

Solvency II treatment of insurance company investment in securitisation, CLOs and credit funds

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What you need to know

- Solvency II will start to apply to EU-based insurance and reinsurance investors from January 2016.
- Capital requirements for financial assets will depend upon diversification within the insurer's investment portfolio – removing the concept of investment limits.
- Capital risk factors for direct holding of loan assets or investment in loan funds will depend on rating and maturity, while holding of securitisation positions can be capital-intensive.

In the run-up to implementation of Solvency II, arrangers and managers are seeking guidance on how the new rules will apply to insurance investors in securitisations, managed CLOs and credit funds, including the treatment of these assets in the insurer's capital calculation and how managers should cater for the capital impact when structuring transactions.

While the actual capital calculation depends on an insurer's entire investment portfolio, in this article we aim to give an overview of the framework to assist with understanding the capital drivers which impact investment decisions.

Solvency II

The new capital regime is found in EU Directive 2009/138/EC on the taking up of insurance business ("Solvency II"), which will start to apply to insurance and reinsurance companies from the beginning of 2016. Delegated acts setting out the detailed capital treatment of financial assets held by insurers (the "Delegated Acts") came into force on 18 January 2015.

Under Solvency II, insurance companies must hold eligible "own funds" equal to the Solvency Capital Requirement ("SCR") to cover the amount of unexpected losses arising both from their underwriting business and the assets in which they invest. Essentially, own funds will be equal to the amount of the insurer's assets in excess of its liabilities, together with items which can be called up to absorb losses (such as unpaid share capital). Own funds are further classified into tiers, according to their loss-absorbing capability, and there are limits on the amount of each tier that can be used to meet the SCR.

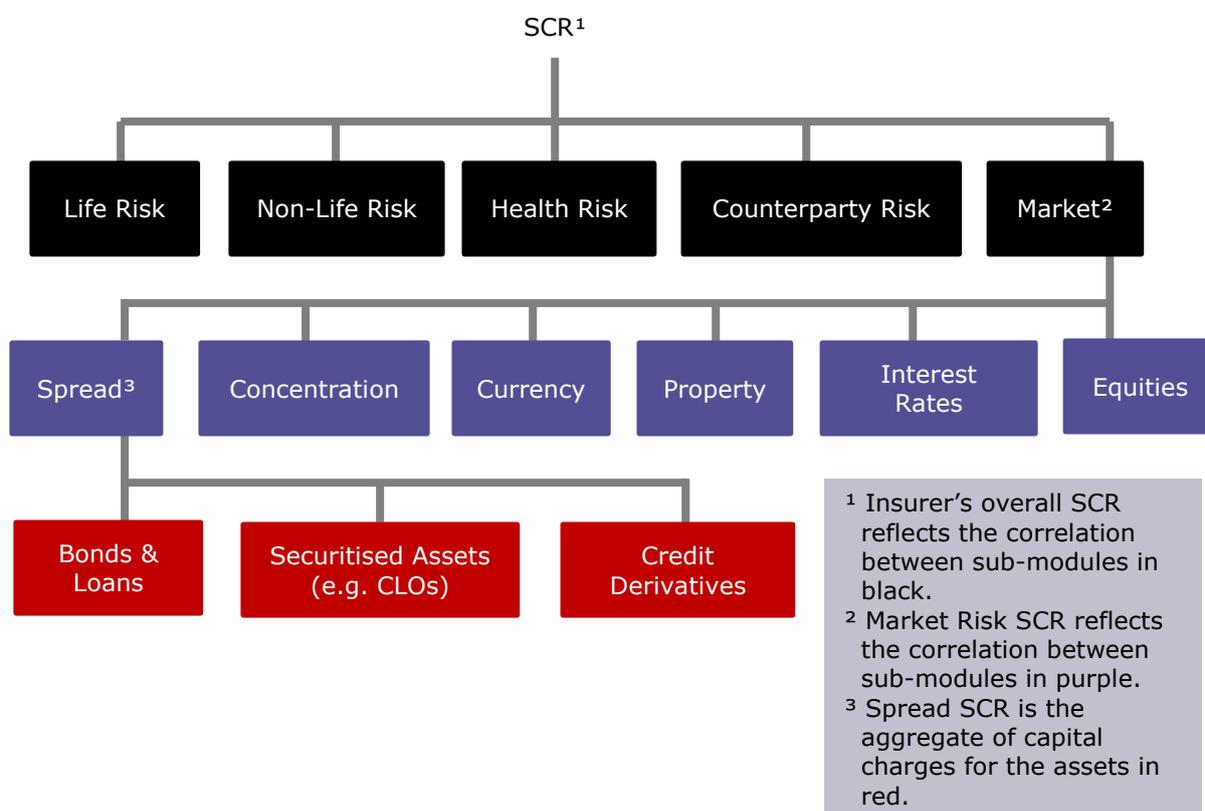
SCR calculation

In calculating the SCR, the balance sheet is divided into five "risk modules". Each of the five risk modules involves a calculation resulting in the capital requirement for that module and the five are input into the calculation of the SCR, which represents the square root of the sum of the products of the capital charges for each possible combination of two modules adjusted for the correlation between these two modules. The capital charge for each module can be calculated using an insurer's own internal model if approved by its supervisor but, in the absence of such approval, Solvency II sets out standardised formulae for the calculation of capital requirements.

Market risk module

The "market risk module" calculates capital requirements covering the market risk of financial assets, i.e. the value-at risk in a stressed market for that asset, rather than assessing the credit risk of the exposure. The market risk module is further divided so that financial assets are grouped together in buckets or sub-modules, such as equities, interest rates, property, currency, concentration and spread risk. Under Solvency II there is no longer any limit on the proportion of the insurer's balance sheet which can be invested in each bucket. However, the correlation between buckets is a factor used in calculating the capital charge across the entire market risk module.

Loan assets, bonds and other securitised assets are all assessed in the “spread risk” bucket, which assigns standard “stress factors” to the asset, depending on the type of asset, its modified duration¹ and its rating. The capital requirement for the spread risk on the asset is equal to the loss in the insurer’s own funds which would result from an instantaneous decrease in the value of the asset in a stress scenario. This decrease is presumed to be equal to the relevant standard stress factor.



Thus in each case, an insurer applying the standard formula to calculate its capital requirement for market risk will be looking at:

- (a) the size of the stress factor applicable to that asset; and
- (b) the correlation between:
 - (i) the assets in the relevant bucket (in this case, spread risk); and
 - (ii) the other buckets of assets in its portfolio.

The diagram above demonstrates this.

¹ The "modified duration" of a bond for Solvency II purposes is not defined but we assume it has the standard meaning, being the period in which the cashflows on the bond discounted to the date of purchase will equal the price of the bond, such period being adjusted for price sensitivity to changes in interest rates.

The “look through” approach versus securitisation charges

Loans, bonds, securitised assets and credit derivatives are all assessed within the spread risk bucket and the capital charge for these assets is aggregated before the correlation with other buckets (such as equities, property assets, currency and interest rate risk, and concentration risk) is assessed. The stress factor applicable to direct investment in loan or bond portfolios versus securitisations of the same loan or bond portfolio is therefore an important driver in the decision as to which of those assets an insurer should hold.

Insurers investing in funds are required to “look through” the fund to the underlying assets in determining the applicable capital requirements and investment in the fund will therefore attract the same charges as a direct investment in a portfolio of those assets.

Table A below shows the stress factor applicable to a loan or bond portfolio².

Table A

Stress Factor applicable to rated loans and bonds

Rating		AAA		AA		A		BBB		BB		B or less	
Modified Duration in years (dur_i)	Stress Factor	a_i (%)	b_i (%)										
Up to 5	$b_i \cdot dur_i$	-	0.9	-	1.1	-	1.4	-	2.5	-	4.5	-	7.5
More than 5 and up to 10	$a_i + b_i \cdot (dur_i - 5)$	4.5	0.5	5.5	0.6	7.0	0.7	12.5	1.5	22.5	2.5	37.5	4.2
More than 10 and up to 15	$a_i + b_i \cdot (dur_i - 10)$	7.0	0.5	8.4	0.5	10.5	0.5	20.0	1.0	35.0	1.8	58.5	0.5
More than 15 and up to 20	$a_i + b_i \cdot (dur_i - 15)$	9.5	0.5	10.9	0.5	13.0	0.5	25.0	1.0	44.0	0.5	61.0	0.5
More than 20	$\min[a_i + b_i \cdot (dur_i - 20); 1]$	12.0	0.5	13.4	0.5	15.5	0.5	30.0	0.5	46.5	0.5	63.5	0.5

NB: Unrated loans/bonds have different stress factors according to whether the borrower has posted collateral.

A “securitisation” for these purposes is defined in the same way as in the Capital Requirements Regulation (which determines the capital charges applying to banks investing in securitisations). That definition includes any transaction in which the credit risk of an exposure or pool of exposures is tranching and losses on the pool are distributed according to the subordination of tranches. Thus, a single tranche fund will not be seen as securitisation, but a fund with more than one tranche of credit risk – which may not be clear from the debt structure but may arise from other credit enhancement within the transaction such as guarantees or over-collateralisation – will be treated as a securitisation and the securitisation stress factors will apply. CLOs will be categorised as securitisations as they issue their bonds in tranches.

Solvency II also distinguishes between “Type 1” securitisations, which are considered to be “high-quality” and given lower stress factors under the standardised model and “Type 2” securitisations, which are given significantly higher stress factors. “Type 1” securitisations for this purpose include asset classes such as prime residential mortgages, loans to SMEs, auto-loans and consumer credit.

² NB: All ratings used in these tables are based on the ESA’s Joint Consultation Paper on RTS for the allocation of credit assessments of ECAs to an objective scale of credit quality steps 06/03/15 under Article 109(a) of Solvency II, using S&P ratings as an example.

They do not currently include managed CLOs or other securitisations of corporate loans. Identifying whether a transaction is a securitisation, and whether or not it is "high quality" for Solvency II purposes, is therefore a critical exercise for insurer investors. Besides belonging to one of the accepted "Type 1" asset classes, Type 1 securitisations will also have to meet certain eligibility criteria in relation to the legal structure of the transaction, loan to value ratios, credit quality of the underlying assets etc.

Table B shows the stress factor for a securitisation of "Type 1" assets such as certain prime residential mortgage securitisations.

Table B

Type 1 Securitisation Stress Factor = lower of i) X x modified duration and ii) 100%

Rating	AAA	AA	A	BB
Where X =	2.1%	3%	3%	3%

Table C shows the stress factor for a "Type 2" securitisation position, such as a CLO portfolio.

Table C

Type 2 Securitisation Stress Factor = lower of i) Y x modified duration and ii) 100%

Rating	AAA	AA	A	BBB	BB	B	<B
Where Y =	12.5%	13.4%	16.6%	19.7%	82%	100%	100%

So by way of example, under the standard formula a AAA rated loan with a modified duration of four years will have a stress factor of 3.6 per cent³ while a AAA rated high-quality or "Type 1" securitisation exposure with a four-year modified duration will have a stress factor of 8.4 per cent⁴. Other, non-high-quality or "Type 2" securitisation tranches with the same rating and duration attract a huge stress factor of 50 per cent of notional⁵.

Clearly, a direct comparison between the stress factor applied to a CLO tranche versus holding the underlying loan portfolio can only be done on a case-by-case basis, as each individual loan in the portfolio would need to be assessed – a six-year BBB loan, for instance, will attract a stress factor of 14 per cent – but it can be seen that very different results will be achieved according to whether loans are held directly or through exposure to securitisation.

Conclusion

Portfolio managers are becoming more alive to the potential impact of Solvency II on insurer investors and are factoring it into structuring their loan funds. This article demonstrates that there are several factors that have to be taken into account, the most pertinent being whether a fund structure is a securitisation or whether a "look through" approach can be taken. For CLOs, the outcome appears unavoidable unless there is a change to the designation of Type 1 and Type 2 securitisation - they remain Type 2 for the time being, with the consequent higher stress factors. The actual capital calculation however is always dependent on an insurer's entire investment portfolio and is something that insurers will be calculating themselves to see if a certain structure is appealing.

³ i.e. under Table A $b_i \times \text{dur}_i = 0.9\% \times 4 = 3.6\%$

⁴ i.e. under Table B $X \times \text{modified duration} = 2.1\% \times 4 = 8.4\%$

⁵ i.e. under Table C $Y \times \text{modified duration} = 12.5\% \times 4 = 50\%$

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