



## **Solvency II: An introduction**

*by Leslie Marlo, FCAS, MAAA and Ash Ruparelia*

On April 22, 2009, the European Parliament approved the Solvency II framework directive, due to come into force January 1, 2013. It offers European insurers an opportunity to improve their risk-adjusted performance and operational efficiency, which is likely to be beneficial for policyholders, for the insurance industry, and the European Union (EU) economy as a whole. As the implementation date draws closer in the EU, Solvency II is not only on the radar of insurance companies in the EU but also on those across the globe. The world is watching to see how the EU transforms its insurance industry and implements risk-based improvements. And while it may seem far enough away, much still needs to be accomplished to accommodate the vast changes and potential impact to insurance companies, governments, and rating agencies within the EU and beyond.<sup>1</sup>

What type of rippling effect will this have for the United States and other countries outside the EU? Will Solvency II provide European insurers with a competitive

advantage in the global marketplace as a result of increased transparency and an integrated view of risk-based capital and performance? Or will the increased solvency capital requirements (as opposed to internal economic capital requirements) prove to be a disadvantage by eroding profits and raising consumer costs?

### **What is Solvency II?**

The Solvency II Directive is a new regulatory framework for the European insurance industry that adopts a more dynamic risk-based approach and implements a nonzero failure regime. The Directive fundamentally alters the way European insurers measure risk and deploy risk management practices. It emphasizes new capital adequacy requirements, risk management practices, increased transparency, and enhanced supervision. Moreover, it encourages insurance companies to put in place a system of governance and control that demonstrates capital adequacy and tests the validity of risk-based decisions.

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<sup>1</sup> On June 21, 2011, the European Council issued a revised version of Omnibus II, which contains an anticipated delay to implementation reporting to the regulator prior to that date. To learn more, visit: [http://ec.europa.eu/internal\\_market/insurance/solvency/index\\_en.htm](http://ec.europa.eu/internal_market/insurance/solvency/index_en.htm)

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Similar to the reasoning behind Basel II for the banking industry, the new framework is being implemented, in part, as a result of the previous market turmoil, which highlighted system weaknesses and renewed awareness over the need to modernize industry standards and improve risk management techniques. As a result, Solvency II sets out to establish its new set of capital requirements, valuation techniques, and governance and reporting standards to replace the existing and outdated Solvency I requirements. In particular, the new regime is intended to harmonize the regulations across the EU, replacing the piecemeal system under which different countries have implemented the Solvency I rules in different ways, particularly for group supervision, to a single unified regime.

### Exploring the three pillars

The European Insurance and Occupational Pensions Authority (EIOPA) defines three pillars as a way of grouping Solvency II requirements, which aim to promote capital adequacy, provide greater transparency in the decision-making process, and enhance the supervisory review process. This is to be achieved through the implementation of a holistic

approach that addresses better risk measurement and management, improves processes and controls, and institutes an enterprise-wide governance and control structure.

As widely noted, Solvency II is similar in structure to the Basel II regulation for the banking industry. Both are based on three pillars that include quantitative and qualitative requirements and market discipline, and include specific components that focus on capital, risk, supervision, and disclosure. However, it is important to acknowledge that banking and insurance are distinctly different industries. Therefore, the implementation process for Solvency II cannot just mirror that of Basel II. Each represents a unique process unto itself as they deal with very different business models and different types of risk. While similarities surely exist, there are considerable differences in the requirements, application, and impact of each pillar.

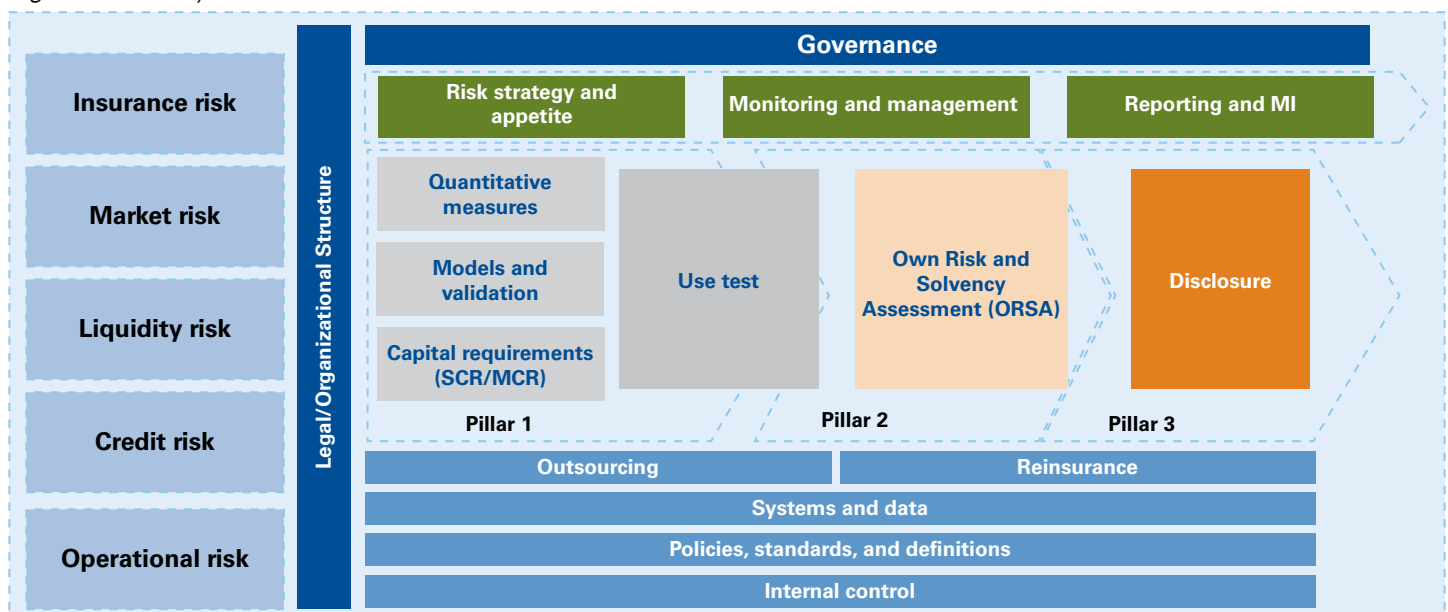
This is particularly true in Pillar I, with Basel II applying separate models for investment, credit, and operational risks while Solvency II focuses on a risk-based portfolio analysis by applying an integrated approach, taking into account

dependencies between risk categories. Furthermore, Basel II concentrates on the asset side, while Solvency II's assessment of capital adequacy applies economic principles on the total balance sheet, i.e., both the assets and liabilities.

**Pillar 1** – addresses the quantitative requirements. This pillar aims to confirm firms are adequately capitalized with risk-based capital. All valuations in this pillar are to be done in a prudent and market-consistent manner. Companies may use either the standard formula approach or an internal model approach. The use of internal models will be subject to stringent standards and prior supervisory approval and enable a firm to calculate its regulatory capital requirements using its own internal model.

**Pillar 2** – imposes higher standards of risk management and governance within a firm's organization. This pillar also gives supervisors greater powers to challenge companies on risk management issues. It includes the Own Risk and Solvency Assessment (ORSA), which requires a company to undertake its own forward-looking self-assessment of its risks, corresponding capital requirements, and adequacy of capital resources.

Figure 1: Solvency II Framework



**A breakdown of the Solvency II Three Pillars framework into its constituent components; so as to identify Solvency II Target Operating Model. Each aspect of the Solvency II frame work interacts and links to other areas. No components should be looked at in isolation.**

**Pillar 3** – aims for greater levels of transparency for supervisors and the public. There is a private annual report to supervisors, and a public solvency and financial condition report that increases the level of disclosure required by firms. Reports containing core information will have to be provided to the regulator on a quarterly and annual basis. This allows a firm’s overall financial position to be better represented and to include more up-to-date information.

It’s important to point out that there’s a lot of blending between the Solvency II pillars, creating a holistic approach. The Directive’s pillars are constructed to have a direct linkage to proper oversight and governance of capital and risk and performance management—an appropriate linkage that is embedded throughout the business. Without that, those pillars are irrelevant. Without suitable integration of risk and capital management with a governance structure above it, the sophisticated modeling or risk management processes become just exercises that are essentially meaningless to the business.

#### **Achieving equivalence**

While Solvency II will cause a transformational shift in the way the insurance industry operates in Europe, it will also have wide-ranging implications on a global scale. A trend of regulatory harmonization is already emerging, with other countries seeking to achieve equivalence to Solvency II through the adoption of risk-based regulatory frameworks. The three equivalence levels include group supervision, related third-country undertakings, and reinsurance.

It is not anticipated that the United States will achieve equivalence in the first wave of assessments due to its state-specific structure and lack of a central supervisory regulatory authority. Nevertheless, there appears to be political will to find an appropriate solution to enable the United States to be treated as equivalent for the purposes of Solvency II. It has been suggested that the freedom for local regulators to carry out their own assessments in the absence of an EIOPA assessment will mean a number of individual jurisdictions will recognize the United States as equivalent, thus giving it de facto equivalence status.

In practice, the importance of the U.S. market may lead to a customized approach being adopted.

#### **Realizing the impact on the United States**

In the absence of an equivalent regime, for the United States, group supervision and related third-country undertakings hold the greatest impact. Under Solvency II, group supervision is triggered by the existence of an EU insurance company being owned by a foreign parent company or group of companies. The intent of Solvency II’s group supervision requirements is to protect the policyholders of European insurers from the risks associated with the wider group of which they are part, either due to the level of group connectivity or due to insufficient coverage of the group’s insurance risks with readily transferable capital.

Conversely, U.S. companies that are subsidiaries of a European parent will need to be consolidated with their European counterparts and the Solvency II groups

requirements applied to the consolidated position of the overall European parent. For “major” (i.e., significant to the group) non-European subsidiaries, this is likely to have significant risk management, data, and system implications.

This raises that obvious question of “What type of rippling effect will this have for the domestic U.S. insurers playing either in the local or global markets?” given that a number of U.S. subsidiaries of EU parents are likely to be required to implement Solvency II. A by-product of Solvency II implementation may be that it provides subsidiaries of European insurers with a competitive advantage in the domestic marketplace as a result of increased transparency and an integrated view of risk, capital, and performance. On the other hand, will the potential increased regulatory capital requirements (c.f. economic capital) prove to be a disadvantage by eroding profits? It is still too early to tell what the true impact of Solvency II will be on the international insurance market; however, a number of forward-looking international insurers have already started developing some of the functionality inherent within Solvency II to gain a competitive advantage over their rivals.

## Comparing U.S. and EU systems

While both Solvency II and the Risk-Based Capital (RBC) standards in the United States share the common goals of protecting policyholders and strengthening insurers through sound regulation, they are very different. Like Solvency II, the National Association of Insurance Commissioners (NAIC) Solvency Modernization Initiative (SMI) program is seeking to make enhancements to the current RBC regime. Some key differences include:

	RBC model	Solvency II internal model
<b>Methodology</b>	Static factor model	Dynamic cash-flow model
<b>Rule vs. principle based</b>	Rules-based	Principles-based
<b>Total balance sheet approach</b>	No	Yes
<b>Definition based on market or book values</b>	Book value	Market value, i.e., economic balance sheet created
<b>Classification of available capital</b>	No	Yes, economic value of assets and liabilities
<b>Consideration of off-balance-sheet items</b>	No	Yes
<b>Time horizon</b>	1 year	1 year, with planning cycle for ORSA
<b>Risk measure</b>	No risk measure	Value at risk/99.5 percent confidence level
<b>Operational risk</b>	Not explicitly (implicit via business risk)	Explicitly modeled
<b>Catastrophe risk</b>	Not specifically identified and considered in NAIC formula	An important shock component of the insurance risk component
<b>Correlation among risk categories</b>	Only considered correlation for credit risk and reserve risk; square root formula assumes other risk components are independent	Consider correlation within and across risk categories
<b>Consideration of management risk</b>	No, but future linkages between risk assessment and capital impact are being considered under the SMI program	Yes
<b>Use in business decisions</b>	Partial	Fully integrated

## Summary

Solvency II will foster a holistic and forward-looking appreciation of risk within the European insurance industry. It is intended to assist in the enhancement of the functioning of the insurance market discipline by increasing transparency and disclosure. Overall, it should improve the international competitiveness of European insurers and increase their operational efficiency by setting a world-leading standard that requires insurers to focus on managing all of the risks facing their organization.

Even though Solvency II is a regulatory change within the EU, it is likely to have an impact globally, not least for non-EU parents of EU subsidiaries and non-EU subsidiaries of EU parents, by potentially also driving increased operational efficiency in the domestic insurance market.

# European Insurance and Occupational Pensions Authority (EIOPA) Quantitative Impact Study 5 (QIS5)

Patricio Henriquez, FSA, MAAA

In advance of the pending Solvency II implementation, the European Insurance and Occupational Pensions Authority (EIOPA) has been conducting a series of quantitative impact studies (QIS). QIS5 is the fifth and most likely the last of these exercises. The study's objectives are:

- To identify areas of the directive where further improvements are necessary.
- To encourage insurance companies and regulatory authorities to prepare for Solvency II in advance of the implementation deadline.

A total of 68 percent of insurance companies that will be directly affected by Solvency II participated in QIS5. In total, 2,520 insurance companies and 167 groups participated. This corresponds to 95 percent of reserves and 85 percent of premium anticipated to be subject to Solvency II.<sup>1</sup>

## Results

The financial position for the industry when assessed against the QIS5 solvency capital requirements calculated in accordance with the standard formula approach reflects a comfortable margin with eligible own funds for the European insurance industry as a whole in excess of the solvency capital requirement (SCR) by €395 billion. However, there remains considerable variation in the impact on individual firms across Europe. A total of 15 percent of firms were unable to meet their SCR under the QIS5 calibration. The accompanying chart illustrates the distribution of SCR and MCR results.

## Internal model

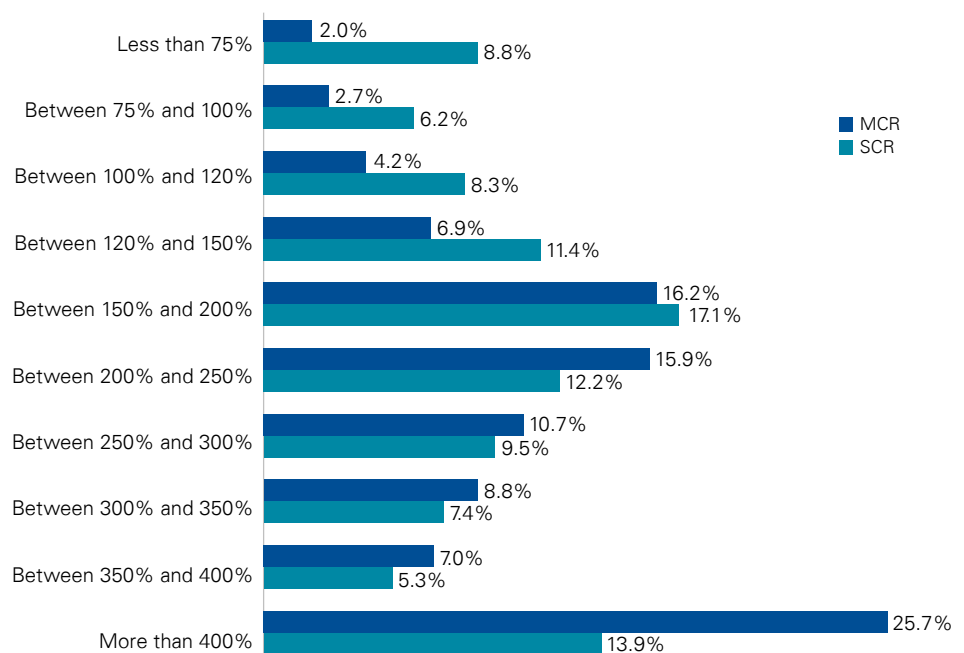
The benefits of gaining internal model approval were demonstrated at a group level, although there has been no significant overall capital benefit observed at an individual company level. For groups,<sup>2</sup> use of an internal model calculation yielded a capital requirement 20 percent lower than the capital requirement from the standard formula.

<sup>1</sup> EIOPA Report on the fifth Quantitative Impact Study (QIS5) for Solvency II.

<sup>2</sup> This group information is based on a worldwide basis, including out-of-EEA business or non-insurance business. Because some group information overlaps with solo, group and solo results are reported separately.



Distribution of SCR and MCR Coverage



Source: EIOPA Report on the fifth Quantitative Impact Study (QIS5) for Solvency II

Although QIS5 results indicate that 96 percent of the group participants have plans to use internal models, the EIOPA does not believe that all participants' internal models fully comply with the internal model guidelines. When a company declares a full internal model, they must be certain that all risks are considered. For example, in some cases, participants presented their model as a full internal model even though operational risk was not included. In some other cases, the use of the standard formula with some adjusted parameters was incorrectly presented as an internal model.

Many participants used external models for natural catastrophe modeling, economic capital scenario generators, or tools for the calculation of best estimates. This was noted as a concern in the study because these tools are potentially black boxes, lacking necessary transparency, and as such do not comply with the directive.

### Calculation issues

Some areas of the directive were deemed by participants to be overly complex or lacking in clarity. There were a number of observations over key areas related to the calculation of technical provisions:

- Valuation of embedded options and guarantees proved a challenge for smaller firms and some European insurers unfamiliar with stochastic valuation methods.
- U.K. firms highlighted substantial difficulties in allowing for management actions.
- The definition of contract boundaries was deemed to be noneconomic or counterintuitive and guidance was considered not sufficiently explicit.

This resulted in different treatment for similar products across the European Economic Area (EEA).

- Firms reported difficulties with the application of the supplied discount rate curve and the illiquidity premium. The overall impact of the allowance for an illiquidity premium was reported to be a reduction in technical provisions of 1 percent.
- There was substantial feedback calling for the risk margin calculation to be simplified.

There were several observations related to the calculation of the SCR as well:

- In accessing market risk, many firms faced substantial difficulties obtaining the necessary data.
- The counterparty default risk sub-module was reported to be overly complicated and resulted in unreasonable charges against certain internal and external reinsurance arrangements.
- The loss-absorbing capacity of technical provisions and deferred taxes were highlighted as needing additional guidance. Regulators expressed concern over the quality of the supporting information provided by firms in justifying the recoverability of deferred tax assets and their ability to implement loss-absorbing measures.
- The requirement to complete the calculation on a policy-by-policy basis caused issues for insurers who often did not have the required systems capability to complete the calculation.
- The calculation of the Single Equivalent Scenario was deemed too complex and only large firms submitted results on this basis.

### Current capital and corporate structures are not treated favorably

In general, the QIS5 economic valuation requirements for assets and liabilities were well understood. Their consistency with EU-endorsed Internal Financial Reporting Standards (IFRS) mean that many issuers are experienced with the asset valuation requirements. Companies in countries where local accounting principles differ significantly from IFRS and where assets are valued on a cost basis reported more problems and therefore some doubt about the reliability of their reported QIS5 balance sheets exists.

The following areas related to the valuation of own funds were deemed to be overly complex and require additional simplification or guidance:

- The regulators are of the view that the technical specifications for basic own funds have been interpreted widely and that hybrid capital and subordinated debt instruments are unlikely to qualify.
- The methodology for the calculation of expected profits in future premiums (EPIFP) was based on assuming an immediate 100 percent transition to a paid-up state. Companies gave substantial feedback that the calculation is artificial and cited difficulty in arriving at realistic paid-up assumptions. In addition, the calculations were described as time-consuming, burdensome, and of questionable benefit.
- There was considerable variation in the treatment of pension scheme liabilities, and firms called for additional guidance on the treatment of this issue.

## Groups calculations

The report highlighted a number of issues with the calculation of group solvency:

- Groups had issues with charges levied against internal reinsurance arrangements, both at an individual and a group level.
- A particular issue with respect to groups was the need for transitional provisions in relation to hybrid capital since a significant proportion of own funds is likely to be intragroup own funds.
- Groups had substantial issues with the calculation of the loss-absorbing capacity of deferred taxes because of the range of tax regimes within the group.

## KPMG Conclusion

The results, observations, and comments of the QIS5 report were positive overall, but highlighted areas potentially requiring further refinement:

- Reducing complexity while appropriately reflecting risks.
- Refining the calibration of certain risk modules.
- Development of internal models and transition rules.
- Developing guidance for unclear specifications.

Most of the study participants were not yet fully ready for Solvency II, but planned to complete their implementation work by the end of 2012. However, some companies reported that they might not be able to meet the deadline. Underestimation of the requirements was raised as an issue.

Currently U.S. authorities are developing a Solvency Modernization Initiative. Along with the implementation of IFRS, Solvency II will impact the U.S. insurance market, initially through companies that are either subsidiaries of European parent companies or those who are parents of European entities. Even if U.S. insurance companies are not directly impacted by the implementation of Solvency II, they will very likely be impacted through meeting the expectations of rating agencies or dealing with competitive considerations related to affected peer group companies. The QIS5 results, issues raised by QIS5, and the study participants' preparation for Solvency II can provide valuable insights as these impacts emerge over the next few years. *The results of the QIS5 study and the comments that were raised do not necessarily reflect the views of KPMG LLP.*



# Think Outside of the Pillars – Solvency II Strategic Considerations

By Shirley Lee, ASA, CERA, MAAA

## Introduction

With the Solvency II implementation deadline approaching, most European insurers have already begun the preparation toward Solvency II compliance.

Key focus in the implementation effort of Solvency II for many companies has revolved around technical compliance, including but not limited to developing internal models, establishing or refining risk governance structure and building out required disclosures. Fewer companies have explored the strategic implications of Solvency II. As companies progress through their implementation of Solvency II, it is expected that efforts will be expanded in strategic directions as implications from Solvency II and its related capital requirements will potentially redefine key elements of business decision-making for the insurance industry. Further, the changes may be different from country to country, thus creating opportunities for competitive advantages.

Solvency II requires insurers to have more rigorous and more sophisticated capital measurement and risk management processes, as well as to add transparency in their operation through the detailed disclosure requirements. These requirements can have significant implications from a strategic point of view. While there are many topics to investigate, this article will focus on three perspectives that are anticipated to have an immediate impact on insurers as Solvency II is implemented: capital management strategy, product portfolio mix, and resource management.



## Capital management strategy

Solvency II increases focus on capital requirements that in turn prompts insurers to review their capital management strategy in order to more efficiently utilize available capital. Companies are expected to review the instruments available to them and determine the best strategy to deploy their resources. Understanding one's risk profile is essential to this risk-based capital regime. Managing risk and capital together provides a holistic view of the business.

Reinsurance strategy is expected to play an important role in the management of capital. Innovative reinsurance products may become available to address the needs of direct insurers, helping them to free up capital and achieve maximum benefits. However, full understanding of one's risk profile as well as risk appetite is the first step in determining the best reinsurance strategies.

## Product portfolio mix

Specific activities may vary from market to market due to capital requirements as well as diversification strategies. Companies will have to review their product portfolio and determine which strategies work best for them. Whether it is through merger and acquisition activity or entry/exit of specific product markets, the insurance landscape will likely move toward more efficiency and transparency. Based on what we know about Solvency II today, there is good potential that the insurance industry will experience an increase in consolidation activities during the next few years.

Product design is another key area for companies to investigate when considering strategies. Product features are not only driven by market demand, but also by regulatory constraints and capital costs. The new regulations provide incentive for companies to look into ways to maximize benefits



(diversification benefits) and minimize costs (capital requirements). It is fully expected that companies will be working through implications of Solvency II in order to gain competitive advantage through product portfolio management.

### Resource management

One of the more challenging prospects that the insurance industry faces today is the number of regulatory filings with which each company is required to comply. Depending on where the company operates, many insurers are required to file in multiple jurisdictions. Alignment of multiple regulatory requirements can put stress on an existing organization's structure. Ideally, the new requirements can be integrated into the normal business process without adding costs or resource requirements, but that's not always the case.

As with most process implementations, an effective integration of the new process into the existing business model

is critical. A well-integrated business is more efficient in its resource allocation. It is more likely that the company will have a competitive advantage over its peers when this is the case. It is critical for management to treat the implementation from both an operational and a strategic point of view.

Financial transformation is one activity companies take on after major change occurs in order to more effectively realign company goals with the company structure. Transformation activities, whether small or large, will be anticipated after the company meets the deadline for the implementation of Solvency II. Integration of processes, consolidation of reporting, and realignment of business units are just samples of activities that can take place post-implementation.

### KPMG Conclusion

Why is it so important to think strategically? Companies adapt and change through time. Different environments dictate different ways of thinking. Solvency II is a deafening force in reshaping the future landscape of the insurance industry worldwide. Technical compliance is the more urgent priority, though strategic planning is probably more critical for the success of the business. As companies move forward in their implementation efforts, discussion around the strategic implications of Solvency II should begin taking place in order to thrive in the new regulatory environment.





## Contact us

To learn more or to discuss specific issues, please contact any of the professionals listed below.

### **David White, FSA, MAAA, CFA**

Principal, National Leader –  
Actuarial Services

**T:** 404-222-3006

**E:** dlwhite@kpmg.com

### **Jeff Klanderan, FSA, MAAA**

Principal, Life Actuarial Services

**T:** 404-222-3339

**E:** jklanderan@kpmg.com

### **Laura Hay, FSA, MAAA**

Principal, National Industry Leader –  
Insurance

**T:** 212-872-3383

**E:** ljhay@kpmg.com

## Authors

### **Ash Ruparelia**

Director, Property/Casualty Actuarial Services

**T:** 212-954-1854

**E:** asheetruparelia@kpmg.com

### **Leslie Marlo, FCAS, MAAA**

Director, Property/Casualty Actuarial Services

**T:** 610-341-4802

**E:** lmarlo@kpmg.com

### **Shirley Lee, ASA, CERA, MAAA**

Manager, Life Actuarial Services

**T:** 312-665-2799

**E:** shirleylee@kpmg.com

### **Patricio Henriquez, FSA, MAAA**

Senior Associate, Life Actuarial Services

**T:** 212-954-8626

**E:** phenriquez@kpmg.com

## Editor

### **Michael Fruchter, FSA, MAAA, CFA**

Manager, Life Actuarial Services

**T:** 212-954-2288

**E:** mfruchter@kpmg.com

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