

Non-paper

The implications of CRD IV, Solvency II, IORP on long-term investment

This non-paper discusses the potential impacts of the capital adequacy provisions inherent in current or imminent regulatory proposals on long-term investment with particular regard to infrastructure.

It suggests looking at the interaction between these proposals, elaborated at varying points in time, in order to launch an assessment of the expected cumulative impact on longer-dated, lower-rated assets.

This is of particular importance considering project finance structures which rely on the multiple components of equity, bank lending and bond financing. The providers of each will respond to the new regulatory frameworks by increasing financing costs, making infrastructure projects, which are vital for Europe's economic growth, unaffordable and/or ensuring that this market segment is served by institutions that do not fall under the EU regulatory regime e.g. by virtue of location. Given the positive externalities that infrastructure investment brings to the economic system, the regulations affecting long-term investment patterns should preferably take into account the underlying risk profiles and the countercyclical economic role of infrastructure assets.

It is proposed to :

- *Clarify the applicability of the concept of specialised lending and how this might be adapted*
- *Phasing in the NSFR changes in a differentiated manner*
- *Clarify that the financing of small portfolio of infrastructure assets and/or the use of multiple tranches of debt or several SPVs does not constitute a securitisation*
- *Consider aligning the Solvency II treatment with covered bonds, real estate or create a sub-category of corporate bonds similar to specialised lending*

Infrastructure project finance as an asset class

All three rating agencies have undertaken studies of the performance of project finance.

The most authoritative one is Moody's, which bases itself on 3,533 projects. This represents over half of all global project finance transactions from 1983 to 2010 and is a statistically significant sample. Depending on the definition¹ used, 278 or 258 projects have defaulted and 154 or 143 have emerged from bankruptcy.

The study shows that **cumulative default** rates are comparable to corporate default rates. However, **marginal default rates improve significantly over time**, migrating from a low investment grade/high speculative grade to a single A category after the completion of the construction period². This is very different from corporate default rates which tend to remain stable over time. Default rates and loss given default are even lower for PPP/PFI projects and for infrastructure projects, but the sample is less statistically significant.

¹ Basel II definition or Moody's own

² Moody's refers to the first three years, but state that they view this as due to the completion of construction.

The precedent: Specialised lending in CRD

The Capital Requirements Directive (2006/48/EC, Article 86.6) recognises the separate sub-class of specialised lending, as does the Commission's new proposal COM 2011 0452, Article 142.8).

The definition of specialised lending is:

Within the corporate exposure class, credit institutions shall separately identify as specialised lending exposures, exposures which possess the following characteristics:

- (a) the exposure is to an entity which was created specifically to finance and/or operate physical assets;*
- (b) the contractual arrangements give the lender a substantial degree of control over the assets and the income that they generate; and*
- (c) the primary source of repayment of the obligation is the income generated by the assets being financed, rather than the independent capacity of a broader commercial enterprise*

This corresponds quite precisely to the requirements of project finance.

The original Basel document went much further and also defined four categories of specialised lending: project finance, object finance, commodity finance and finance of income-producing real estate.

Recovery rates have been consistently high at close to 80%, which is comparable to senior secured corporate loans. Again, recovery rates are lower during the construction phase, around 65%, and higher in the operational phase, over 80%. In all cases, the recovery rate appears uncorrelated to the default rate, jurisdiction and use of subordinated debt and, surprisingly, the most likely recovery rate is 100%.

Standard and Poor's study of all the projects rated between 1992 and 2008 essentially confirm these findings, but admit that they need to collect more data³.

Since it is the underlying contractual arrangements that make project finance so resilient, there is no reason to believe that project finance bonds would behave differently.

The approach in CRD IV, Solvency II and proposed in the context of the IORP review is one of market risk, i.e. focusing on interest rate risk and spread risk. This is appropriate for banks and insurers with short-term variable liabilities. However, it does not fully reflect the long-term nature of the business model of life insurers and pension funds, which is based on the actuarial data of a population of beneficiaries making payments predictable to a great extent. This means that assets can be bought and held until maturity, making a more comprehensive characterisation of the underlying, longer-term risks, notably probability of default and loss given default, much more necessary than just looking at market risks, which are of most relevance to portfolios that are to be used for liquidity.

Anticipating CRD: Banks shorten loan tenors

Basel III will require banks to hold more and higher-quality capital and introduces liquidity, funding and leverage guidelines in response to the weaknesses exposed by the financial crisis, especially illiquid assets and an over-reliance on short-dated wholesale market funding. Implementation is set to be phased over the years to 2019. Simplifying enormously, longer-dated and lower-rated assets will attract higher capital charges.

³ For example, they have only 24 defaults with data on 14 of them.

The main strategic response is to raise margins or to shift business to less capital intensive activities, including fee-based business such as loan syndication and debt capital markets advisory. In anticipation of CRD IV, banks have been raising rates on loans, including in project finance, while reducing the tenor and amount of loans available. We are seeing increasing evidence of this combined with a concentration on national markets within the EU. As the competition retreats, Japanese banks have a dominant position in longer-dated project finance.

As infrastructure projects tend to be extremely long-dated, they have been disproportionately affected to the point of projects with lifetimes of 10, 20 or 30 years being financed with bank loans that either have a firm 5-7 year maturity or such punitive changes to financing conditions after this time that their effective maturity is 5-7 years. Not only do the projects have limited capacity to absorb such financing changes, they also result in inadequate returns for the equity providers, making it less attractive to the private to take the risk of investing in infrastructure projects. If investors instead try to claw back their investment quickly, financing is not efficient and the project likely to fail.

The main impact of CRD IV is seen to be through the Net Stable Funding Ratio (NSFR)⁴, which is also encouraging banks to put their project finance portfolios on the market. Ironically, the treatment of bonds of a similar rating is more favourable, so the banks might become project bond investors. However, there is an additional potential impact through the liquidity ratio, depending on how EU Member States decide to treat letters of credit, which are widely used in project finance. A risk weighting of 25% or more could be detrimental.

Finally, a few market participants have expressed concern that project finance could fall under the ABS classification. This is mainly because debt structures involving more than one SPV and involving more than one class of debt would seem to be automatically relegated to the ABS definition despite an underlying physical asset. The problem is reinforced as soon as there is more than one asset as is the case when several renewables projects are grouped in order to reach meaningful financing volumes.

Potential actions:

- Clarify whether infrastructure project finance falls into the "specialised lending" class and clarify requirements in terms of probability of default and loss given default.
- Phase in NSFR changes in a differentiated manner
- Clarify that infrastructure is not ABS even if the debt had several tranches of seniority and/or concerns a small portfolio of projects, such as e.g. renewables and/or the financial structure involves more than one SPV.

Potential impact of Solvency II: reduced demand for longer-dated bonds

Solvency II replaces the current regime of book valuation and a fixed margin plus reserves to cover risks with the consistent EU-wide use of market valuation of insurers' assets and capital requirements meant to reflect the volatility of those market values. In some EU

⁴ NSFR is defined as the available amount of stable funding divided by the required amount of stable funding. The denominator depends on the riskiness of the bank's business. Both numerator and denominator

Member States the asset side will be captured for the first time. Some provisions will enter into force in 2013, others in 2014 and there will be transitional arrangements for a further 10 years. Again, simplifying enormously, longer-dated and lower-rated assets will attract higher capital charges.

Solvency II distinguishes between the following classes of bonds: EEA sovereign bonds, corporate bonds, covered bonds and other bonds. Infrastructure bonds would seem to fall under corporate bonds, unless they are treated as securitisations, which is even less favourable. This would mean that a 25-year infrastructure bond would attract capital weightings of 32.2% if A, 32.5% if BBB and 45% if BB. However, if it were unrated, the maximum capital weighting is 36% despite the lower liquidity.

In contrast, property attracts a risk weighting of only 25%, regardless of maturity and rating, despite being more exposed to speculation and less regulated. Furthermore, the treatment of non-traded assets is more favourable, which would ironically pre-dispose insurers towards buying loans or giving them directly.

Of course, there are significant reductions in capital charges from diversification and the use of an internal model is possible, which could reflect the lower probability of default and loss given default of infrastructure project finance. However, it would seem appropriate to consider how this could be reflected even in the standard model, perhaps by aligning the treatment to covered bonds or by introducing a separate sub-category similar to "specialised lending".

Potential actions:

- Consider whether to align the treatment of infrastructure with covered bonds or real estate or whether to carve out a separate sub-category

Work in progress: The review of IORP

In April 2011, the European Commission (EC) issued a Call for Advice from the European Insurance and Occupational Pensions Authority (EIOPA) - European supervisor for insurance and pension schemes, created in January 2011 to prepare for the Commission's planned review of the Institutions for Occupational Retirement Provision (IORP) directive⁵ with a view to applying Solvency-style rules to the pension fund industry. Thus, the consequences on investment patterns and investor behaviour can be predicted to be similar to those under Solvency II.

EIOPA's initial advice focuses more on macro-issues such as

- The use of a holistic balance sheet which can take into account different national adjustment mechanisms and security arrangements to create a basis for a Europe-wide regime
- Qualitative governance and risk management issues
- Improved information requirements

⁵ EC calls for advice on review of IORP directive, May 2011, Punter Southall

More generally, EIOPA calls for a quantitative impact study, which may address more detailed concerns such as capital requirements for certain asset classes. Additional submissions may also go into greater detail.

Pension funds, even more than insurance companies, are well placed to invest for the long term, given their long-dated liabilities. There is also an attractive symmetry in citizen's pension contributions being used to finance the infrastructure that underpins the jobs of tomorrow. Therefore any proposed change should ensure adequate incentives to do so in order not to end up with no potential long-term investors.

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Annex: Definition of long-term investment and some terminology

Definition of long-term investment here: infrastructure

While long-dated government bonds and corporate bonds do exist, each has a separate asset class within the legislation under consideration. This non-paper therefore considers long-term investment to be identical to infrastructure investment and focuses on explaining the differences to the other long-dated assets.

Infrastructure is characterised by

- large upfront capital requirements,
- long life of the underlying physical asset,
- stable and predictable cash flows and
- low correlation to other asset classes as they often represent economic necessities for which demand is inelastic.

Often the project is linked to a government concession or other long-term agreements and/or government regulation of the sector in view of the services supplied to society.

Private sector financing of long-term investment until now

Infrastructure, when privately financed, is nearly always structured on a project finance basis, i.e. the financing is done solely on the strength of the **cash flows** of the **operating phase** of the project.

In practice this means that a project is set up as an **SPV with at no or limited recourse** to the project sponsors or other **equity providers**. In addition to equity, which can vary between 10 and 50% of project cost depending on the sector⁶, the project is financed through **debt, both long-term and in the form of various bridging facilities**. The debt is typically in the form of a bank loan with an implicit rating of BB or sometimes BBB. The **bridging facilities** are of particular relevance during construction, when the project has no revenues. The resulting leverage is generally higher than for corporate financing.

Because there is no or limited recourse to the equity providers, all costs have to be priced in and all risks considered at the outside. As a result, the SPV is surrounded by a complex set of contractual arrangements to establish obligations and allocate risks with all involved parties from the construction company, the suppliers of operational and maintenance services, the suppliers of inputs, the buyers of outputs etc with extensive uses of **liquidated damages and letters of credit** to make sure the SPV can be made whole in the event of delays or error. In addition, it is highly specified which investors get repaid in which order, what reserves are to be built up for contingencies and so on.

This reduces the riskiness of a project dramatically, however, the risk is greater during the construction phase than during the operational phase. Finally, such a project by its very nature does not have much financial flexibility, so a substantial increase in financing costs through a refinancing may derail the project unless contingencies are sufficient.

⁶ At present, 10-20% equity in a transport project, 30% equity for a renewables project and up to 50% in a riskier energy or ICT project.