

# Defining infrastructure investment under Solvency II

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European institutions have recently led several initiatives to delineate the future of long-term investment in the EU. In June 2013, the European Commission received the final responses to its Green Paper on long-term financing, which focuses on the role of financial intermediation to support economic growth in the EU. In May 2013, the European Insurance and Occupational Pensions Authority (EIOPA) concluded its consultation about the role of long-term investment in the Solvency II framework. Initiated at the request of the Commission, this consultation aimed to evaluate the need to revise the standard formula used to calculate solvency capital ratios, in order to better accommodate the investment of insurers' assets into long-term endeavours.

Both the Commission and EIOPA's work highlighted the absence of well-established definitions of long-term investment. For example, the EIOPA discussion paper earmarked a number of sectors of the economy representing a specific demand for long-term capital, including small and medium enterprises (SMEs), socially responsible investment (SRI) and infrastructure. In other words, sectors of the economy that are characterised by value creation, innovation, knowledge spill-overs and positive externalities.

The EU has plenty of capital and a highly-trained workforce but demographic trends also suggest that this workforce will soon start to shrink. Thus, focusing the debate on these investments that can further improve the productivity of factors is very relevant from the point of view of the European Commission. But is it relevant from the point of view of institutional investors?

## Insurers' motives to provide long-term finance

Providing long-term finance to the real economy is not part of the mandate or mission statement of institutional investors, including insurance companies. In effect, such investors cannot be expected to have much interest in financing infrastructure or SMEs per se or in channelling funds into SRI for the sole purpose of being good corporate citizens.

Institutional investors are nevertheless increasingly attracted to such investments because of the risk factors to which they may provide exposure, and the extent to which increasing their exposure to these risk factors helps them achieve their own objectives.

In the case of infrastructure, as highlighted in EIOPA's discussion paper, these investments are unlisted at the underlying level. They are also characterised by a focus on cash flows rather than capital value or indeed collateral value, since, as we argued in a recent paper (Blanc-Brude [2013]) infrastructure investments are relationship-specific and have little or no value outside of the contractual framework that allows such long-term investments to take place.

The characteristics of these cash flows spring from a number of commitment mechanisms created by writing long-term contracts between the relevant parties to an infrastructure project, be they public or private.

Thus, infrastructure cash flows are expected to be stable because they have been defined long in advance. As a consequence they are also expected to be less correlated with the business cycle, or even to be indexed to inflation, if such indexation has been included in their contractual or regulatory set-up.

There are two main reasons why insurers and other institutional investors may wish to increase their exposure to instruments yielding such cash flows: the construction of liability-hedging or liability-matching portfolios, and the

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management of short-term regulatory constraints such as solvency or funding ratios.

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Institutional investors are also typically required to maintain a solvency or funding ratio above a certain threshold, while applying market valuation principles to their assets. By investing a larger share of their long-term assets in unlisted instruments such as infrastructure debt or equity, they can reduce the impact of sharp market downturns affecting public markets.

Meeting long-term objectives while respecting short-term solvency constraints are the fundamental motives for insurers to acquire long-term, unlisted assets like infrastructure debt or equity.

## Asset allocation and revising the standard formula

The Solvency II framework approaches the calculation of solvency capital requirements using building blocks representing a set of risk modules and submodules, the linear combination of which is known as the standard formula.

By focusing on broad categories of risk factors, the standard formula implicitly addresses the strategic asset allocation of a typical insurer. It follows that justifying a revision of the standard formula to accommodate long-term investment in general, and infrastructure investment in particular, first requires the demonstration that such investments are relevant as a matter of strategic asset allocation for a typical insurer.

Measuring the risk inherent in investing in long-term unlisted assets such as infrastructure debt or equity should be made with reference to a representative or 'well-diversified' basket of infrastructure assets. We may refer to an infrastructure beta for shorthand, even though we really mean gaining exposure to a series of risk factors, as argued above.

Three questions underpin the notion of an infrastructure beta:

- Does it exist? In other words, can the demonstration be made of the distinctive behaviour of baskets of such assets? Answering this question implies identifying what a well-diversified basket of infrastructure debt or equity might be.
- Is it accessible? How large is this basket and how can one become exposed to it?
- Is it relevant? Is there enough investable infrastructure in the world to be relevant at the strategic asset allocation level – ie, to invest at least a few percentage points of institutional investors' assets under management, estimated at \$85trn in 2012.

These questions are gradually being answered by researchers but the focus is complicated by a degree of confusion as to what is relevant from the point of view of institutional investors and therefore from that of their regulator.

## Defining long-term investment in infrastructure

Answering these questions first requires a definition of what we mean by 'investing in infrastructure'. Most publications on the subject highlight the fact that there is no widely accepted definition of infrastructure, which may or may not include such sectors as telecommunications, energy, oil and gas installations, as well as roads, schools and airports or even crematoria (see Kjorstad [2013], on this last point).

But as argued above, investing in infrastructure per se is not the primary motive of institutional investors. If instead, their focus is on investing in instruments yielding cash flows that have certain duration, return and risk characteristics, then the objective of the regulator should be to identify the relevant instruments and to decide how they should be treated within the Solvency II framework.

In its discussion paper, EIOPA correctly identifies that long-term investment in infrastructure may take the form of direct project



financing, or investing in such projects via equity or debt funds, or through debt securitisation vehicles. EIOPA also highlights the role of the 'look-through' principle under the Solvency II framework, according to which risk charges apply as if insurers had invested directly in the underlying assets used by funds or securitisation vehicles.

These three types of instruments are not found in equal measure today. Genuinely long-term, pass-through infrastructure equity funds seldom exist, since most 'infrastructure funds' have relatively short investment periods and typically use fund-level leverage (Blanc-Brude [2013]), while infrastructure debt funds and securitisation vehicles are still very new market developments that are yet to become widely available.

Thus, the limited relevance of indirect investment vehicles, combined with a focus on the nature of the underlying, mean that defining long-term investment in infrastructure boils down to defining direct project financing. Thankfully this has already been done in the context of the Basel II capital accord: "Project finance (PF) is a method of funding in which investors look primarily to the revenues generated by a single project, both as the source of repayment and as security for the exposure. In such transactions, investors are usually paid solely or almost exclusively out of the money generated by the contracts for the facility's output" (BIS [2005]).

We argue in a forthcoming paper (Blanc-Brude and Ismail [2013]) that project financing leads to the creation of several inter-related types of financial claims, splitting the total net operating cash flow of any given project between a senior, fixed-rate claim, and subordinated, fixed-rate and variable-rate claims.

If project finance senior debt is akin to a self-amortising bond paying a fixed rate of interest, project finance 'equity' has a known duration and is effectively the equivalent of a floating rate note issued by the special purpose entity, with a bullet repayment of the principal when the latter is dissolved at the end of a project's life.

## Modifying the standard formula: towards a project finance submodule?

A focus on infrastructure or SMEs from the point of view of the Solvency II framework is less important than the question of the instruments used to finance these sectors and their role at the strategic asset allocation level for insurers.

Focusing on the financing of industrial sectors by insurers may not allow the development of a robust regulatory framework since real world infrastructure and other sectors may well be financed using new instruments with different characteristics in the future, making past calibrations irrelevant. A definition of long-term investment is not so much what is needed to revise the standard formula. Instead, the type of financial instruments which have recently drawn insurance companies to the infrastructure sector is what need to be identified and, if relevant, regulated.

In this perspective, we argue that the well-understood and documented project financing structures, as defined under Basel II, are much more relevant to the revision of the standard formula than the ill-defined and changing notion of 'infrastructure'. Indeed, project finance is a specific form of corporate governance designed to create the kind of long-term financial instruments that insurers actually want, but that are not currently represented in the Solvency II framework.

To conclude, project finance allows investors to gain specific exposure to risk factors and durations that are highly relevant to meet their own objectives. In so far as this exposure is distinct from the one embodied in other risk modules and sub-modules, we may refer to a project finance beta.

The existence of this distinctive effect, in turn, justifies revising the standard formula to integrate what the academic literature already recognises to be a specific type of financial instruments that is expected to behave neither like corporate debt nor corporate equity (see Blanc-Brude [2013]; Blanc-Brude and Ismail [2013], for a review).

Finally, from the perspective of public policy and the question of providing long-term financing to the real economy, project financing, as it is defined above, has provided the bulk of the financing to new investable infrastructure projects over the past three decades globally (Blanc-Brude [2013]). It is therefore the most relevant investment route from this perspective as well.

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*The full versions of the research publications drawn from these chairs are available on the EDHEC-Risk Institute website at the following addresses: [www.edhec-risk.com/multistyle\\_multiclass/Meridiam\\_Infrastructure\\_and\\_Campbell\\_Lutyens\\_Research\\_Chair](http://www.edhec-risk.com/multistyle_multiclass/Meridiam_Infrastructure_and_Campbell_Lutyens_Research_Chair); [www.edhec-risk.com/multistyle\\_multiclass/Natixis\\_Research\\_Chair](http://www.edhec-risk.com/multistyle_multiclass/Natixis_Research_Chair)*

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