **Impact on overall risk of insolvency**

# According to Commins et al. (1994), a good capital-based system should be able to identify companies for whom higher insolvency costs should be imposed. This is because the failure of larger companies has a greater impact on the economy, and regulators' objectives are limited to reducing failure costs rather than overall risk. The size factor in the solvency II regulations, QIS2 for standard approach, reveals that there is a lower capital requirement for larger companies, clearly indicating that these regulations do not meet this criterion.

# **Reflection the economic value of assets and liabilities**

# The Solvency II regulations focus on market consistent asset and practical supply estimation. The insurance industry supports risk-sensitive financial requirements and market-consistent systems, according to the Sharma Report (2003). If market consistent techniques for insurance liabilities do not meet the measurement of balance sheet for IFRS, this criterion will not be met, and Solvency II will be forced to use IFRS as a valuation method. **Discouraging the underreporting of loss of reserves**

Underreporting, loss of reserves, and several other ways in which companies manipulate the market and their stakeholders are briefly discussed in Solvency II. In this era of corporate fraud, companies should be penalised as little as possible for underreporting. This topic is related to Pillar II's corporate governance on site monitoring.

# **Avoid complexity to increase accuracy in risk measurement**

Any economic or accounting system's complexity can increase the chances of failure. It's also worth noting that a complex system is rarely accepted by stakeholders and users. For regulators and supervisors, the Solvency II regulations are widely accepted and even desirable. A well-liked framework includes capital requirements, market supervision and discipline, and the option of using an internal model. Insurance companies will have to meet certain requirements in order to comply with these regulations.

# **Impacts of Solvency II regulations on European Insurance Companies**

Various studies on the impact of risk-based capital requirement regulations on insurance companies have concluded that no restructuring is required for insurance companies to comply with risk-based capital requirement regulations' rules and regulations (Petroni and Shakelford, 1996). In contrast, Cheng and Weisss (2011) discovered in their study that financially weak property and casualty companies tend to adapt to the new regulations.

Several studies have been conducted to determine the impact of Solvency II regulations on European companies' investment strategies and policies. These new risk-based capital requirements, according to Rudschuk et al (2010), will force companies to reduce their equity exposures. According to Van Bragt et al. (2010), the duration and asset allocation have a significant impact on regulatory capital requirements. According to Jaffee and Walden (2010), these new regulations have a marginal long-term effect on cost and availability of capital, but they may impose a significant cost burden on insurance companies, reducing demand for policies as a result of higher premiums.

According to Kaserer (2011), European insurance companies will reduce their long-term corporate bonds of lower credit quality. He claims that restructuring insurers' portfolios has a large level impact. This could raise financing costs, causing the economy to slow. He backed up his claims with evidence that, following reports of the implementation of Solvency II regulations, insurance company stock prices fell by 15% overall. According to Al-Darwish (2011), there could be an increase in investments in EEA sovereign debt and short-term maturities, which could reduce bank issuance of long-term unsecured debt.

# Morgan Stanly and Oliver Wyman (2010) discovered a shift from equities and illiquid assets to short-term corporate bonds, as well as the fact that rating capital is still important for non-life insurers. Fitch (2011) found that short-term corporate bonds have a strong appeal and that capital requirements have a significant impact on investment strategies.

# **Conclusion**

According to recent studies, increased market pressure may cause insurance companies to hold excessive capital, causing the SCR to increase to 50% due to Solvency II SCR requirements. The real financial risk is not reflected in the zero credit spread risk capital charge for European sovereign debt, and because the Solvency II regulation requires the recognition of credit spread risk, there is also a gap between Pillar I and Pillar II. Debt crises have an unmasked impact on Europe's insurance industry. Banking debt, worsening macroeconomic conditions, falling equity prices, and falling interest rates are just a few of the serious threats that insurance companies in Europe face. However, Solvency II has had no significant impact on capital investment policies. However, as a result of the severe debt crises, some European insurance companies may alter their underwriting and investment strategies in order to maintain their ratings and regulatory solvency.

# **References**

Al-Darwish, Impavido, G., A.I., Hafeman, M., Kemp, M. and O'Malley, P., 2011. Possible unintended consequences of Basel III and Solvency II.

Artzner, P., Delbaen, F., Eber, J.M. and Heath, D., 1999. Coherent measures of risk. *Mathematical finance*, *9*(3), pp.203-228.

Ashby, S., Sharma, P. and McDonnell, W., 2003. Lessons about risk: Analysing the causal chain of insurance company failure. *Insurance Research and Practice*, *18*(2), pp.4-15.

BAFIN, P.V., 2011. 26.01. 2011, abrufbar unter http://www. bafin. de/cln\_152/nn\_722802/SharedDocs/Mitteilungen/DE/Service/PM\_2011/pm\_ \_110126\_uebernahmeangebot acs\_hochtief\_southeastern angebot s\_C3 A4nderung. html, zuletzt abgerufen am 02.06. 2011; zitiert: BaFin. *Pressemitteilung vom*, *26*.

Barnier, M., 2010. Building a new financial framework together. *Speech, European Institute, Washington, May 11th*.

Barth, M.M., 2000. A comparison of risk-based capital standards under the expected policyholder deficit and the probability of ruin approaches. *Journal of Risk and Insurance*, pp.397-413.

Basel, I.I., 2004. International convergence of capital measurement and capital standards: a revised framework basle committee on banking supervision. *URL: http://www. bis. org/publ/bcbs*, *107*.

Cummins, J.D., 2000. Allocation of capital in the insurance industry. *Risk Management and Insurance Review*, *3*(1), pp.7-27.

Cummins, J.D., Harrington, S. and Niehaus, G., 1993. An Economic Overview of Risk-Based Capital Requirements for the Property-Liability Insurance Industry. *Journal of Insurance Regulation*, *11*(4).

Doff, R., 2008. A critical analysis of the Solvency II proposals. *The Geneva Papers on Risk and Insurance-Issues and Practice*, *33*(2), pp.193-206.

Doff, R., 2008. A critical analysis of the Solvency II proposals. *The Geneva Papers on Risk and Insurance-Issues and Practice*, *33*(2), pp.193-206.

Doff, R., 2015. *Risk management for insurers: risk control, economic capital and Solvency II (3rd edn)*. LondonRisk Books.

Doff, R.R., 2006. *Risk management for insurance firms: A framework for fair value and economic capital*.

Eling, M. and Holzmüller, I., 2008. An overview and comparison of risk-based capital standards. *Journal of Insurance Regulation*, *26*(4), pp.31-60.

Eling, M., Gatzert, N. and Schmeiser, H., 2008. The Swiss Solvency Test and its market implications. *The Geneva Papers on Risk and Insurance-Issues and Practice*, *33*(3), pp.418-439.

Eling, M., Schmeiser, H. and Schmit, J.T., 2007. The Solvency II process: Overview and critical analysis. *Risk management and insurance review*, *10*(1), pp.69-85.

Gatzert, N. and Wesker, H., 2012. A comparative assessment of Basel II/III and Solvency II. *The Geneva Papers on Risk and Insurance-Issues and Practice*, *37*(3), pp.539-570.

Hanewald, K., Post, T. and Gründl, H., 2011. Stochastic mortality, macroeconomic risks and life insurer solvency. *The Geneva Papers on Risk and Insurance-Issues and Practice*, *36*(3), pp.458-475.

Hirschmann, S. ed., 2004. *Rating von Versicherungsunternehmen*. Bank-Verlag.

Holzmüller, I., 2009. The United States RBC standards, Solvency II and the Swiss solvency test: a comparative assessment. *The Geneva Papers on Risk and Insurance-Issues and Practice*, *34*(1), pp.56-77.

Höring, D., 2013. Will Solvency II market risk requirements bite? The impact of Solvency II on insurers’ asset allocation. *The Geneva Papers on Risk and Insurance-Issues and Practice*, *38*(2), pp.250-273.

Höring, D., 2013. Will Solvency II market risk requirements bite? The impact of Solvency II on insurers’ asset allocation. *The Geneva Papers on Risk and Insurance-Issues and Practice*, *38*(2), pp.250-273.

International Accounting Standards Board, 2007. *Preliminary Views on Insurance Contracts: Invitation to comment and main text*. International Accounting Standards Board.

Jaffee, D. and Walden, J., 2010. The Impact of Basel III and Solvency II on Swedish Banks and Insurers—An Equilibrium Analysis. *Financial Market Committee Report*, (3).

Kaserer, C., 2011. Solvency II und Basel III–Die Reform der europäischen Versicherungs-und Bankenregulierung und deren Auswirkungen auf die Unternehmensfinanzierung. *Gutachten im Auftrag der Finanzplatz München Initiative*.

Kuritzkes, A., 2010. 6. What We Know, Don’t Know, and Can’t Know about Bank Risk: A View from the Trenches. In *The Known, the Unknown, and the Unknowable in Financial Risk Management* (pp. 103-144). Princeton University Press.

Mittnik, S., 2011. Solvency II calibrations: Where curiosity meets spuriosity. *Munich: Center for Quantitative Risk Analysis (CEQURA), Department of Statistics, University of Munich*.

Neville, L., 2011. Solvency II Drives Changing Appetite for Fixed Income. *Life & Pension Risk (3 May 2011)*.

Petroni, K.R. and Shackelford, D.A., 1996. The effect of risk-based capital on life insurers' investment portfolios.

Ratings, F., 2011. Solvency II set to reshape asset allocation and capital markets. *Insurance Rating Group Special Report*.

Rudschuck, N., Basse, T., Kapeller, A. and Windels, T., 2010. Solvency II and the investment policy of life insures: Some homework to do for the sales and marketing departments. *Interdisciplinary Studies Journal*, *1*(1), p.57.

Schmeiser, H., Eling, M., Gatzert, N., Schuckmann, S. and Toplek, D., 2006. Volkswirtschaftliche Implikationen aus dem Swiss Solvency Test.

Sijben, J.J., 2002. Regulation versus market discipline in banking supervision: An overview—Part 2. *Journal of International Banking Regulations*, *4*(1), pp.55-71.

Stanley, M. and Wyman, O., 2010. Solvency II: Quantitative & strategic impact. The tide is going out.

Van Bragt, D., Steehouwer, H., Walwijk, B., Possen, T., Eckhardt, A. and Hooghwerff, S., 2010. Impact of the Solvency II Guidelines on ALM for Life Insurers. *Rotterdam, the Netherlands: Ortec Finance Research Center*.

van den Tillaart, A.H.A.J., 2003. Controlling operational risk: Concepts and practices.

Vávrová, E., 2013, June. Assessing the progress of the implementation of the Solvency II regulation. In *European Financial Systems 2013: Proceedings of the 10th International Scientific Conference. 10-11 June 2013, Telč, Czech Republic* (pp. 343-348). Masarykova univerzita.