

# The prudential regulation of insurers under Solvency II

By Robin Swain and David Swallow of the Bank's Prudential Policy Directorate.<sup>(1)</sup>

- Solvency II is a new regime for the prudential regulation of European insurance companies that will come into force on 1 January 2016.
- It will modernise the existing regulatory framework, with the objective of providing an enhanced and more consistent level of protection for policyholders across Europe.
- Solvency II introduces features to improve a firm's understanding and management of its risks, which should result in improved resilience to shocks.

## Overview

Insurance companies play a key role in the economy, allowing businesses and individuals to exchange the risk of an uncertain and costly financial outcome for a fixed cost or premium. The failure of a large insurance company could disrupt the broader provision of financial services, causing stress to spread throughout the financial system and real economy. Therefore, insurance companies need to be sufficiently well-capitalised and prudently managed so that they can withstand shocks.

European legislation for the prudential regulation of insurance companies has existed since the 1970s. There have been several limited reforms to this legislation but the latest, Solvency II, represents a fundamental modernisation of European insurance regulation. The main purpose of Solvency II is to enhance the level of policyholder protection across Europe. The new regime should also improve the resilience of the insurance sector to shocks and so reduce the probability of insurers failing.

Some of the key features that will be introduced are listed on the **summary table**. Solvency II will require firms to identify, quantify and manage their risks on a forward-looking basis, while providing greater transparency to markets and supervisors. The new regime will harmonise what has, over time, become an increasingly fragmented regulatory framework. A more harmonised framework should allow European insurers to compete more effectively and reduce so-called 'regulatory arbitrage'.

Due to the scale of reform, a number of measures are being put in place to help firms manage the transition to Solvency II. In many respects, UK insurance companies should be better prepared for this transition as they already need to meet specific requirements under the current UK regime that are based on similar principles to those of Solvency II.

The Bank will monitor the effects of implementing Solvency II to ensure that gaps in the regulatory framework do not emerge. It will also actively participate in future policy debates as views and analysis develop further.

### Summary table Key features of Solvency II

Aspect of business or supervision	Change under Solvency II
Accounting practices	Market-consistent valuations introduced to provide firms with useful information for effective risk management.
Quality of capital	Enhanced to improve the ability of capital to absorb losses in times of financial difficulty.
Capital requirements	Forward-looking, risk-based capital requirements introduced to improve a firm's resilience to financial shocks.
Governance and risk management requirements	Improved so that a firm should be better equipped to identify, manage and mitigate the risks that it is exposed to.
Group supervision	A rigorous, consistent approach to group supervision introduced to help supervisors understand all the risks that a firm within a group is exposed to.
Market disclosures and reporting	Improved disclosures and reporting intended to strengthen market discipline and to provide supervisors with better and more consistent information.

[Click here for a short video that discusses some of the key topics from this article.](#)

(1) The authors would like to thank Ishtiaq Faiz for his help in producing this article.

Insurance provides consumers with confidence when making large purchases such as houses, cars or holidays and helps businesses to innovate, expand and invest. Insurers also serve a social purpose by reducing reliance on the state and by offering products that supplement income in retirement.

Insurers are regulated and supervised in order to avoid scenarios that harm policyholders or the economy. In the United Kingdom, the Prudential Regulation Authority (PRA), as part of the Bank of England, has been responsible for the prudential regulation and supervision of UK insurance firms since April 2013. The PRA's statutory objectives are to promote the safety and soundness of regulated firms, and to contribute to securing an appropriate degree of protection for insurance policyholders. The PRA also has a secondary objective to facilitate effective competition. In order to advance these objectives, the PRA sets regulations for firms and then supervises their adherence to them using a judgement-based, forward-looking and proportionate approach.<sup>(1)</sup>

A new prudential regulatory framework, known as Solvency II, will come into force on 1 January 2016, representing a major shift in the regulation of the European insurance industry. The application of this framework, which will apply to both insurance and reinsurance firms, marks the culmination of a modernisation project that has been in development since 2001. Created with the purpose of enhancing policyholder protection and promoting the safety and soundness of insurance firms, Solvency II will be the first forward-looking and transparent insurance regime to be applied consistently across Europe.<sup>(2)</sup>

This article provides an overview of the Solvency II regime. It begins with an overview of the risks facing a typical insurer, explaining how these can be managed or mitigated, before setting out the rationale behind the prudential regulation of insurers and some of the previous developments in European insurance regulation. The article then explores the key policy features of the Solvency II framework, providing insight into how they address limitations of Solvency I.<sup>(3)</sup> The final section highlights some of the continuing developments in insurance policy that the Bank will monitor, evaluate and shape in the future. A short **video** explains some of the key topics covered in this article.<sup>(4)</sup>

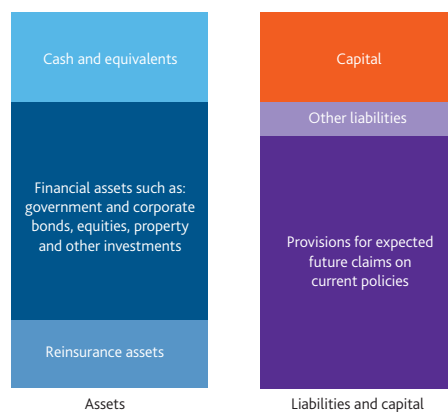
## Setting the scene: an overview of the risks facing insurers

This section draws on a previous *Bulletin* article that explains the different types of insurers, their business models and their risk profiles in greater detail.<sup>(5)</sup> Broadly, there are three categories of insurance firm:

- (i) **Life insurers.** These insurers sell products to individuals such as annuities, conventional life assurance and other savings products.
- (ii) **General insurers.** These firms provide non-life insurance which includes property cover, health insurance, liability policies and miscellaneous financial loss cover for individuals, companies and others.<sup>(6)</sup>
- (iii) **Reinsurers.** These firms sell insurance to other insurance companies that would like to share some of the insurance risk that they have taken on.

To understand the key features of Solvency II, it is helpful to recap the main elements of a typical insurance company's balance sheet (**Figure 1**) and describe the risks faced by insurers. A balance sheet shows a snapshot of a firm's assets, liabilities and capital at a single point in time.

**Figure 1** A stylised insurance company balance sheet



The majority of assets held by insurers are financial investments and typically include government and corporate bonds, listed shares and commercial property. A firm chooses its asset portfolio carefully so that it is suitable for the type of business that it undertakes. For example, a life insurance company that writes long-term annuities may choose to invest in long-dated government bonds with regular payments, so as to match the expected pattern of policy claims.

The majority of an insurer's liabilities are its claims provisions to meet future obligations to policyholders (right-hand column of **Figure 1**). Insurers estimate the number, value and duration of claims and set aside the aggregate expected cost,

(1) See Bank of England (2014a) for more information on how the PRA supervises insurers.

(2) For the purpose of this article, Europe refers to the European Economic Area (EEA), which includes Iceland, Liechtenstein, Norway and all 28 EU Member States.

(3) The current UK regime consists of Solvency I requirements supplemented by further requirements for some life insurers and Individual Capital Adequacy Standards (ICAS) as explained later in the article.

(4) [www.youtube.com/watch?v=8SrWoPns6\\_8](http://www.youtube.com/watch?v=8SrWoPns6_8).

(5) See Breckenridge, Farquharson and Hendon (2014).

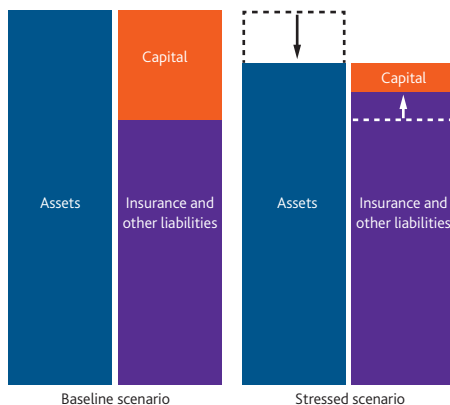
(6) Liability policies protect individuals and businesses against the costs that arise from legal liability claims (for example negligence).

including any expenses expected to be incurred in the administration of insurance policies. Firms continually revise this estimate and alter the quantity of claims provisions held.

The item that balances both sides of the balance sheet, broadly equalling assets minus liabilities, is a firm's capital (shown in orange on **Figure 1**).<sup>(1)</sup> Capital absorbs a firm's losses in periods of stress and provides a buffer to increase resilience against unexpected losses. It includes retained earnings, shares issued by the firm to investors, and other capital instruments such as certain types of bonds that can absorb losses. When a firm's capital is depleted, it is less likely to be able to meet policyholder claims as they fall due. In this way, the quantity of capital a firm has on the balance sheet can be used as a tool to understand the strength and solvency position of the firm.

Risks to an insurer's capital position arise from both sides of the balance sheet, sometimes simultaneously (illustrated in **Figure 2**). For example, a downturn in macroeconomic conditions could cause losses on the asset side of the balance sheet as equity, property and bond values fall. At the same time, an insurance company may need to increase the value of its claims provisions if it considers that it will have to pay out more to policyholders in the future. For example, a life insurer has to pay out more if, during the term of its life insurance contracts, a greater-than-expected number of policyholders die. Relative to the baseline scenario, both the reduction in assets and the increase in liabilities would serve to reduce the insurer's capital base in such a scenario.

**Figure 2** Example of a stressed scenario to show the need for capital



## The development of insurance regulation

There are several justifications for the prudential regulation and supervision of insurance firms.<sup>(2)</sup> To begin with, prudential regulation can address underlying market imperfections that could otherwise lead to poor policyholder outcomes. For example, an insurer may go out of business due to it making poor insurance underwriting decisions or investing in excessively risky assets. This could particularly affect those

policyholders for whom life insurers act as a custodian of their savings or the main provider of their income in retirement.

A second justification is that the failure of some of the larger insurance companies, or the simultaneous failure of many smaller insurance companies, could disrupt the broader provision of critical financial services, or affect the solvency of other financial firms. A simple example would be if a major reinsurer failed and was unable to meet its obligations to other insurers, causing stress to spread throughout the broader financial system.

Insurance companies may also affect financial stability through their everyday activities, in the absence of a specific stress. In 2013, for instance, insurers provided over £390 billion of equity and long-term funding to UK corporations (as assets held on insurers' balance sheets).<sup>(3)</sup> This provision of funding to the real economy could be disrupted if insurers were to change the type of their investments quickly and on a large-enough scale.

Furthermore, these large asset holdings mean that, in certain situations, insurers might act in ways that generate, or amplify, price movements in asset markets. For example, during times when asset markets fall, insurers might find it individually rational to dispose of their investments in such assets. But if many insurers act in the same way, their collective actions could lead to a downward spiral, whereby more insurers feel pressured to sell their assets, further forcing down prices. In the United Kingdom, such dynamics were observed following the equity 'dot-com' crisis in the early 2000s, triggering a regulatory response.<sup>(4)</sup>

## The Solvency I regime — and its limitations

The first European Directives for the prudential regulation of insurers were introduced in the 1970s.<sup>(5)</sup> Those Directives were an initial step towards a single market for insurance throughout the European Union (EU).<sup>(6)</sup> In the 1990s, the European Commission (EC) performed a review of the solvency regulations for insurance companies, which identified areas that were in need of updating, such as the need to substantially increase the base capital resources requirement.<sup>(7)</sup> A limited reform, referred to as Solvency I, was subsequently agreed and came into force in 2004.

(1) Capital is referred to as 'own funds' in Solvency II.

(2) See Debbage and Dickinson (2013) for the rationale for the prudential regulation and supervision of insurers.

(3) This figure excludes other significant funding provided by insurers, such as investments in unit trusts, cash and other assets.

(4) See Financial Services Authority (2005) for more details on this example.

(5) A Directive is defined by the European Commission as: *a legislative act that sets out a goal that all EU countries must achieve. However, it is up to the individual countries to devise its own laws on how to implement it.*

(6) See Chapter 5 of Kempler *et al* (2010) for more information on the history of insurance regulation.

(7) See Müller *et al* (1997). The base capital resource requirement is often referred to as the minimum guarantee fund in European literature. It is intended to be an absolute minimum requirement so that an insurer has adequate resources from the moment it is established.

Solvency I is a simple, rules-based regulatory framework that prescribes basic requirements for insurance companies. It is 'minimum harmonising' in the sense that all Member States are required by the EC to comply with prescribed minimum requirements, but are able to supplement the regime with further requirements as they deem necessary. Solvency I was introduced as an interim measure to allow for a more fundamental review of the European solvency regime. As such, it has a number of limitations:

- **A lack of risk sensitivity.** Under Solvency I, capital requirements are determined using a simplistic factor-based approach, which does not adequately capture the risks inherent to an insurer's business model. In the case of life insurers, for example, capital requirements are determined as a percentage of claims provisions and capital at risk. This means that if a firm is more prudent and increases its claims provisions, then the capital it is required to have under Solvency I will actually *increase*, providing the wrong risk management incentives and penalising prudence.
- **A failure to adequately differentiate between the riskiness of different product lines.** Insurers should have more capital when writing riskier, more volatile business, but this is not necessarily the case under Solvency I because of the way the capital requirements are calculated. For general insurers, capital requirements are based upon the volume of written premiums or historical claims, which does not sufficiently differentiate between business lines that experience differing loss volatility. For example, losses from motor insurance can generally be forecasted more reliably than those from employee liability business (for instance the latent claims arising from asbestosis were much greater than expected).
- **A partial balance sheet approach.** The basic European Solvency I capital requirements ignore the risks that may crystallise on the asset side of the balance sheet. For example, if a general insurer invests in bonds denominated in euros, while its liabilities are denominated in sterling, Solvency I does not consider the currency risk of the euro depreciating and those assets becoming less valuable relative to the insurer's liabilities.
- **An inconsistent level of policyholder protection.** As insurance regulatory regimes differ throughout Europe, a firm may seek to structure its activities in such a way that would reduce regulatory requirements without altering its economic substance. For example, an insurance company may operate across borders through a 'branch', which is subject to the regulatory requirements of the Member State where the company, rather than the branch, is based. This provides a company with opportunities to take advantage of differing regulatory regimes, in order to lower regulatory requirements, and results in inconsistent levels of protection for insurance policyholders.

During the development of Solvency I, the EC began a more comprehensive review of European insurance regulation, known as the Solvency II project. Early in this review, a report by Sharma *et al* (2002) identified policy areas such as governance and risk management that were also in need of modernising.

### Moving to the Solvency II regime

The adjustments that firms will need to make to adapt to the Solvency II regime will differ among EU Member States depending on the extent to which each Member State supplemented Solvency I with further requirements. The United Kingdom, for instance, supplemented Solvency I with additional requirements in 2004. These included the Individual Capital Adequacy Standards (ICAS) regime, which bears several significant similarities to the Solvency II framework.

Furthermore, the PRA introduced ICAS+ in 2013, which allows firms to use the internal models being developed for Solvency II to meet requirements under the current regime. ICAS+ was introduced to help the UK insurance industry prepare for the transition to Solvency II. Therefore, UK insurance firms should be relatively well-positioned to meet those requirements of Solvency II that are similar to those in ICAS and ICAS+.

The PRA has published rules for its implementation of Solvency II in two policy statements.<sup>(1)</sup> These rules will replace the existing rules, for those firms to which Solvency II applies, when the new regime comes into force.<sup>(2)</sup>

### Key features of Solvency II

Solvency II aims to provide an enhanced and more consistent level of protection for policyholders throughout Europe. Its intent is to create a safer and more resilient insurance industry, reducing the probability of firms failing. The Solvency II requirements are commonly structured into three 'pillars' that cover: quantitative requirements; qualitative requirements and supervisory review; and reporting and disclosure.<sup>(3)</sup>

In contrast to Solvency I, Solvency II is a largely 'maximum harmonising' regulatory framework, which introduces a single set of requirements that will be applied consistently across Europe. This will remove the fragmentation that currently exists as Member States will have little discretion to alter or supplement the Solvency II requirements. A more consistent framework will promote more competition across Europe.

(1) See Bank of England (2015a) and Bank of England (2015b).

(2) Directive 2009/138/EC sets out the scope of Solvency II and contains criteria that exclude some of the smallest insurance companies. The PRA will publish refreshed rules for those firms that are out of scope later in 2015.

(3) The three-pillar approach was originally discussed in a report prepared for the EC by KPMG in 2002; it is largely based on the Basel II framework for banking regulation.

Solvency II adopts a ‘total balance sheet’ approach: the risks to assets, liabilities and the interactions between them need to be considered in setting capital requirements. Furthermore, it introduces several key features, some of which seek to ensure that firms identify, quantify and manage their risks on a proportionate and forward-looking basis. Other features will provide greater transparency to markets and supervisors. In particular, Solvency II introduces:

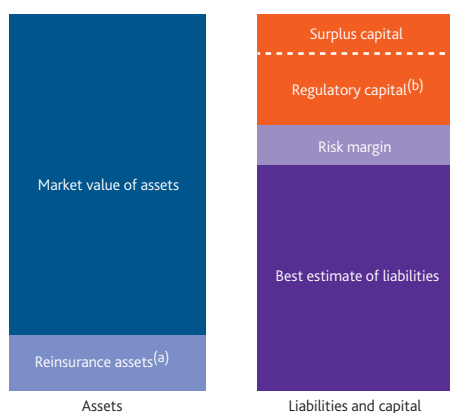
- market-consistent valuation of assets and liabilities;
- enhanced quality of capital;
- a forward-looking and risk-based approach to setting capital requirements;
- improved governance and risk management requirements;
- a rigorous approach to group supervision; and
- strengthened market discipline through firm disclosures.

The rest of this section considers and explains each of these features in turn.

### Market-consistent valuation of assets and liabilities

Solvency II introduces a new basis of preparation for an insurance company’s balance sheet (as shown in **Figure 3**), which is based on the principle of market-consistent valuations. Essentially, this means that the value of assets and liabilities reflect the current value at which they could be traded in financial markets, rather than their original accounting value. In 2004, the United Kingdom introduced similar valuation methods as part of the ICAS framework.

**Figure 3** Stylised example of an insurer’s balance sheet under Solvency II



- (a) Reinsurance assets are calculated on a best-estimate basis.  
 (b) This is qualifying capital that satisfies regulatory requirements.

A simple example illustrates the advantages of this approach. Suppose an insurer has invested £100 million in property assets but that, following a downturn in the property market, these assets could only be sold for £70 million. If changes in

value such as this are not reflected in asset prices on the balance sheet, it may give a false impression of a firm’s solvency and supervisors would be unable to assess accurately the safety and soundness of the insurer.

Different approaches are required to determine market-consistent values of an insurance company’s assets and liabilities. Many assets are traded in sufficiently deep and liquid markets that provide readily available prices, which are generally taken to be market values. No such market generally exists for insurance liabilities, which are specific to the contract between the firm and the policyholder.<sup>(1)</sup> Solvency II’s interpretation of the market value of insurance liabilities requires insurers to forecast expected future liability cash flows and then discount them using risk-free interest rates of an appropriate maturity, to arrive at a ‘best estimate’.<sup>(2)</sup> A ‘risk margin’ is added to this best estimate in order to produce a market-consistent value.<sup>(3)</sup> This is explained further in the box on page 144.

Market-consistent valuations are important as they ensure that short-term asset price changes that may affect a firm’s solvency are reflected on the balance sheet. However, an insurer with long-term liabilities that holds long-term assets to maturity, in order to pay policyholder claims, is less affected by such short-term price changes. The ‘matching adjustment’ (which is explained in Annex 2) is intended to address this issue. It is being introduced as part of the long-term guarantees (LTG) package of Solvency II, which includes a number of measures intended to make the new regime appropriate for the provision of long-term insurance products.<sup>(4)</sup> Other LTG measures include:

- The ‘volatility adjustment’, which is a countercyclical measure intended to prevent investment behaviours that amplify asset price movements. Broadly, it is expected to work by reducing the value of liabilities (below that calculated using a risk-free discount rate) in stressed scenarios.
- An agreed method for the ‘extrapolation of the risk-free rate’ to determine long-term discount rates where there is no reliable market data.
- Transitional measures, which include the ‘transitional deduction from technical provisions’, which will help firms transition to the new ‘going-concern’ regime. This is explained in the box on page 144.

- (1) Insurance liabilities are known as ‘technical provisions’ in Solvency II.  
 (2) The ‘best estimate’ is a firm’s forecast of the cash flows that are most likely to occur, rather than, for example, the forecast of the most profitable or most prudent scenarios.  
 (3) This approach to determine the market-consistent valuation of insurance liabilities applies to insurance liabilities that cannot be reliably replicated by the cash flows of financial instruments with observable market values. Otherwise, the market value of liabilities that can be replicated, such as the value of some guarantees in life insurance contracts, should be determined from the market value of the replicating financial instruments.  
 (4) This package was agreed as part of Directive 2014/51/EU.

## Transitioning to a 'going-concern' regime

Solvency I can be considered as a 'gone-concern' regime. A firm is required to calculate financial requirements under the assumption that it writes no new business in the future and that it will 'run-off' its existing business over time.<sup>(1)</sup> The main limitation of this approach is that it is unrealistic to assume that all insurance firms will simultaneously stop writing new business.

Solvency II takes a different view of the insurance industry by considering firms as 'going concerns'. Under this approach, insurers will determine their financial requirements under the assumption that they will continue to operate and write new business for the foreseeable future. This assumption is consistent with the nature of risk management in Solvency II, which requires firms to identify and manage risks on a continuing and forward-looking basis. A going-concern approach should improve policyholder protection and better reflects the realities of insurance business.

The going-concern regime seeks to ensure that if a firm does go out of business, policyholder protection and continuity of insurance cover are sustained. To achieve this, Solvency II introduces the 'risk margin': a provision that increases the best estimate of a firm's insurance liabilities to produce a market-consistent value (as shown in **Figure 3**). Therefore, the risk margin will enable an insurance company that cannot continue in business to transfer its commitments to another company that is able to fulfil those obligations, thereby protecting policyholders. The risk margin is fundamentally different to the company-specific prudential margins required by Solvency I (explained in Annex 1) and will promote consistency and transparency across the industry.

Solvency II contains a number of transitional measures, which are an important feature of the implementation of any new

regulatory regime. These measures should help firms adjust to the new framework by limiting any disruption and addressing any unintended consequences of adjusting to Solvency II. Firms' use of transitional measures will be publicly disclosed under Solvency II, reinforcing transparency in the market and promoting greater comparability between insurers across Europe.

The 'transitional deduction from technical provisions' is one example of a transitional measure in the LTG package.<sup>(2)</sup> Due to the move to a going-concern regime, Solvency II will ultimately require some firms to hold a greater quantity of claims provisions compared to the current regime. For firms where this is the case, and subject to supervisory approval, firms will be able to use this transitional measure to increase the quantity of their provisions gradually over 16 years, from the current level to that required under Solvency II. The transitional deduction is subject to a safeguard so that a firm's overall financial resources (claims provisions and capital) do not fall below what they are under the current regime. This ensures that use of the transitional measure does not lead to a decrease in protection for policyholders.

Insurance contracts that were written before the application of Solvency II will expire over time. This will remove the need for firms to bridge the entire gap in claims provisions between Solvency I and Solvency II. New business written after the commencement of Solvency II should not need the benefits of transitional measures because it should be compatible with the full requirements of the new regime.

(1) Once entering the run-off process, a firm will continue to operate in order to meet the obligations of existing contracts up until their expiration. This period could extend for 30–40 years for those insurers that sell long-term policies, such as life insurance.

(2) See HM Treasury (2015) for the Solvency II Directive's provisions on this transitional measure.

## Enhanced quality of capital

Even if the *quantity* of capital held by an insurance firm is considered to be sufficient, if that capital is not of an appropriate *quality* then it may not be able to absorb losses effectively. Recent thinking on the relative qualities of capital has been driven by the experience of the banking sector in the financial crisis. It has become clear that a greater emphasis needs to be placed on the highest quality of capital.

Solvency II classifies different forms of capital into three 'tiers' which, broadly speaking, separate capital based on its ability to absorb losses.<sup>(1)</sup> Tier 1 capital, such as common equity and retained earnings, is the highest quality of capital and must be able to absorb losses on a day-to-day, 'going-concern' basis.

Tier 2 capital, such as subordinated debt, is of a lower quality and only needs to absorb losses on insolvency. Finally, Tier 3 capital is the lowest quality of capital permitted and has only limited loss-absorbing capacity. It is unlikely that significant quantities of Tier 3 capital will be issued by firms under Solvency II.

Solvency II introduces significant measures to improve the quality of capital held by insurance firms, some of which are explained in **Figure 4**.<sup>(2)</sup>

(1) While different to the tiers of Solvency II, the United Kingdom introduced tiers for different quality capital instruments as an additional requirement to Solvency I.

(2) See Bank of England (2015a). *PRA Supervisory Statement 3/15*, 'The quality of capital instruments' is part of this policy statement and gives more information. The PRA Rulebook contains the relevant rules.

**Figure 4** Improvements to the quality of capital under Solvency II

<p><b>Effective loss absorbency</b> High-quality Tier 1 capital must be able to absorb losses effectively — either automatically or through a mechanism to absorb losses when defined 'trigger points' are breached.</p>	<p><b>Duration of capital</b> Capital must have a sufficient duration to be reliably able to absorb losses when needed. Solvency II introduces strict requirements for those forms of capital that are not permanent.</p>
<p><b>Full flexibility over payments to investors</b> For Tier 1 capital, there should be no mandatory payments to investors. Depending on the capital instrument, declared payments should either be cancelled or deferred if they would cause a breach of capital requirements.</p>	<p><b>Capital composition limits</b> Solvency II requires insurers to have sufficient quantities of high-quality capital and limits the amount that can be covered by low-quality capital.</p>

While improving the quality of capital is fundamental to Solvency II, the framework recognises that insurers cannot change all of their capital instruments to comply with Solvency II requirements overnight. For instance, many firms have issued long-dated or perpetual capital instruments before the commencement of Solvency II. Transitional measures have therefore been put in place, allowing firms up to ten years to replace capital instruments that are not compliant with Solvency II requirements.

**Forward-looking, risk-based capital requirements**

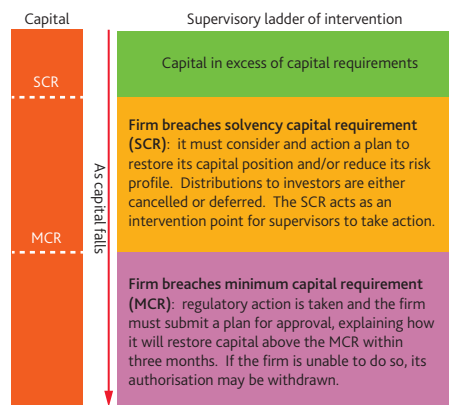
In contrast to Solvency I, Solvency II introduces forward-looking, risk-based capital requirements that provide incentives for firms to improve their understanding of, and to manage better, the risks that they face. Capital requirements should consider all risks to which firms are exposed. The Solvency II capital requirements should improve the safety and soundness of insurers across Europe.

Two capital requirements are being introduced by Solvency II: the solvency capital requirement (SCR) and the minimum capital requirement (MCR). The SCR is the quantity of capital that is intended to provide protection against unexpected losses, over the following year, up to the statistical level of a '1 in 200-year event'. This is a robust requirement that is designed so that insurers should be able to withstand all but the most severe of shocks. The MCR denotes a level below which policyholders would be exposed to an unacceptable level of risk. Together, the SCR and MCR act as trigger points in the 'supervisory ladder of intervention' introduced by Solvency II, shown in **Figure 5**.

The majority of firms will calculate their SCR using a 'standard formula' — a standardised calculation intended to capture the risk profile of most European insurance firms. First, firms need to identify risks, such as market and insurance underwriting risks, which are relevant to their business. A prescribed calculation methodology is then used to determine the quantity of capital required to cover these risks.

Alternatively, firms may use an internal model to calculate the SCR. An internal model must be tailored to the specific risk profile of a firm and is subject to prior supervisory approval to verify that it is robust and fit for purpose. Several tests and

**Figure 5** Supervisory ladder of intervention



standards are set out in Solvency II, which an internal model needs to satisfy, in order to gain regulatory approval. These include the 'use test', as well as further standards such as the statistical quality, calibration, validation and documentation of the model.

The use test will be used to verify that internal models are employed not just to satisfy the regulatory requirement of calculating the SCR, but as a tool that is part of a firm's wider, risk management and decision-making processes. For example, suppose a general insurer writes household and travel insurance. If it then considered a change of strategy and additionally wanted to start writing motor insurance, the firm should use its internal model to assess the risks of this decision. The use test also will examine the extent to which an internal model is used and understood by a firm's management and Board.

**Improved governance and risk management requirements**

The recognition of the importance of good governance practices was fundamental to the development of Solvency II. It is a policy area that the United Kingdom has long identified as an important part of a framework for prudential regulation. The report by Sharma *et al* (2002) identified a causal relationship between firms that fail and those that are inherently vulnerable due to 'underlying management weakness or operational weakness'. Good governance practices and strong risk management are therefore essential aspects of a prudential regulatory framework.

Individuals that run insurance companies should have clearly defined responsibilities and are expected to behave with honesty, integrity and competence in order to provide sound and prudent management. For this purpose, the PRA is introducing the senior insurance managers regime.<sup>(1)</sup> This enhances the current 'fit and proper' requirements and is intended to ensure the accountability of senior management in the insurance sector.

(1) See Bank of England (2015b) for more information.

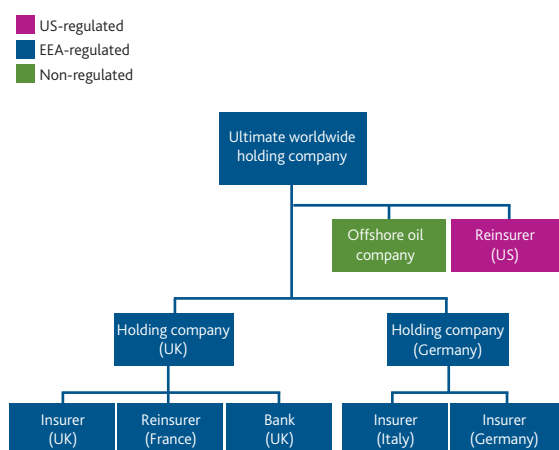
Solvency II requires insurers to take a comprehensive approach to considering their risks through the own risk and solvency assessment (ORSA). Regulatory capital requirements may not adequately capture some risks which are difficult to quantify accurately, such as cyber risk (which can be both a risk to the insurer and an insured risk). Furthermore, firms face risks that span the entirety of their business plan, such as the long-term effects of climate change, changes in which are not necessarily significant over the one-year time horizon used in the calibration of the SCR. By requiring a firm's management to consider risks such as these, the ORSA should help firms to understand and manage all the risks they are exposed to.

Under Solvency II, insurance companies will have greater flexibility in their investment decisions, as the existing crude, quantitative limitations over asset choice and composition limits will be removed. The 'prudent person principle' is an approach to regulation that places responsibility for investment decisions on a firm's management. The PRA will then form judgements on the ability of a firm's management to identify, manage and mitigate investment risks.

### A rigorous approach to group supervision

Sometimes, an insurance group will have a complex structure that consists of a mixture of regulated and non-regulated entities that may operate across many different regulatory jurisdictions (Figure 6). As a result, the overall group may be exposed to some risks that are not obvious or captured when considering an individual insurance firm within the group.

Figure 6 Stylised example of a group structure



Two examples of such risks are the so-called 'double gearing' and 'leveraging' of capital. Double gearing occurs when firms use the same capital resource more than once within a group to meet capital requirements. Leveraging of capital refers to a situation where capital instruments are passed down a group and artificially 'upgraded' in quality. This can occur if a holding company issues a Tier 2 debt instrument and then passes down the proceeds to an individual insurance entity within the group as Tier 1 equity.

Solvency II looks to improve on the current approach to group supervision, introduced by the Insurance Groups Directive (IGD),<sup>(1)</sup> through the introduction of a more rigorous approach. The IGD is based on the concept that group supervision should supplement the supervision of individual insurance entities. This concept remains fundamental to Solvency II and helps to provide a more complete view of where the risks to the prudential soundness of individual insurance companies lie within a group. Group supervision under Solvency II is not an attempt to prudentially supervise every firm within a group, for example, an 'offshore oil company' (given as an example of a non-regulated entity in Figure 6) would not be supervised by the PRA.

A key aspect of group supervision is determining a group's capital resources and capital requirements, for which there are two approaches. The first involves consolidating the various group entities onto one balance sheet and then calculating the group capital resources and SCR. A second approach is to calculate the capital resources and capital requirements for all individual entities and then add the figures to obtain the overall figures for the group. Importantly, both of these methods require that any double use or upgrading of capital is eliminated in the group calculation. Solvency II also contains additional governance and reporting requirements to facilitate group supervision.

### Market discipline through firm disclosures

Solvency II introduces new reporting and disclosure requirements for firms, with the aim of improving the availability of information to the market. Firms will be required to publish a solvency and financial condition report (SFCR) annually and disclose additional information privately to regulators. In the SFCR, firms need to clearly explain aspects of their approach to Solvency II, such as the use of an internal model and any non-compliance with regulatory solvency requirements. Solvency II sets out the disclosure requirements for the SFCR such that the quality and standardisation of firm disclosures should improve.<sup>(2)</sup> The improved reporting requirements will also provide supervisors with better and more consistent information.

The higher quality and quantity of firm disclosures, in turn, should improve market participants' understanding of an insurer's business model and risks, thereby strengthening market discipline. For example, firms will be required to disclose any significant non-compliance with the SCR, to explain the causes and consequences of this non-compliance, and to disclose any measures taken to resolve the breach.

(1) See Directive 98/78/EC for more information.

(2) The structure and content of the SFCR can be found in Commission Delegated Regulation (EU) 2015/35 (2014).



## Issues to consider post implementation

While Solvency II is much more comprehensive than the current European regulatory framework, and represents a step change in the way that firms will be regulated, it does not directly address all policy areas relevant to prudential regulation. A number of these policy areas have been identified since the financial crisis. It is therefore important for the Bank to monitor the way that firms adapt to Solvency II, to evaluate its impact and analyse the extent to which the framework meets its original objectives. Post-implementation monitoring, by the EC, Bank and other national regulators, will then inform any future revisions to the framework.

### Policy areas that do not explicitly feature in Solvency II

Solvency II does not directly address the resolution of insurance companies. Resolution is the process by which authorities can intervene to manage the failure of a firm in an orderly way. The recent financial crisis highlighted a need to improve the resolution framework for failing financial institutions and to solve the problem of 'too big to fail'. Since the crisis, there have been major developments regarding the resolution of systemic banks;<sup>(1)</sup> attention has also turned to developing resolution plans for systemic insurers.<sup>(2)</sup>

Currently, insurers that are designated as systemically important by the Financial Stability Board must develop recovery and resolution plans. In addition, the PRA has its own expectations regarding the resolution of UK insurers. The PRA's Fundamental Rules apply to all regulated firms and Fundamental Rule 8 states that a firm must prepare for resolution.<sup>(3)</sup> Furthermore, it is expected that if significant barriers to the resolvability of an insurer are identified then, where possible, the insurer should propose and implement changes to reduce those barriers.<sup>(4)</sup>

Another important policy area which does not feature explicitly within Solvency II is the capital treatment of so-called non-traditional and non-insurance (NTNI) activities by insurers. Non-traditional (NT) insurance activities often involve the sale of products that may expose an insurer to risks not generally associated with traditional insurance business, such as liquidity risk, and may have systemic consequences.<sup>(5)</sup> Insurance groups sometimes conduct other financial activities, for example, the lending of securities such as stocks or derivatives to other institutions, outside of licensed insurance entities, which is classified as non-insurance (NI) business. In many jurisdictions, insurance companies are restricted to only undertaking traditional insurance activities or are only able to conduct very limited amounts of non-insurance business.

The failure of AIG during the financial crisis demonstrated the risks that can arise when undertaking large quantities of NTNI

business.<sup>(6)</sup> Therefore, the relative size of a firm's NTNI business should influence its approach to risk management, for example, whether it is more appropriate to use the standard formula or an internal model. An internal model should capture all quantifiable risks that a firm is exposed to and so should cover a firm's NTNI business. By contrast, the standard formula may not capture all of the risks posed by NTNI business and so may not be appropriate for firms undertaking large quantities of these activities.

### Policy areas in Solvency II that need monitoring or further consideration

While internal models can be important for some firms in setting accurate risk-based capital requirements, due regard needs to be given to their limitations. It is important that firms do not place undue reliance on internal models or treat them as 'black boxes' and simply take model outputs at face value. As with all models, the output of an internal model relies on the quality and quantity of input data and the design and calibration of the model itself. Furthermore, although some elements of internal models can be theoretically strong, they are difficult to implement in practice.

Regular and robust monitoring of internal models is needed to verify that, following approval of an internal model, it continues to reflect the true risk profile of a firm and is used and understood appropriately within the business. When considering the ongoing appropriateness of internal models, the Bank will consider the lessons learnt from the use of models in the banking industry.

The PRA will seek to develop and monitor complementary measures that are independent of internal models, to help assess the ongoing appropriateness of internal models following the initial approval. Furthermore, if a firm's risk profile significantly deviates from the assumptions underpinning the calculation of the SCR by an internal model, supervisors will be able to require the firm to change the model so that it is appropriate. In exceptional cases, the PRA will be able to impose a 'capital add-on' that would increase the SCR to the quantity of capital that would reflect the true risk profile.<sup>(7)</sup>

In calculating an overall capital requirement, there are components within the standard formula that set out the amount of capital that a firm is required to have for each asset

(1) See Bank of England (2014b) or Gracie, Chennells and Menary (2014) for more information.

(2) See Carney (2014).

(3) See the PRA Rulebook for the Fundamental Rules, which can be accessed here: <http://fshandbook.info/FS/prerulebook.jsp>.

(4) See Bank of England (2014a).

(5) See International Association of Insurance Supervisors (2013) for three guiding principles to classify non-traditional insurance activities.

(6) The collapse of AIG — a major global insurance group — was triggered by its activities in derivative and securities lending markets.

(7) The same also applies for those firms using the standard formula.

class in which it has invested. It is important that, following implementation, these 'capital charges' optimally reflect the true underlying risk of the asset class they represent. Furthermore, it will be important to remove any unintended barriers that may arise, which might prevent insurers from investing in the real economy. Therefore, the standard formula capital charges will need to be further considered following the implementation of Solvency II.

The Bank seeks to achieve agreement at the global and European levels by participating in and influencing the development of insurance regulatory policy. Through active engagement with institutions and regulators such as the European Insurance and Occupational Pensions Authority (EIOPA) and the International Association of Insurance Supervisors (IAIS), the PRA will continue to advance its safety and soundness and policyholder protection objectives.<sup>(1)</sup>

## Conclusion

Solvency II is a new prudential regulatory regime for European insurance companies that will come into force on

1 January 2016. It is the latest evolution in European insurance regulation and modernises the regulatory regime through the introduction of several key features, a number of which are highlighted in this article.

With its objectives of enhancing policyholder protection and creating a safer, more resilient insurance sector, Solvency II is expected to bring many benefits. It will be the first forward-looking, risk-based and going-concern regime that will be consistently applied across Europe. Realising the benefits of Solvency II will take a substantial effort. It is extremely important that the implementation of the new regime is smooth and robust. The Bank is working closely with firms and other market participants to achieve this outcome.

Although Solvency II is a step forward, there are policy areas that need further thought and development. Upon implementation of Solvency II, the Bank will look to evaluate the effects of implementing the new regime. This way, should Solvency II be amended in future, the Bank will be in a strong position to help inform and shape the debate.

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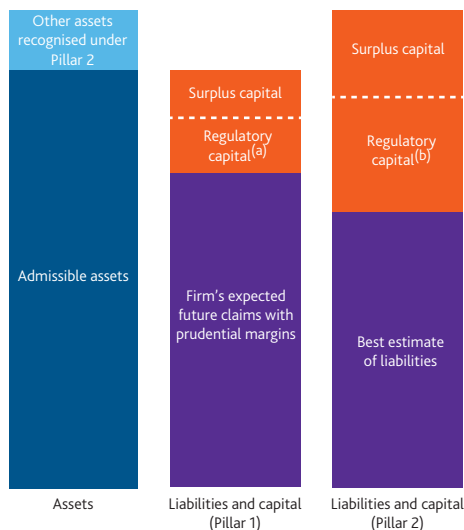
(1) See <https://eiopa.europa.eu/about-eiopa/missions-and-tasks> and <http://iaisweb.org/index.cfm?event=getPage&nodeId=25181> for more information about EIOPA and the IAIS respectively.

## Annex 1 Introducing a new balance sheet for Solvency II

A stylised insurance company balance sheet is set out in **Figure 1** of the main text of the article. This annex contrasts the way that insurers' balance sheets are constructed and measured between the current UK regime and Solvency II. Many of the features that Solvency II introduces are related to the new 'Solvency II balance sheet' and hence it is fundamental to the new regime.

**Figure A1** depicts a stylised example of an insurer's balance sheet under the current UK solvency regime. This regime consists of two 'pillars', which are different regulatory requirements with which UK insurance companies must comply.<sup>(1)</sup>

**Figure A1** Stylised example of an insurer's balance sheet under the current UK regulatory regime



(a) This is qualifying capital that satisfies Pillar 1 regulatory requirements.  
(b) This is qualifying capital that satisfies Pillar 2 regulatory requirements.

The balance sheet under the first of these two pillars broadly follows the Solvency I requirements.<sup>(2)</sup> Firms are restricted in the quantity and type of assets that they are able to recognise on the balance sheet as admissible. On the liability side, firms are required to calculate their expected future claims using assumptions that include prudential margins. The margins are set by a firm's management and so can vary significantly among firms, thereby hindering transparency. A firm's capital requirements are determined as a simple, factor-based calculation that is not risk-sensitive.

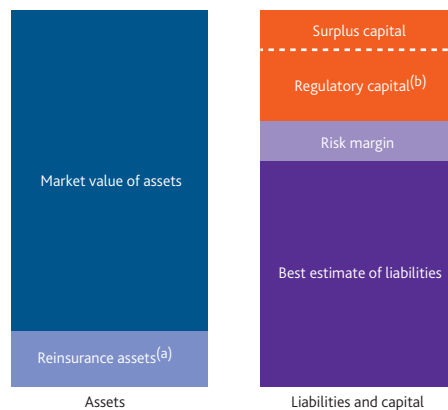
The second pillar within the current UK regime is supplementary to Solvency I requirements and is known as ICAS. Pillar 2 recognises all assets admissible under Pillar 1, along with any additional assets that meet ICAS criteria.

Liabilities under this pillar are calculated as the realistic value of the firm's expected future claims. As shown in **Figure A1**, it is possible that a firm's liabilities under Pillar 1 are greater than under Pillar 2 because of prudent margins within Pillar 1 liabilities.

Pillar 2 requires firms to perform a regular assessment of the adequacy of its financial resources, with respect to the risks it is exposed to. This should assess the amount and quality of capital necessary to cover those risks. As shown in **Figure A1**, this capital requirement is often likely to be greater than the Solvency I capital requirements as it should provide a more accurate assessment of a firm's risks. The PRA seeks to ensure that the risk that a firm is unable to pay its liabilities as they fall due is insignificant. So, if the PRA considers a firm's capital resources to be insufficient, it can require the firm to have additional capital above that identified in the firm's own assessment.

Solvency II introduces a new approach to constructing the balance sheet as shown in **Figure A2**. The balance sheet is based on the principles of market-consistent valuations and a going-concern regime. These principles, and many of the components of the balance sheet under Solvency II, are explained within the article.

**Figure A2** Stylised example of an insurer's balance sheet under Solvency II



(a) Reinsurance assets are calculated on a best-estimate basis.  
(b) This is qualifying capital that satisfies regulatory requirements.

On the asset side of the balance sheet, Solvency II will remove many of the restrictions concerning which assets are admissible that existed under Solvency I. Firms will be permitted to invest in assets that are appropriate to their business. On the liability side of the balance sheet, similar to Pillar 2 of the current regime, insurance liabilities will be determined on a best-estimate basis. However, Solvency II

(1) The 'pillars' of the current UK regime are different from, and should not be confused with, the three pillars under Solvency II.  
(2) In reality Pillar 1 of the UK regime is more complicated than this. For example, additional valuation requirements apply to life insurance companies that write significant amounts of policies that allow policyholders to participate in the profits of the company.

introduces a new component to the valuation of liabilities: a 'risk margin'. The risk margin is fundamental to Solvency II being a market-consistent and a going-concern regime and is discussed in the box on page 144. Finally, Solvency II introduces forward-looking, risk-based capital requirements, which firms can calculate using a standard formula or internal model. In the example shown in **Figure A2**, the firm's capital is in excess of capital requirements.

Solvency II ushers in a single solvency assessment for European insurers. The convergence in the preparation of insurers' balance sheets across Europe will address the disparate requirements that persisted under Solvency I. This will lead to more consistent solvency reporting and a better understanding of the risks faced by insurers.

## Annex 2 The matching adjustment

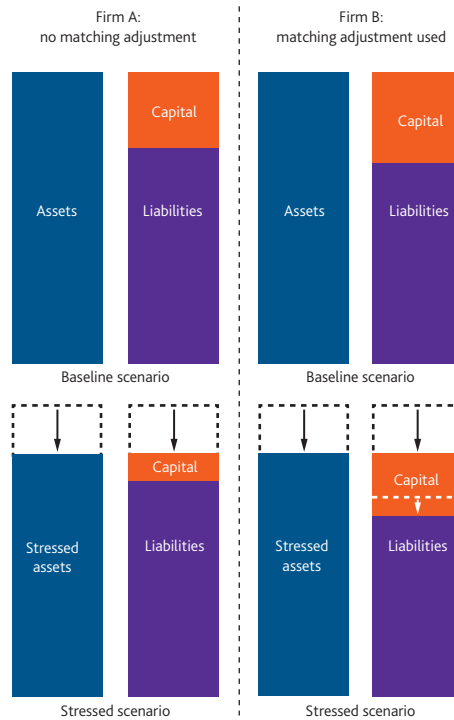
In the short term, an insurance firm faces the risk that the market value of its bond assets may fall and so could only be sold for less than expected.<sup>(1)</sup> An increase in a bond’s yield indicates that the price has fallen. This could be due to a combination of factors such as an increased risk of the bond issuer defaulting and the bond being harder to sell (known as liquidity risk).<sup>(2)</sup> Large swings in asset prices, in turn, may have an impact on a firm’s solvency position, where market-consistent valuations are used.

In the long run, an insurer with long-term liabilities holds assets to maturity for the purpose of fulfilling its obligations to policyholders — irrespective of any short-term asset price volatility. For example, annuity writers often invest in long-term, illiquid bond assets that pay cash flows equivalent to the amount owed to policyholders. In this scenario, the annuity writers have ‘matched’ their cash in-flows with their payments to policyholders and are only exposed to the risk of the bond issuer defaulting.

The matching adjustment (MA) looks to address the balance sheet volatility that some insurers experience in the short term when using a market-consistent approach. It is a specific adjustment to the discount rate that insurers will be able to use to value certain predictable liabilities, for example, annuity payments. When a higher discount rate is used to calculate the present value of a firm’s expected future claims, the present value falls. By adjusting the liability side of the balance sheet, this retains the market-consistent valuation of assets, while reducing the impact of asset-price fluctuations on the balance sheet. Only those firms that hold illiquid, long-term assets to maturity, to match the long-term expected payouts to policyholders, will be able to seek prior supervisory approval to use the MA.

**Figure A1** shows an example of how the use of the MA alters the impact of a stressed scenario on the balance sheets of two

**Figure A1** Stylised example of the impact of using the matching adjustment



life insurance companies. We assume that in the baseline scenario, both firms have an equal value of assets but that the value of liabilities differs slightly, due to the use of a different discount rate that includes the MA. A macroeconomic shock causes a decrease in the value of assets for both companies (for simplicity, we will assume that the value of liabilities is not affected by the shock).

For firm A, which does not use the MA, its capital absorbs this loss and is significantly reduced. It is possible that the firm could breach its capital requirements as a result. For firm B, which uses the MA, the stress is partially offset by the MA which absorbs the short-term loss of value due to liquidity risk, leading to a decrease in the value of liabilities. Therefore the impact on firm B’s capital is less than for firm A.

(1) The same points apply to other assets with expected cash flows similar to that of a bond.

(2) See Churm and Webber (2007) for more information on corporate bond markets.

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