



Briefing note
Currency risk

March 2013

Introduction

This paper focuses on how currency risk is of particular relevance to insurers and reinsurers and why the current Solvency II approach — by contravening the spirit of the Solvency II Framework Directive and incentivising poor risk management — is of great concern. The paper outlines the industry's proposal to alleviate these concerns.

What is currency risk?

Currency risk arises when obligations an entity has promised to fulfil (liabilities) are in a different currency from the assets it holds to cover those liabilities. This exposes the entity to fluctuations in exchange rates. In particular, it poses a threat if the value of the currency in which liabilities are priced appreciates relative to the currency of the assets.

Currency risk applies to insurers and reinsurers as well as other businesses. The Solvency II Framework Directive requires currency risk to be assessed over the coming 12 months to calculate an insurer's solvency capital requirement (SCR).

Currency risk

- Looks at the impact of exchange rate fluctuations on financial statements
- Is significant for some insurers and forms part of their SCR calculations
- Is minimised by matching assets and liabilities
- Is not treated adequately in the draft Level 2 implementing measures

A non-insurance firm example

A European construction firm has two equal-sized projects to build dams — one in US dollars and the other in euro. Both will take several years to complete and it is estimated that they will cost €1 000 each (converted at the current exchange rate).

The firm looks at its risk profile over the coming 12 months, which includes many risks facing the final actual cost of the projects. For example, the underlying labour costs may increase, accidents can happen, building regulations can change and exchange rates can move. The firm has put aside assets of €2 000 to cover the expected costs, plus a further €1 000 in excess funds to cover the risk of potential “bad” or unforeseen outcomes.

So how does the firm minimise its currency risk?

An essential starting point is to ensure that any assets held to cover anticipated costs are in the same currency as they are expected to occur — so dollars and euros in this example. This is both logical and consistent with sound risk management and relates to the principle of “matching”.

By currency-matching assets and expected liabilities, any movements in the dollar/euro exchange rate would impact the assets and the expected cost estimates equally and therefore have no “bottom line” impact on the finances of the firm.

However, the opposite is also true: unmatched currency positions lead to increased currency risk.



But what about the excess assets in our example?

There is a further €1 000 available to cover the possibility of cost estimates going “wrong”, based on historic analysis of “bad” outcomes on similar ventures. In this case it suggests that costs could increase by 50% over a 12-month period.

Based on the information it has available, the firm’s assumption is that the chances of having to suffer unexpected costs are the same for the two sites. Under this assumption, unexpected costs could occur in either one or both currencies with the same probability. The firm consequently decides to allocate half of its excess assets in dollars and the other half in euros. By doing so, if unexpected costs were to be paid in either euros or dollars, the firm would be able to either use its excess assets in euro or in dollars to pay without being exposed to adverse currency exchange rates when the payments of unexpected costs fall due.

Extending the concept of matching to all a firm’s assets minimises currency risk

The current Level 2 approach under Solvency II

The currency risk sub-module is part of the Solvency II standard formula’s market risk module. The Solvency II Framework Directive describes currency risk as: “The sensitivity of the values of assets, liabilities and financial instruments to changes in the level or in the volatility of currency exchange rates”.

Article 172 of the draft Level 2 measures sets out the method of calculating the currency risk sub-module capital charge under the standard formula. Essentially it requires an insurer to apply 25% to its “net asset value” (assets less booked liabilities) for a foreign currency (any currency other than that used to prepare its financial statements). This was also the approach in the fifth quantitative impact assessment (QIS 5).

Why is the current Level 2 approach not appropriate?

The current approach to currency risk is flawed because it penalises insurers for reducing their exposure to currency risk while it rewards them when they increase it. As such, the current approach results in the following shortcomings:

- **It does not reflect real currency risks faced by insurers.** It does not result in any capital charge if a firm holds all of its excess assets in the local currency, even in cases where some of its liabilities are labelled in a foreign currency.
- **It incentivises poor risk management.** It encourages undertakings not to hold surplus assets in foreign currencies and therefore not to maintain prudent buffers against foreign currency risks, as both logic and sound risk management dictate. The European Insurance and Occupational Pensions Authority’s QIS 5 report noted that this effect was “counterintuitive”.

The current proposal contravenes Solvency II’s fundamental principles

- It is not risk-based
- It does not provide adequate protection for the policyholder
- It does not promote good risk management
- It will reduce the international competitiveness of EU insurers

- **It does not satisfy the Directive requirements** as it only assesses the potential impact of currency fluctuation on the opening positions of assets and liabilities but does not take into account the uncertainty of how assets and liabilities could vary.

Insurance Europe's proposal

Insurance Europe's proposal introduces the **concept of currency risk exposure (CRE)**. This measures currency mismatching by comparing the proportions of assets and liabilities held in foreign currencies. The CRE for foreign currency C is:

Insurer's total assets x (percentage of assets in currency C – percentage of liabilities in currency C)

The CRE is then subject to a 25% shock. The results for all an insurer's foreign currencies are added up to make its total currency risk capital requirement.

The merits of Insurance Europe's proposal

- It appropriately captures the degree of relative currency risk
- It rewards sound currency risk management
- It is in line with the Solvency II Framework Directive
- It does not add complexity to the calculations
- It is a single solution, applicable to solo entities and groups and to small entities as well as large
- It has the general support of the EU insurance industry

This proposal, like the existing Solvency II approach, would be part of the standard formula. For internal model users, more refined approaches should be allowed, eg by reflecting the risk profile of the undertaking or the group.

Insurance Europe's January 2012 paper "Solvency II: resolving the currency risk problem"¹ contains more detail on the above points, including a suggested amended Level 2 text.

Current Solvency II approach versus Insurance Europe proposal

An insurance firm example

Appendix A compares the current Solvency II approach with the Insurance Europe proposal.

The example depicts a euro-based firm with a branch in the United Kingdom and illustrates the effects of matching and non-matching of the excess assets on currency risk.

The current Solvency II approach incentivises firms to hold all excess assets in one currency — the local currency — as this does not result in any capital charge.

¹ Available on the Insurance Europe website: http://insurancееurope.eu/sites/default/files/attachments/Solvency_II-proposal_for_resolving_the_currency_risk_problem.pdf



Conversely, the approach proposed by Insurance Europe recognises that the excess assets are a buffer that needs to provide to some extent for all the different currencies in which the liabilities are labelled, thereby promoting good risk management practices.

Indeed, any firm that faces currency risk will actively manage its currency exposures. It will hold a series of assets, not only to match the expected outcomes but also to use excess assets to cover the possibility of deteriorations. Furthermore, regulators expect firms to manage and mitigate their currency risks.

Spreading excess assets across currencies is important

- It minimises currency risk
- It is in line with industry best practice
- It offers “natural hedging”
- It avoids funding deficits caused by currency movements after a liability “shock”

The draft Level 2 implementing measures do not reflect this fundamental point

Conclusions

- Currency risk arises when an entity’s legal obligations (or liabilities) are in a different currency to the assets it holds to cover those liabilities.
- The current approach to currency risk is flawed because it penalises insurers for reducing their exposure to currency risk while rewarding them when they increase it. The current approach therefore does not reflect real currency risks faced by insurers and incentivises poor risk management.
- The Level 2 draft needs to be changed to provide for the right risk management incentives. Insurance Europe and the CRO Forum proposed a practical solution to the European Commission in January 2012.

Appendix A

Examples of the effects of matching and non-matching of excess assets on currency risk

Asset allocation — all excess assets in € (£1 000 + €2 000)

Time = 0
Exchange rate £1: €1

BALANCE SHEET			
Assets		Liabilities	
£	1 000	£	1 000
€	2 000	€	1 000
Total (in €)		Total (in €)	
3 000		2 000	

Net asset value	
£	0
€	1 000
Total (in €)	
1 000	

CRE charge	125
Current Level 2 charge	0

Time = 1
Exchange rate has moved £1: €1.25
Following a lapse shock, liabilities increase by, for example, 50%

BALANCE SHEET			
Assets		Liabilities	
£	1 000	£	1 500
€	2 000	€	1 500
Total (converted in €)		Total (converted in €)	
3 250		3 375	

Net asset value	
£	-500
€	500
Total (converted in €)	
-125	

Findings

At time = 0

- The company has fewer assets (33%) than liabilities (50%) in pounds, resulting in a mismatch
- The excess of assets is fully invested in euro, whereas more assets should be invested in pounds to offset this mismatch, which makes the company vulnerable to currency risk
- Even though the company is exposed to currency risk, the current Level 2 approach under Solvency II does not create a currency charge
- Conversely, the Insurance Europe approach anticipates this currency exposure and creates a CRE charge of 125

At time = 1

- We see that the risk has materialised as the exchange rate moved and a lapse shock has increased the value of liabilities
- The current Level 2 approach is inadequate to fulfill the capital requirement

Asset allocation — match excess assets in € (£2 000 + €2 000)

Time = 0
Exchange rate £1: €1

BALANCE SHEET			
Assets		Liabilities	
£	2 000	£	1 000
€	2 000	€	1 000
Total (in €)		Total (in €)	
4 000		2 000	

Net asset value	
£	1 000
€	1 000
Total (in €)	
2 000	

CRE charge	0
Current Level 2 charge	250

Time = 1
Exchange rate has moved £1: €1.25
Following a lapse shock, liabilities increase by, for example, 50%

BALANCE SHEET			
Assets		Liabilities	
£	2 000	£	1 500
€	2 000	€	1 500
Total (converted in €)		Total (converted in €)	
4 500		3 375	

Net asset value	
£	500
€	500
Total (converted in €)	
1 125	

Findings

At time = 0

- The company has the same percentage of assets (50%) as liabilities (50%) in pounds
- Therefore there is no mismatch and hence no currency risk capital requirement should be charged
- Even though the company is not exposed to currency risk, the current Level 2 approach under Solvency II does create a currency charge
- Conversely, the Insurance Europe approach recognises that a currency charge is not needed and creates a CRE charge of 0

At time = 1

- We see that despite a lapse shock that has increased the value of the liabilities, the move in exchange rate does not penalise the company as its assets and liabilities are perfectly matched
- The current Level 2 approach is inadequate as it unduly imposes a capital requirement

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