

# Solvency II: An opportunity or a threat for insurance asset managers and servicers?



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The implementation of Solvency II, a new European insurance regulatory framework, will not only have an impact on insurers but will also affect the broader Buy-Side market participants. As new, increasing regulatory demands are imposed on insurance companies, some of these requirements will need to be passed on to their asset managers, asset servicers and custodians. This “interconnectivity of risk” across the buy side will create both challenges and opportunities for the key players. Asset managers and servicers will need to respond positively to help their insurance clients to achieve regulatory compliance if they want to retain and grow their insurance-related business.

A core requirement of Solvency II is for insurers to report new funding ratios like the Solvency Capital Requirement (SCR) to their regulators. Since market risk constitutes nearly 60 percent<sup>1</sup> of insurers’ total risks, there needs to be a significant focus on market risk, related SCR Market ratios and the underlying assets managed on the insurer’s behalf. With insurers seeking to actively manage their SCR market on assets, increased data services such as look-through and greater risk transparency will be the new order of the day. This article takes a close look at the type of competencies asset managers and servicers will need to develop to prosper in this new environment. It also raises the possibility that asset managers can go beyond helping insurance clients with regulatory reporting by providing value added services designed to actively manage capital charges for market risk.

## The Solvency II Standard Formula framework

Under Solvency II, insurance companies operating in Europe can seek to comply with regulatory capital requirements either through the implementation of an idiosyncratic internal model, the usage of the more simplistic Standard Formula approach or the combination of both (partial internal models). During the first few Solvency II years, all insurance firms operating in Europe will have to report their SCR figures

according to the Standard Formula. The publication of these figures will facilitate the transition into the new Solvency II regime. It will also allow regulators, market and rating analysts to use the common Standard Formula framework to easily compare capital reserves across the insurance sector.

As shown in Figure 1, the Standard Formula SCR calculation is based on the aggregation of different capital charges at the individual block level.

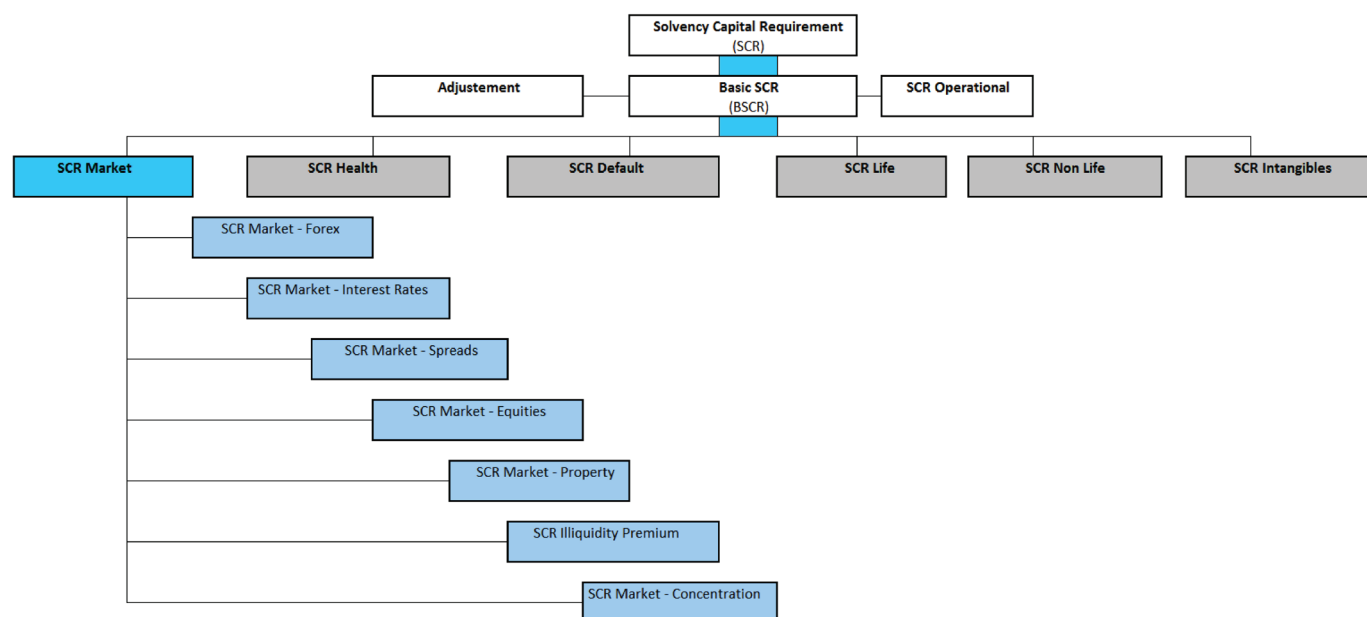


Figure 1: EIOPA Solvency II Standard Formula framework.

For asset managers and custodians of insurance assets, the SCR Market block (MSCR) is highly relevant and may add value. Where required, asset managers may provide a financial performance with a better alignment onto the insurers' Standard Formula capital requirements. Custodians can leverage their operational strengths through the supply of granular asset data to insurance and asset management firms, along with a daily feed enrichment service, such as funds look-through, and ad-hoc reporting.

Asset managers will need to embed a market SCR calculation process into their risk management and client reporting framework. To help achieve the required operational efficiencies, a specific data mapping process to align with the Solvency II Standard Formula will be required, along with the ability to leverage pricing libraries already used for other market risk simulations.

The asset-only MSCR calculation process can be divided into a three-step approach:

- **Step 1** – Mapping assets to the Solvency II Standard Formula instrument classification.
- **Step 2** – Applying prescribed shocks and capital charge formulae as applicable.
- **Step 3** – Aggregating individual capital charges into an asset-only portfolio Market SCR.

## Calculating SCR with a scenario approach (shock)

One of the approaches for calculating SCR market risk is to use the Standard Formula approach, incorporating scenarios prescribed by EOPIA. By applying these prescribed shocks to underlying assets and related pricing libraries, insurance asset managers and asset servicers can retrieve instrument-level P&L across the yield curve transformations (up and down), equity and currency factor shocks. These t0 stress scenario results can be used in different ways. For example, an asset servicing team can perform the prescribed interest rate shocks on a wide universe of unit-held securities. These results could be used by insurance clients to feed their own in-house Standard Formula process, where they would create their own investment portfolios and include liability shock results as well. For asset managers of insurance-related mandates, the different MSCR scenarios on portfolios can be analyzed in great detail. As shown in figure 2, these scenarios include yield curve transformation results (up and down), equity price shocks (Global Equity or Equity Others) and relevant currency stresses.

Aggregation	Instrument Type	Currency	Scenario
S2SF	Instrument Type - Cny (6)	EUR	SS_Standard_Formula_Full

Portfolio Name	Context Name	Reporting C
MSCR Balanced Fund	20120816	

Actions	Act/Book	Base Val	Val (Pos)	P&L \$ (Pos)	ISIN
	S2SF Instrument Type - Cny (6)	2,815,829,312.20	2,726,865,515.78	-88,963,796.42	
	Non-EEA Government Bond (6)	1,215,336,121.12	1,141,923,668.93	-73,412,452.19	
	Non-Government Bond (3)	601,592,260.44	583,721,115.07	-17,871,144.37	
	EUR (39)	553,734,030.88	537,848,810.58	-15,885,220.30	
	GBP (1)	26,969,891.72	25,120,430.19	-1,849,461.53	
	PRUDENTIAL PLC PRUFIN 8 1/2 06/29/49 Corp	26,969,891.72	25,120,430.19	-1,849,461.53	XS004789741
	USD (1)	20,888,337.84	20,751,875.10	-136,462.74	

SS_irup	SS_irdown	SS_eqglobal	SS_eqother	SS_eqdown	SS_equp	SS_eqdownZAR	SS_equpUSD	SS_eqdownUSD	SS_equpTHB	SS_eqdownTHB	SS_equpSEK	SS_eqdownSEK	SS_equpRUB	SS_eqdownRUB	SS_equpPLN	SS_eqdownPLN

Figure 2: Standard Formula prescribed interest rate shock results.

These hypothetical profit and loss figures can be directly used by asset managers to better understand position sensitivities across an investment universe of internationally listed securities, OTC derivatives and structured products.

### Asset-based Market SCR and what-if analysis

MSCR is split between different instrument types, with related capital charges based on either yield curve transformations, price shocks or prescribed formulae. The aggregation of these capital charges is not linear. It uses an EIOPA-prescribed correlation table shown in Figure 3.

	Interest Rate	Equity	Property	Spread	Currency	Concentration
Interest Rate	100%	50% / 0%	50% / 0%	50% / 0%	50%	50%
Equity		100%	75%	75%	50%	50%
Property			100%	50%	50%	50%
Spread				100%	50%	50%
Currency					100%	50%
Concentration						100%

Figure 3: SII Standard Formula market SCR correlation block.

For a given asset portfolio, asset managers should be able to retrieve a market SCR report (see figure 4) to show the total capital charge resulting from individual shocks, formulae and aggregation rules. These figures can also be displayed for each block, such as equity others or equity global.

Acct/Book	SCR (Standard Formula)
SCRmarket (5)	587,634,818.66
SCRreq (2)	324,220,893.65
SCRreqother (23)	187,180,006.15
SCRreqglobal (67)	159,266,097.00
SCRfx (197)	287,847,175.05
SCRsp (2)	119,914,137.48
SCRspbond (72)	117,733,189.48
SCRspcd (7)	2,180,948.00
SCRint (197)	88,963,796.42
SCRconc (15)	1,428,151.13

Figure 4: Standard Formula market SCR report example.

For asset allocation specialists working on insurance-related mandates, it is important to also test top-down investment ideas across asset classes and understand possible switch impacts on expected returns and risk budgets such as volatility, Value-at-Risk (VaR) or expected tail losses. Ideally, it should be possible to perform "what-if" sensitivity analysis on portfolios' risk measures as well as asset-based Market SCR capital charges. For example, to simulate a reallocation at an instrument or asset class level (see figure 5) to assess, on the fly, the MSCR impact of such a trade before it is executed. In this specific example, excluding liabilities, a rebalancing of a hypothetical balanced fund from government bonds into equities would increase the market SCR capital charge from 587 to 625 million euros.

Portfolio Name: MSCR Balanced Fund			Context
Actions S2: SCR Scheme Parent			
Acct/Book	SCR (Standard Formula)	WI: SCR (Standard Formula)	
SCRmarket (5)	587,634,818.66	625,700,522.54	
SCRreq (2)	324,220,893.65	402,850,065.41	
SCRfx (197)	287,847,175.05	257,579,413.62	
SCRsp (2)	119,914,137.48	116,332,366.12	
SCRint (197)	88,963,796.42	63,341,911.14	
SCRconc (15)	1,428,151.13	711,343.06	

Figure 5: SII Standard Formula "what-if" analysis on market SCR.

## Rising to the Solvency II challenge

For Europe-based insurance firms, the emergence of the principle-based Solvency II regulatory regime has several important implications. Among these are the need to actively manage volatility in their balance sheet (both assets and liabilities), to improve corporate governance and to produce ad-hoc capital reporting using the Standard Formula framework. As a result of this evolution, asset managers, asset servicers or custodians to the European insurance segment may see growing Solvency II-related demands from their clients. These may range from the need to communicate market SCR ratios for a given fund, the supply of a granular fund of funds' data or the performance of specific stress test scenarios. For insurance firms using a more complex approach to their economic capital assessment, risk budgets and related constraints on their asset managers could also take the form of long horizon VaR figures, in line with Solvency II Pillar 1.

By utilizing such data and analytics capabilities, asset managers and servicers may see in Solvency II an opportunity to:

- Help insurance clients on their complex journey towards regulatory compliance.
- Provide value added services focused on the management of capital charges for market risk.

These opportunities, combined with a traditional focus on achieving the clients' desired investment goals, can help lead to superior business performance.

## About IBM Business Analytics

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Business Analytics solutions enable companies to identify and visualize trends and patterns in areas, such as customer analytics, that can have a profound effect on business performance. They can compare scenarios, anticipate potential threats and opportunities, better plan, budget and forecast resources, balance risks against expected returns and work to meet regulatory requirements. By making analytics widely available, organizations can align tactical and strategic decision-making to achieve business goals. For further information please visit [ibm.com/business-analytics](http://ibm.com/business-analytics).

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1 Source: EIOPA report on the fifth Quantitative Impact Study for Solvency II.



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