



SOLVENCY II

Comparing equity investing strategies under Solvency II

The Solvency II capital charge is an important aspect in portfolio construction and asset allocation for insurance companies, next to the traditional trade-off between risk and return. For most assets, the capital charge is fixed and known upfront. However, for equities several approaches are possible. For standard equity portfolios the capital charge is high and has a variable component – the symmetric adjustment. For long-term equity portfolios a much lower and fixed capital charge applies, but at the cost of a much more constrained portfolio. Protected equity portfolios use a protective layer via options, which can lead to a capital-adjusted excess return, depending on several factors. We discuss and compare these different approaches to guide an equity investor under Solvency II.

STANDARD EQUITY TREATMENT UNDER SOLVENCY II

For EEA or OECD equity holdings the base Solvency Capital Requirement (SCR) is high under the standard model of Solvency II (39%) and has a variable component – the symmetric adjustment.¹ The resulting capital charge is very volatile and can go from one extreme point to another in only one year, as was the case in 2007–2008. In other words, the amount of capital that an investor needs to set aside for equity investments can vary significantly from one year to the next. In the current Solvency II review it is proposed to widen the corridor further, from a range of 10% to 17%, both up and down.

LONG-TERM EQUITY TREATMENT

A more beneficial treatment is possible if certain restrictions are satisfied. Under Solvency II, insurers can create a long-term equity portfolio with a low and stable SCR of 22%. These equity investments must be ring-fenced, assigned to specific insurance liabilities and held for more than 5 years. The solvency and liquidity position should also be such that forced sales of these equity investments can be avoided for at least 10 years. In addition, the portfolio should consist only of equities that are listed or based in the EEA.

Despite the attractive SCR, insurance companies have found it difficult, in general, to satisfy the constraints for this approach. The main issues are (i) the requirement of ringfencing, (ii) the difficulty to maintain the long-term equity assignment over the lifetime of the matched insurance obligations, (iii) the question what happens if insurance obligations need to be restructured and (iv) the difficulty to define and test the forced selling criterion. Work is underway in the Solvency II review to arrive at a more practical set of constraints, but the final picture is not available yet. This makes it uncertain at the moment whether this approach will be pursued more in the future by insurance companies.

PROTECTED EQUITY STRATEGIES

Another approach to reduce the SCR for equity portfolios is to use a protective put option strategy. Variations are also possible in this case, for example when the put option strategy is (partly) financed by selling out-of-the-money put or call options. In the Solvency II framework this approach qualifies as a financial risk-mitigation technique if there is no material basis risk between the option and the underlying equity holding.

As an example, the figure below shows the effect on the SCR for different option strategies. The SCR is here calculated at the starting point, so when the options are bought. In this example we protect the full equity portfolio with two-year put options with different strike levels.

Impact put option strategy on equity SCR

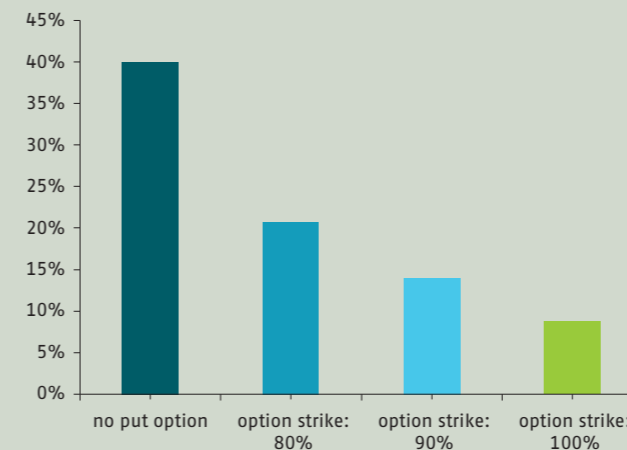


Figure 1: Impact of different put option strategies on the equity SCR. We here consider a world equity index with an SCR of 40%. Source: Aegon Asset Management, Ortec Finance, as of 31 October 2022.

As expected, a significant reduction in SCR occurs when a protected equity strategy is used. The SCR reduction is, of course, greatest for options with a strike level of 100%. Note, however, that even in this case the SCR is not dropping to zero. This is because the option price does not move one-to-one with the price of the underlying stock index: the absolute value of the option's "delta" is smaller than one.

In practice a careful choice is needed, because the option strategy affects both the expected return and the net capital charge. This is illustrated in the figure below by showing the excess return corrected for the capital cost. For this case we vary the strike level of the put option (100%, 90% and 80%) and the size of the protection (100%, so the whole equity portfolio, 80% and 50%).

Capital adjusted return put option strategy – 20% equities initially

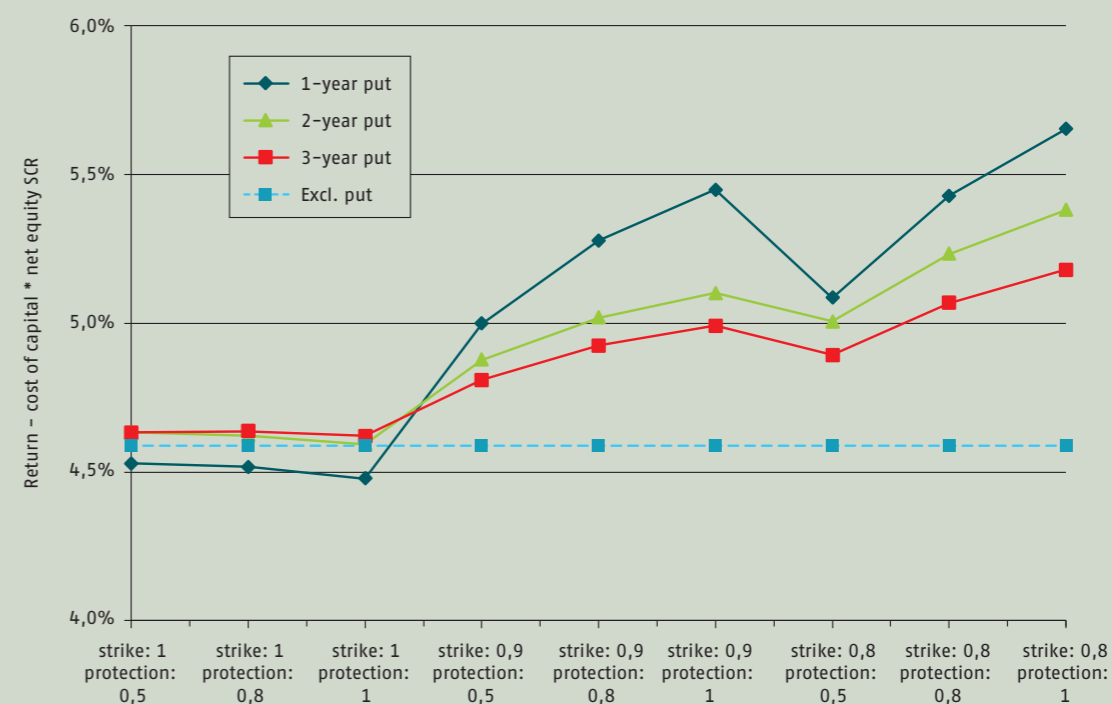


Figure 2: Impact of different put option strategies on the capital adjusted excess return for 20% equities initially. Source: Aegon Asset Management, Ortec Finance, as of 31 October 2022.

Figure 2 shows that strategies with a high strike level (100%) do not add value in this example, due to the large negative impact of the high strike level (i.e., expensive options) on the expected return. More positive results are found for lower strike levels (e.g., 80% or 90%), because they cause less drag on the expected return while still significantly reducing the SCR.

Tailoring the specific option strategy is thus important, to balance the positive effect of the SCR reduction with the negative effect on the expected return. Key aspects here are the current option prices in the market, the size of the equity risk premium, the cost of capital and the current allocation to equities. Practical issues, like using a layered strategy and monitoring the hedge effectiveness over time, are also important of course.

CONCLUSIONS

The optimal choice for an equity investor under Solvency II depends on the specific circumstances. For example, reducing the capital charge becomes more important when the equity exposure increases, as diversification effects on the overall SCR level then diminish. A plain vanilla equity mandate may work well for an insurance company when the risk budget and available capital is sufficiently large. For long-term equity portfolios a significant capital relief may be achieved, but at the cost of a much more restricted portfolio in terms of holding period, ring fencing, stress testing, etcetera. Protected equities may provide a middle ground in this respect, with substantial capital relief while keeping flexibility in terms of the portfolio composition and the level of protection. ■

1 – We use the Solvency II standard model throughout this paper.

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