

Financing Infrastructure in Europe

Project Bonds, Solvency II and the “Connecting Europe” Facility

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ABSTRACT

EU project bonds may become a central pillar in the building of European infrastructure. Long-term investors such as insurance companies and pension funds may find a long-term asset such as the project bond a good match with their long-term liabilities. However, Solvency II makes the holding of long-term bonds quite burdensome in terms of capital requirements. Capital charges are, in fact, higher for financial products with same rating but longer durations. But financial assets backed by regulated infrastructure enjoy long-term stable cash flows streams and offer lower risk *premia*; their risk/reward profile should be taken into consideration. Since the default curve and the expected recovery rates are typically much better for infrastructure bonds than for corporate bonds, it can be critical to stimulate a regulatory effort to introduce a more favorable capital requirement for infrastructure bonds. This would help to create an attractive asset class which could be placed between government bonds (zero weighted) and corporate bonds. The EU budget resources for the guarantees needed to support project bonds may be taken from the “Connecting Europe” Facility. The EU may trigger the creation of a large, deep and liquid primary and secondary market for project bonds ideally regulated through the creation of a Pan-European Bonds Agency, thus increasing the participation of private capital (PPP or PF) in an era of strong public budget constraints. Together with EIB, other long term European financial institutions (KfW, CDC, CDP) may participate (and are considering to participate) to the project bonds initiative. Such participation may take various forms: (1) acting as “market makers” by buying part of the bonds’ issues (especially in the “start-up phase” of the initiative); (2) participating in the evaluation of the projects; (3) structuring a second level guarantee facility (up to a maximum amount and with seniority in respect of the EIB Guarantee).

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Introduction

Due to the long term nature of their liabilities life insurance companies and pension funds are usually considered long-term investors. In fact, they hold - more than other investors - illiquid and/long term assets, such as real estate and infrastructure projects or long-term bonds.

Following the financial crisis and in view of the recent low-interest environment together with current accounting and regulatory changes, life insurance companies and pension funds find it more difficult to play their traditional role of long-term investors.

This is reflected in the shift in their portfolios towards the shorter-end segment of the market of risky assets.

Indeed, if it is true that the experience of the financial crisis and the new regulation and accounting principles have the positive effect of strengthening risk management capabilities and strategies, volatility will increase and short-term performance measurement is becoming the leading indicator.

Therefore significant portfolio adjustments and different investment choices of life insurance companies and pension funds can be reasonably be expected, thus narrowing their ability to take a long-term perspective.

Alongside and within the framework of Solvency II, the European Commission is at the same time attempting to promote innovative financial instruments to attract additional private sector financing of individual infrastructure projects.

As a matter of fact, the Europe 2020 Project Bond Initiative, the creation of a “Connecting Europe” Facility and the resulting generic allocation of about €50 billion (€40 billion for the Connecting Europe facility plus € 10 billion ring-fenced within the Cohesion Fund for transport infrastructures) in the EU 2014-2020 Budget (MFF) clearly demonstrate how critical and strategic this vision could be for the future sustainable development of the EU.

EU Project Bonds may become a central pillar in the building of European infrastructure and smart energy and information systems, to achieve the objectives of the EU 2020 Agenda.

The EU-supported credit enhancement for EU Project Bonds is expected to improve the rating of the senior debt of project companies, thereby ensuring that this can be placed as stable, long-term assets with

institutional investors such as pension funds and life insurance companies. Thus meeting their demand for suitable instruments for efficient duration matching of their liabilities.

More specifically, starting from an investment grade (BBB) rating of the underlying infrastructure project, a degree of credit enhancement in the range of 16-20% of each EU Project Bonds' issue is considered necessary to achieve an A rating, an ideal threshold to become attractive assets for institutional investors.

However, as any other generic infrastructure bond, EU Project Bonds are by nature conceived as long-term assets and therefore a 25 years duration for this asset class can be easily considered as the standard.

Under Solvency II standard formula, a A-rated bond and a BBB-rated bond with the same duration of 25 years would attract exactly the same capital charge¹ of more than 32% with the first normally expected to offer a lower risk premium than the second, thus basically vanishing any EU-supported credit enhancement's attempt altogether the EU resources associated.

In addition, institutional investors would be potentially prepared to allocate up to 5% of their portfolios to EU Project Bonds ² (only for European life insurance companies and pension funds this can sum up to €437 billion or roughly between 22-29% of total estimated European infrastructure investment needs), but in order to do so they require primarily that the market be liquid, otherwise they would not consider such investment as attractive.

To generate liquidity while mitigating the potential concentration risk that institutional investors may perceive for their portfolios, it is critical to build-up a significant and reliable pipeline of potential infrastructure projects to be financed by EU Project Bonds.

Nonetheless, a clear and specific allocation of EU resources committed to EU Project Bonds within the MFF 2014-2020 together with an EU common economic and financial policy that could lead to the creation of a Pan-European market platform where EU Project Bonds can be listed and traded would substantially clarify the strategic scope of the Initiative.

In our view, the EU should consider a more integrated and consistent action plan comprised, among others, of the following milestones:

- **Creation of a new asset class (Infrastructure bonds – EU Project Bonds) between government and corporate bonds within the Solvency II framework:** while a general re-calibration of Solvency II risk-charges and/or duration cap would

¹ More precisely, 32.2% for an A-rated bond and 32.5% for a BBB-rated bond.

²² According to the answers to recent questionnaire sent by CDP to 20 large European long term institutional investors (life insurance and pension funds).

be desirable, it is recommendable to create a completely new asset class between government and corporate bonds, denominated infrastructure bonds. In our view, infrastructure bonds should attract fairly lower capital charges than corporate bonds with a better fit and tailor-made duration cap in order to become attractive for institutional investors and to provide a counter-cyclical buffer. Within infrastructure bonds, EU Project Bonds could deserve a 20-30% haircut to better reflect a clear regulatory incentive to increase exposure to this asset class as for EEA government bonds, thus outweighing the risk of potentially wasting EU resources.

- **Allocation and commitment of about € 15-20 billion within the Connecting Europe Facility to support specifically and exclusively EU Project Bonds:** although already within the MFF 2014-2020 about € 40 billion are allocated to the Connecting Europe Facility and about € 10 billion are ring-fenced within the Cohesion Fund for financing European infrastructures also through innovative financial instruments, a specific and exclusive commitment of about € 15-20 billion to support only EU Project Bonds would contribute (together with EIB resources) to the creation of a Pan-European EU Bond Market of about € 200-250 billion within seven years. This would send a clear and unquestionable signal to the market in general and to institutional investors in particular that buying/underwriting EU Project Bonds is not a one-off potentially high-risk investment but it is rather participating in a new and necessary future liquid market for investment strategies.
- **Creation of a Pan-European Public Infrastructure Bonds Agency to assure and facilitate liquidity (above all in the secondary market):** while in the short-term International Financial Institutions (IFIs) and/or other Member States banks with a public sector mandate can act as another catalyst and/or as “market-maker” for EU Project Bonds, the creation of a Pan-European Public Infrastructure Bonds Agency would be needed in the medium-term.

In order to be really effective and to boost the creation of an efficient (liquid) EU Project Bonds’ market, the Initiative should leave, in our view, the opportunity to implement – at a national level and for strategic infrastructure – other credit enhancement forms and instruments to potentially up-lift strategic project ratings and investors’ confidence.

Resilience and stability of economies and financial systems may not only be achieved by improving cash/capital buffer to overcome negative cycles or even crisis, but also by investing efficiently through the cycles over a long-term horizon, even for the ultimate benefit of future generations.

Long-term investors’ asset allocation processes differ from those of

generic asset managers. For a long-term investor, the concept of risk diversification requires diversification in the period of investments, in addition to diversification of the assets themselves.

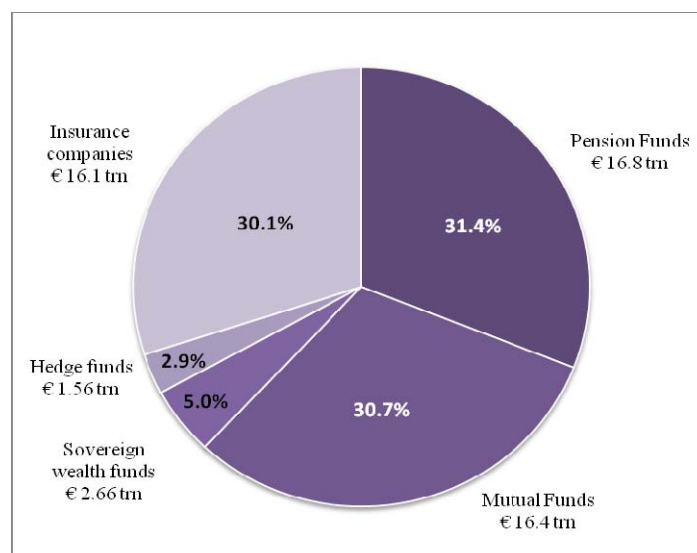
Measuring their solvency on the basis of short-term values is incompatible with the need for investment in assets that, while risky, are less volatile by nature, secured through the underlying (very high loan-to-value ratios) and yield very positive average long-term returns. Such short-term constraints are not only prohibitively costly, but are also mostly irrelevant for long-term investors that do not face short-term solvency concerns.

The negative impact of Solvency II is likely to bring a reduced appetite in buying/investing in long-term financial instruments if qualified and assimilated for capital requirements to any other financial risky asset that offers potentially lower capital burden (correlated to the maturity) together with a short-term yield.

Challenges Ahead for Long-Term Investors (LTIs)

In 2010, Institutional Investors hold assets for about € 53.5 trillion globally (Figure 1).

Figure 1: Global Investors Assets: €53.5 trillion

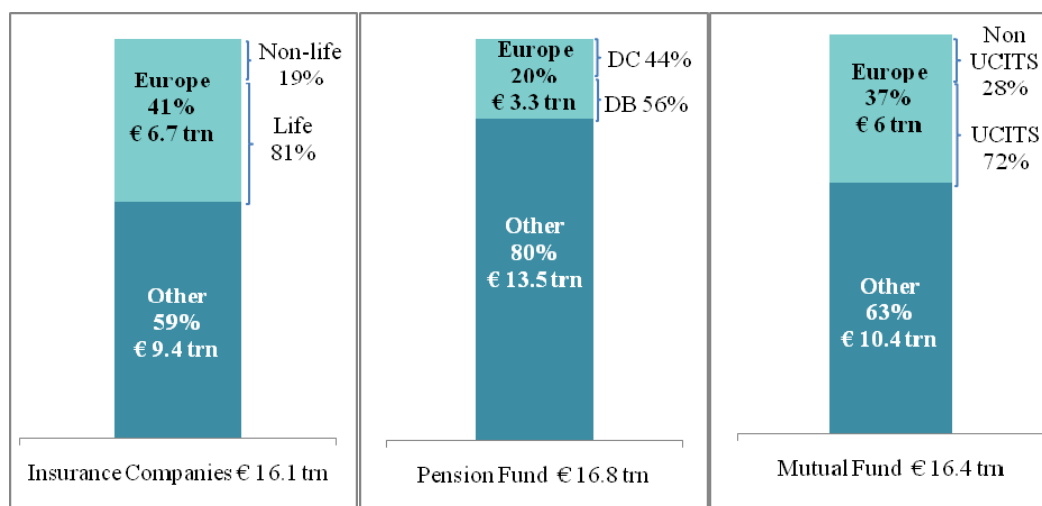


Source: OECD, CEA, Swiss Re, Fitch and CDP' calculations

The investment landscape is dominated by three large investors segments: insurance companies, pension funds and mutual funds. Together, they hold an estimated total €48.8 trillion of assets at the global level and about €16 trillion at the European level (33% of total and more than 1.15 times the region's GDP) (Figure 2). In particular:

- Insurance companies hold about €16.1 trillion assets globally, of which €6.7 trillion (41%) in Europe. Life insurance companies in Europe accounts for 81% (€5.43 trillion) of total assets.
- Pension funds hold about €16.8 trillion assets globally, of which €3.3 trillion (20%) in Europe. Defined benefit (DB) schemes account for 56% of total European pension funds assets while the remaining 44% are defined contribution (DC) schemes.
- Mutual funds hold about €16.4 trillion assets globally, of which €6 trillion (37%) in Europe. Undertakings for Collective Investment in Transferable Securities (UCITS) account for 72% of total European mutual funds assets.

Figure 2: European Investors Assets: €16 trillion



Source: OECD, CEA, Swiss Re, Fitch and CDP' calculations

While mutual funds are mainly short-term investors driven by an opportunistic investment approach (reflecting investor and asset managers appetite), pension funds and insurance companies are typically investing over a much longer investment horizon (shorter for insurance non-life assets).

In particular, life insurance companies and pension funds have usually an investment horizon of over 10-15 years and of 20 years respectively and constitute a large segment of the institutional investor landscape.

With combined global industry assets of about €29.6 trillion, these institutions play an important role in fixed income markets, especially as major providers of long-term funding to banks and the public sector.

In Europe, life insurance companies and pension funds hold estimated assets worth €8.73 trillion (29.5% of global industry assets and more than 63% of the region's GDP).

Europe 2020 Project Bond Initiative³

In his State of the Union speech on 7th September 2010, the President of the European Commission, José Manuel Barroso, announced the Europe 2020 Project Bond Initiative (the “Initiative”).

The Initiative will be launched by the Commission together with the European Investment Bank (“EIB”) in order to build on existing experience with joint EU-EIB instruments and EIB's track record in EU infrastructure financing.

Whilst the EIB will remain the Commission's principal partner, efforts will be made to ensure that the Initiative is also open to other financial institutions⁴ with the requisite expertise and the willingness to carry the associated risks in partnership with the European Commission.

The principal idea behind the Europe 2020 Project Bond Initiative is to provide EU support to project companies issuing bonds to finance large-scale infrastructure projects.

The Initiative aims to attract additional private sector financing of individual infrastructure projects by improving the rating of the senior debt of project companies, thereby ensuring that this can be placed as bonds with institutional investors.

The Commission's key role will be risk-sharing with the EIB (or other financing partners), enabling them to provide guarantees or loans to support such bonds. No bond issuance will be required by Member States' governments, the EU or the EIB for this purpose.

The EU-supported credit enhancement would allow the senior project debt to be issued in the capital markets in the form of a new class of project bonds (“EU Project Bonds”), resulting in reduced funding costs for longer maturities for project entities, while meeting the demand of institutional investors (such as pension funds and life insurance companies) for stable, long term assets.

³ See CDP Consultation Paper to the EU Commission and Bassanini and Reviglio 2011b.

⁴ International Financial Institutions (IFIs) and/or other Member States banks with a public sector mandate.

Figure 3: EIB Guarantee Facility

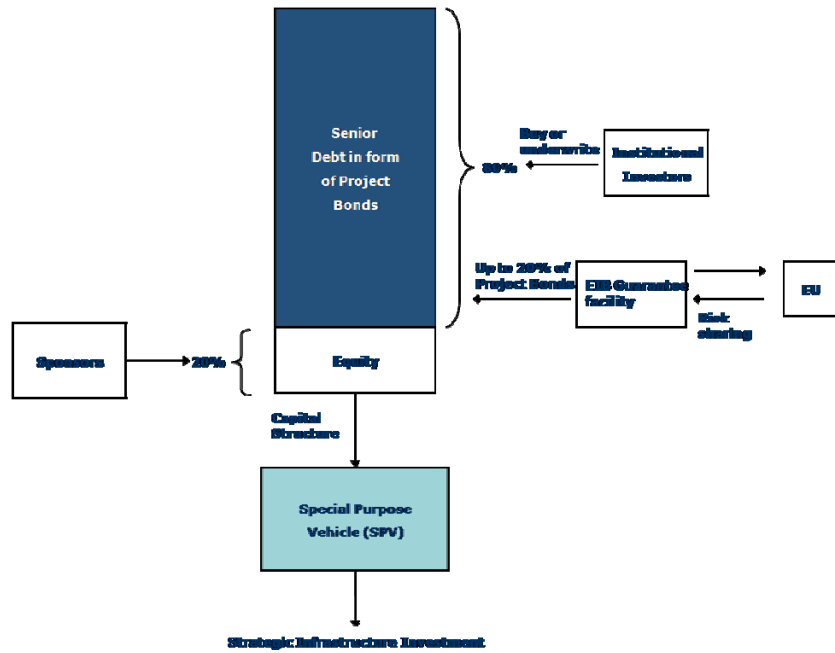
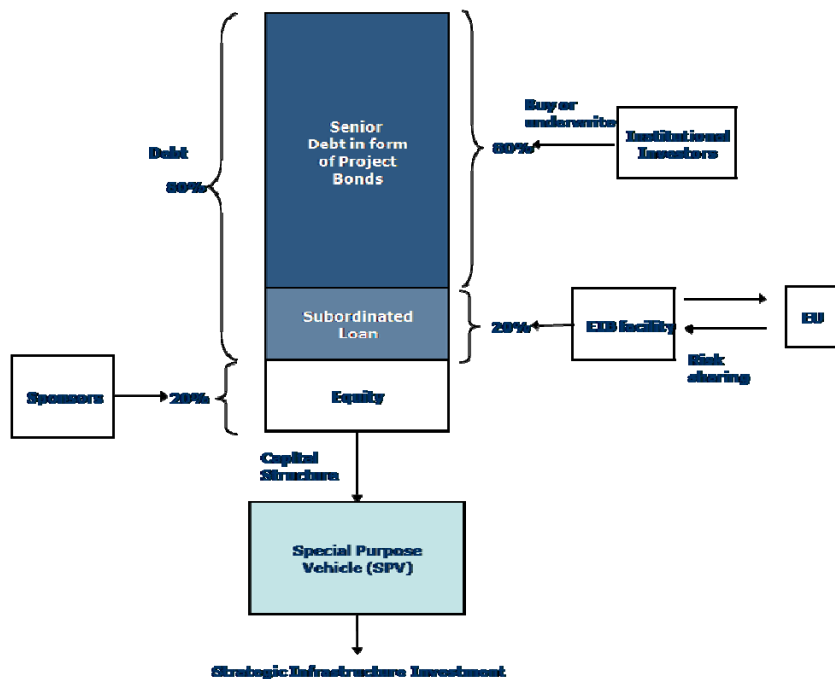


Figure 4: EIB Subordinated Debt Facility



Source: CDP

The EU backed EIB support could take the form of a debt service guarantee or an additional layer of debt at the subordinated level (Figures 3 and 4). The choice of a guarantee or a loan would depend on the exact financial characteristics of the project, but neither would substitute for shareholder contributions in the form of equity or

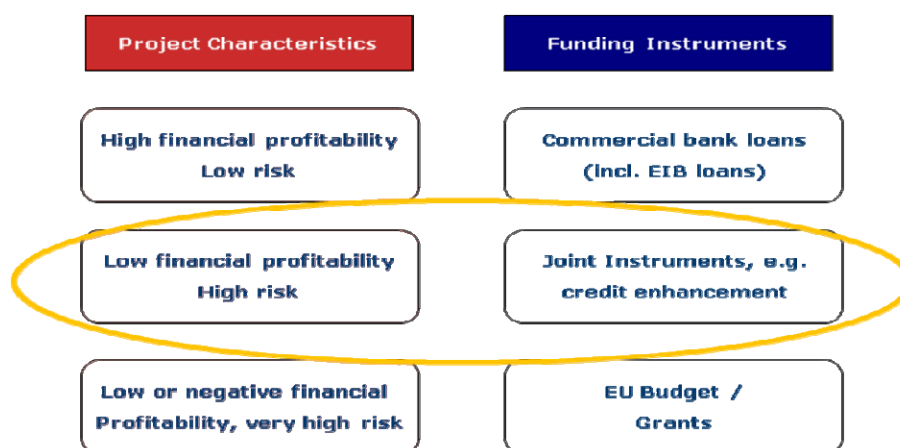
shareholder loans.

In both cases, debt service guarantee or subordinated loan, a maximum amount of up to 20% of total bond funding of an individual project is envisaged to ensure that the senior debt (bond) achieves an investment-grade rating (ideally around A or higher) in order to be attractive for institutional investors.

The EU will define the project eligibility framework and seek greater synergies between EU grants and the use of specialized financial instruments. The intention is to focus on the transportation (TEN-T), the energy (TEN-E) and the ICT sector.

The Initiative would be available to those projects that are economically and technically sound and cost-effective and that have a real prospect of financial viability (Figure 5). Projects' size should be higher than €100-150 million. The aim would be to make the maximum number of projects "bankable".

Figure 5: Potential Blending Area of the Initiative



Source: DG-ECFIN, EIB

The EU and the EIB would share the risk of the losses of the project portfolio. The EU risk would be ring-fenced and its participation therefore capped at an agreed annual budgetary amount⁵. The EIB would be covering the residual risk up to its maximum exposure on any individual transaction.

The Initiative should build on the EIB's long-standing experience in the financing of infrastructure projects. Therefore, in partnership with the Commission, the EIB will help develop and continuously expand a pipeline of PPP projects on the basis of a clearly defined eligibility

⁵ Nonetheless, neither the amount nor the form (e.g., equity, collateralised debt obligation-CDO) of the EU support it has been clarified at this stage.

framework. The EIB would subsequently carry out the due diligence and financial appraisal in the structuring phase, price the guarantee or loan and monitor the project thereafter.

EIB may also be prepared to act as controlling creditor according to principles to be established in agreement with market participants. In our view, the EIB's role in the risks appraisal, structuring and due diligence phase as well as controlling creditor can represent a critical issue for bond investors since:

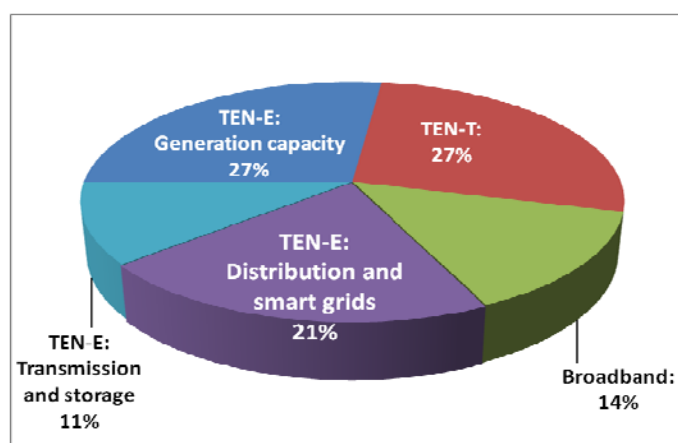
- negotiations and risks appraisal should be carried out by parties with economically aligned interests and independent with respect to sponsors and subordinated creditors and/or guarantors as the EIB;
- an efficient day-to-day management service including but not limited to waivers, consents, drawdown requests has to be assured and EIB capacity can represent a bottleneck for a significant pipeline of EU Project Bonds;
- bond investors need to retain control right and a conflict of interest could arise if the subordinated creditor/guarantor should act as a controlling creditor for bondholders.

In our view, therefore, to avoid any potential bottleneck and/or conflict of interest between the EIB as controlling creditor and the institutional investors as bondholders, an independent controlling creditor to join or replace the EIB might need to be identified/selected.

Preliminary estimates point to European infrastructure investment needs of between €1.5 trillion and €2.0 trillion. More specifically, from now until 2020, investment needs are estimated as follows (figure 6):

- i. €500 billion in the Transportation sector, for the implementation of the Trans-European Transport Network (TEN-T) programme;
- ii. € 1,100 billion in the Energy sector, by public and private entities for the implementation of the Tans-European Energy Networks (TEN-E):
 - a. €400 billion on distribution networks and smart grids;
 - b. € 200 billion on transmission networks and storage capacity;
 - c. €500 billion to upgrade actual and build new generation capacity.
- iii. between € 38-58 billion and € 181-268 billion in the Telecommunication sector, to achieve the Commission's broadband targets.

Figure 6: European Infrastructure Investment Needs



Source: DG-ECFIN

The European Commission (DG-ECFIN) and the EIB's estimated targets for EU Project Bonds' issues are in the range of €1-5 billion per annum at the beginning of the Initiative and in the range of €10-20 billion by 2020.

Across the EU, from 2006 and 2009, 1/3 of all infrastructure investment needs were financed directly by the government sector (mainly education investment) whereby 2/3 were financed by the private sector (mainly utilities investment: energy, water, sewage and waste).

The greater part of the private sector's infrastructure investment is made directly by utility and transport companies, so called corporate finance. Infrastructure investments through a Special Purpose Vehicle (SPV) using the project finance technique (including public private partnerships – PPPs)⁶ has reached in the meantime around 10% of total private sector's infrastructure investments.

Considering that the Initiative is expected to be fully operational in 2014 and assuming conservatively that:

- i. the infrastructure investment needs of €1.5-2.0 trillion estimated (2011-2020) is almost linear over the next decade, thus around €150-200 billion per year;
- ii. the Initiative would increase private sector's contribution to infrastructure investment needs, from current 2/3 to 80% in 2020 (a share of +2% per year);
- iii. the Initiative is targeting at least between 10% (from the very beginning) and 30% (a share of +5% per year) of private sector's infrastructure investments;

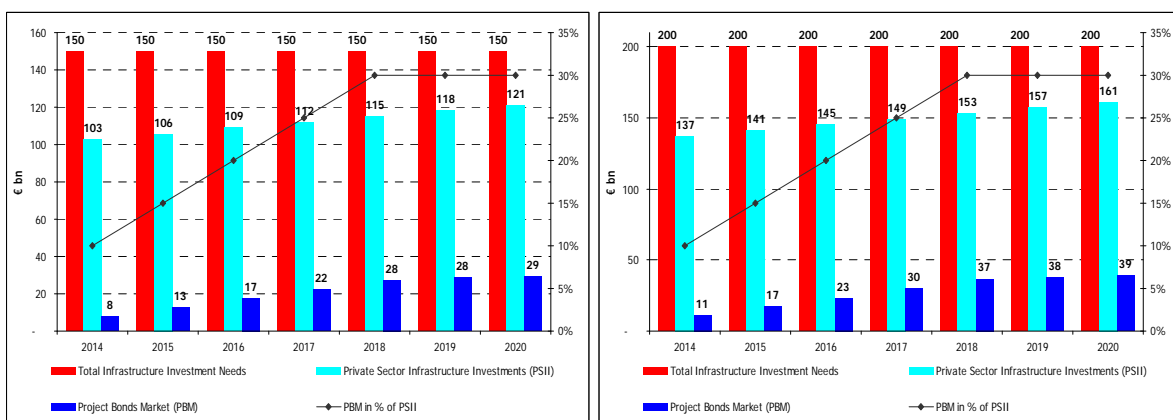
⁶ PPP structures are prevalent in transport, as well as increasingly in waste, health, education and other social sectors. Non PPP project financing is well established in the energy and other utility sectors.

- iv. the typical leverage of the SPV in a project financing structure (including PPPs) is a ratio of 80/20 for debt/equity;

this could lead within 5-7 years to the creation of an European Project Bond Market of approximately € 110-200 billion (see charts below), depending on the form of the EU backed support as a debt service guarantee or as a subordinated loan.

According to this preliminary estimate, a EU backed EIB support of at least € 25-40 billion would be needed to cover potential risks arising from the Initiative (Figure 7).

Figure 7: Estimated EU Project Bond Market



Source: CDP' calculation

Nevertheless, the creation of a Pan-European Project Bonds Market of € 110-200 billion raises, among others, the following issues:

- a) Liquidity of the primary and above all of the secondary market:
 - i. potential EU Project Bonds' market size can be overestimated: over the last 15 years, despite monolines' arrangement and the resulting project bonds wrapping being more attractive for institutional investors than the EU supported credit enhancement, € 100 billion of infrastructures were bond-financed (above all in the UK);
 - ii. detailed analysis of infrastructure projects that are suitable for EU Project Bonds' issues. It is critical to build-up a significant and reliable pipeline of potential investments in order to persuade institutional investors to consider EU Project Bonds as a new asset class for their portfolios;
 - iii. potential need for a Public Infrastructure Bonds Agency for facilitating EU Project Bonds' market liquidity.
- b) Regulation and fair competition;
- c) Fair distribution of EU supported credit enhancement for project bonds financing of infrastructures in the Member States;
- d) Settlement procedures.

In our view, the main rationale behind EU Project Bonds' issues can be summarized as follows:

- overall lower financing costs (i.e., including guarantees' fees, etc) vs bank loans;
- longer tenor (increase the debt sustainability, etc) vs bank loans;
- increase sources of funding (capital markets vs cash constraints of financing banks – credit crunch or financial crisis) and potentially more infrastructure investments;
- better standardisation possibility of the instrument, that can be complementary to bank loans.

Generally, the main drawbacks of infrastructure financing through project bonds are:

- lower flexibility:
 - as regards potential re-financing needs or opportunity over the project's life-cycle;
 - as regards prepayments and related breakage costs.
- negative carry: debt issuance occurs at financial close even if all the funds will not be required until later in the construction programme.

In any case, EU Project Bonds must not only target institutional investors but their success and the related market's establishment rely also on the initial need to attract high quality sponsors and high quality projects.

EU Budget 2014-2020 and the “Connecting Europe” Facility

On 29th June 2011, the European Commission presented a package of legislative proposals for the next Multi-annual Financial Framework (MFF) from 2014 to 2020⁷, with the aim of achieving the Europe 2020 strategy goals for smart, sustainable and inclusive growth⁸.

The overall amount proposed is €1,025 billion in commitments (1.05% of the EU GNI) and €972.2 billion (1% of EU GNI) in payments. The proposals will be the object of an institutional negotiation that will commit the EU Commission, EU Parliament and EU Council in the coming years according to the rules established in the Treaty on the Functioning of the European Union (310-324 TFUE).

Within the new MFF, the European Commission focuses on priority funding at the EU level that should provide true added value. In particular, the Commission is proposing:

1. a Common Strategic Framework for structural funds within the EU Cohesion Policy;
2. the creation of a so called “Connecting Europe” Facility;

⁷ See, in particular, European Commission Communication COM(2011)500 Part I and II.

⁸ European Commission Communication COM(2010)2020.

3. The use of innovative financial instruments.

Table 1								
2011 prices	2014	2015	2016	2017	2018	2019	2020	Total 2014-2020
Structural Funds for Cohesion Policy	46.55	47.03	47.43	47.90	48.48	49.04	49.59	336.02
of which								
Regional convergence	22.03	22.46	22.84	23.23	23.63	24.01	24.39	162.59
Transition regions	5.55	5.56	5.56	5.57	5.57	5.57	5.58	38.95
Competitiveness	7.59	7.59	7.59	7.59	7.59	7.59	7.59	53.14
Territorial cooperation	1.67	1.67	1.67	1.67	1.67	1.67	1.67	11.70
Cohesion fund	9.58	9.62	9.64	9.71	9.89	10.06	10.22	68.71
<i>of which</i>								
<i>Ringfenced for transport infrastructures(A)</i>								<i>10.00</i>
Outermost and sparsely populated regions	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.93
Connecting Europe Facility (B)	3.91	4.51	5.11	5.71	6.31	6.91	7.52	40.00
Total proposed budget 2014-2020								376.02
Total for Infrastructures (A+B)								50.00

Source: European Commission Communication, (2011): “A Budget for Europe 2020”.

The Common Strategic Framework brings together the European Regional Development Fund, the European Social Fund and the Cohesion Fund, in order to ensure greater coherence between the sources of funding for economic, social and territorial cohesion.

The management will be shared between the European Commission and the Member States, which will be required to provide co-financing. The proposed budget allocation for 2014-2020 is totaling about €336 billion, divided as follows (Table 1):

- Convergence regions: €162.6 billion;
- Transition regions: €39 billion;
- Competitiveness regions: € 53.1 billion;
- Territorial cooperation: € 11.7 billion;
- Cohesion fund: € 68.7 billion, of which €10 billion for transport infrastructures;
- Extra allocation for outermost and sparsely populated regions: € 0.926 billion.

In addition to grant funding, it is proposed that cohesion support for enterprises and projects expected to generate substantial financial returns will be delivered primarily through innovative financial instruments.

The “Connecting Europe” Facility is designed for financing cross-border

projects (so called connecting links) of EU interest in order to promote the completion of the "transport core network", the "energy priority corridors" and the digital infrastructure that the EU needs for a sustainable competitiveness and a sound development within the EU single market.

The Facility will be centrally managed by the Commission with the support of an executive agency (such as the current TEN-T Executive agency) and financial intermediaries and will be funded by a dedicated budget. In particular, the Commission proposes to allocate a total of €40 billion for the 2014-2020 period, of which:

- €9.1 billion to the energy sector;
- €21.7 billion to the Transport sector;
- €9.2 billion to the ICT/Digital sector.

The Facility will be complemented by an additional €10 billion ring-fenced for related transport infrastructures investments inside the Cohesion Fund.

The task is also to build an environment conducive to private investment and develop instruments that will be attractive vehicles for specialized infrastructure investors. In fact, the Connecting Europe Facility offers opportunities for using innovative financing tools to speed up and secure greater investment than could be achieved only through public funding.

The Connecting Europe Facility will combine market-based instruments and EU direct support in order to optimize the impact of financing. The Commission will work closely with the EIB and other public investment banks to combine funding of EU infrastructural projects. In particular, the Commission will promote the use of EU Project Bonds as a mean of bringing forward the realization of these important projects.

The use of innovative financial instruments in a variety of policy areas, through different budget lines, and in collaboration with the private sector, offers an alternative to the traditional grant funding associated with the EU budget and can provide an important new financing stream for strategic investments.

A key advantage of innovative financial instruments is that they create a multiplier effect for the EU budget by facilitating and attracting other public and private financing of projects of EU interest. Financial instruments do not imply more risk than grants, as the risk for the EU budget is in all cases strictly limited to the budgetary contribution.

The management and implementation of financial instruments would in general be delegated to the EIB Group, other international financial institutions or public financial institutions where at least one Member

State is a shareholder.

Management could also be delivered through an investment vehicle structure set up under national law and pooling resources from different public and private sector sources. Further delegation to private financial actors would also be possible.

A rationalization of the existing financial instruments is proposed to provide common rules for equity and debt instruments, so that there is an integrated vision of the use of financial instruments at EU and at national/regional level.

For more than ten years, the EU budget has been using financial instruments such as guarantees and equity investment for SMEs. In the current financial framework, a new generation of financial instruments was put in place in cooperation with the EIB, such as the Risk-Sharing Finance Facility (RSFF) under the 7th R&D Framework Programme or the Loan Guarantee Instrument for TEN-T projects (LGTT).

For activities outside the EU, the Global Energy Efficiency and Renewable Energy Fund was set up to provide equity investments in developing countries. In the area of structural funds, financial instruments have been set up to support enterprises, urban development and energy efficiency through revolving funds.

The Commission proposes among the others a new type of instrument, i.e. the EU Project Bond Initiative which would be used as a means of securing investment resources for infrastructure projects of key strategic European interest.

Conclusions

Solvency II risk charges are driven by the risk of asset-value fluctuations over one year, rather than by the likely recovery value at the end of the liability horizon.

Assets and liabilities will also move from a fixed book-value style valuation to a market-consistent valuation. These two changes will force insurers to:

- consider the risk to their reported solvency position of short-term mark-to-market fluctuations in asset values;
- hold regulatory capital to cover the impact of a once-in-200-year event in the asset markets.

As a result, insurers will need to reassess their asset allocations and expected investment returns in light of the extra capital they will now have to hold under Solvency II [FitchRatings 2011].

The capital charges on long-dated corporates are extremely onerous.

This means that the yields available, after the cost of holding Solvency II capital requirements, are no longer likely to be attractive to insurers at current prices.

This makes it likely that insurers will switch out of long-dated bonds into shorter-dated bonds for better risk-adjusted returns after the cost of holding Solvency II capital requirements, and that yields on long-dated corporates will rise as demand drops [FitchRatings 2011].

As shorter asset durations will require less capital, a steepening of the corporate yield curve for each rating level is expected. This equates to an increase in the cost of issuing longer-dated debt.

Under the present conditions the effects of Solvency II on the potential demand for Project Bonds (and EU long term equity for infrastructure) may not materialize as needed putting a strong question mark on the success of the Commission initiatives for supporting financing for infrastructure in the Union.

References

- Acharya, V, J Biggs, M Richardson and S Ryan (2009): “On the financial regulation of insurance companies”, Stern School of Business, Working paper.
- Acharya, V et al (2011), “Systemic risk and the regulation of insurance companies”, in Acharya, V et al eds, *Regulation Wall Street: the Dodd-Frank Act and the new architecture of global finance*, Hoboken.
- ANIA - KPMG, (2011): *Approfondimento criteri di valutazione QIS5*.
- ANIA – KPMG, (2011): “Focus sulle specifiche tecniche dello stress test”.
- Bank of France (2005): “Interest rate risk management by life insurance companies and pension funds”, *Financial Stability Review*, June.
- Barr, N and P Diamond (2006): “The economics of pensions”, *Oxford Review of Economic Policy*, vol 22, no 1, pp 15–39.
- Beck, T, A Demirgüç-Kunt and R Levine (1999): “A new database on financial development and structure”, World Bank, Policy Research Working Paper, no 2146, July.
- (2009): “Financial institutions and markets across countries and over time”, World Bank, Policy Research Working Paper, no 4943, May.
- BIS, (2011): “Fixed income strategies of insurance companies and pension funds”, *CGFS Papers*, no 44.
- Bank for International Settlements (2006): *76th Annual Report*, 26 June.
- Bassanini, F and E Reviglio, (2009), “New European Institutional Long Term Financial Instruments for a Sustainable and Balanced Growth”, in Astrid Rassegna, no. 17/2009, www.astrid-online.it/rassegna/06-10-2009/Bassanini_Reviglio_Goteborg_riimpag.pdf.
- Bassanini, F and E Reviglio, (2011a), “Development and Innovation in the XXI Century”, in Astrid Rassegna, 6/2011, Higher School of Economics (National Research Institute), Moscow, March 15th 2011.
- Bassanini, F and E Reviglio, (2011b), “Financial Stability, Fiscal Consolidation and Long-Term Investments after the Crisis”, in *OECD Journal of Financial Trends*, Issue 1.
- Billio, M, M Getmansky, A Lo, and L Pelizzon (2010): “Econometric measures of systemic risk in the finance and insurance sectors”, NBER Working Paper, no 16223.
- Borio, C, C Furfine and P Lowe (2001): “Procyclicality of the financial system and financial stability: issues and policy options”, in *Marrying the macro- and microprudential dimensions of financial stability*, BIS Papers, no 1, March, pp 1–57.
- Brunnermeier, M and L Pedersen (2009): “Market liquidity and funding liquidity”, *Review of Financial Studies*, vol 22, pp 2201–38.
- Casu, B, C Girardone and P Molyneux (2006): *Introduction to Banking*, Prentice Hall.
- CEA (2010): “Insurance: a unique sector. why insurers differ from banks”, June.
- CGFS (2003): “Incentive structures in institutional asset management and their implications for financial markets”, *CGFS Report*, no 21.

- (2007): “Institutional investors, global savings and asset allocation”, CGFS Report, no 27.
- Committee of European Insurance and Occupational Pensions Supervisors (2008): Survey on fully funded, technical provisions and security mechanisms in the European occupational pension sector, CEIOPS-OPSSC-01/08.
- CEIOPS (2010): “Spring Financial Stability Report 2010”, June.
- Committee on the Global Financial System (2007): “Institutional investors, global savings and asset allocation”, CGFS Papers, no 27, February.
- Committee on the Global Financial System (2010): “The role of margin requirements and haircuts in procyclicality”, CGFS Papers, no 36, March.
- Conseil d’Analyse Économique (2010), “Investissements et investisseurs de long terme”, available on line: <http://www.cae.gouv.fr/spip.php?breve18>.
- De Larosière, J., (2011), “Don’t punish the banks that performed best”, Financial Times, 4th March 2011.
- De Larosière, J. (2010), “Long term investment: what appropriate regulatory framework?”, The Long-term Investment in the Age of Globalisation, Rome, 17th June, in <http://www.astrid-online.it/Dossier--d1/DISCIPLINA/The-Long-T/index.htm>
- Deloitte, (2010): “External Study for the Impact Assessment of Solvency II (Level 2).
- Dickinson, G (2000): “The implications of lower interest rates for insurers: a comment”, The Geneva Papers on Risk and Insurance, 25(1), pp 59–62.
- DIRECTIVE 2009/138/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II).
- Dodd-Frank Wall Street Reform and Consumer Protection Act – Title VII: Wall Street Transparency and Accountability Act.
- The Economist (2011): Special report on pensions, April 9, 2011.
- Ehrhardt, J and P Morgan (2010): Milliman 2010 Pension Funding Study.
- (2011): Milliman 2011 Pension Funding Study.
- EIOPA, (2011): “Report on the fifth Quantitative Impact Study (QIS5) for Solvency II”.
- Eling, M and H Schmeiser (2010): “Insurance and the credit crisis: impact and ten consequences for risk management and supervision”, The Geneva Papers, vol 35.
- Ernst and Young (2004): IASB IFRS 4 and IAS 39 - Insurance and Investment Contracts.
- ECB (2009): “Credit default swaps and counterparty risk”.
- ECB (2009): “The importance of insurance companies for financial stability”, ECB Financial Stability Review, December.
- ECB (2010): “The euro area insurance sector”, ECB Financial Stability Review, June.
- (2010), “Box 16: Are low risk-free interest rates good or bad for insurance companies?”, Financial Stability Review, June, pp 117–9.

- Eurofi (2010), “For an EU Action Plan to Remove the Disincentives to Long-Term Investment”, Discussion Note.
- European Commission, (2011): “STAKEHOLDER CONSULTATION PAPER COMMISSION STAFF WORKING PAPER on the Europe 2020 Project Bond Initiative”.
- European Commission Communication, (2011): “A Budget for Europe 2020”, Part I and II.
- Ernst & Young , (2011): “The impact of Solvency II on asset managers”
- European Insurance and Occupational Pensions Authority (2011): EIOPA Report on the fifth Quantitative Impact Study (QIS 5) for Solvency II, 14 March.
- European Securitisation Forum (2010): Securitisation Data Report Q4:2010.
- Ferguson, R (2006): “Globalization, insurers, and regulators: shared challenges call for collaborative solutions”, Speech delivered at the National Association of Insurance Commissioners (NAIC), BIS Review, 12/2006, 23 February.
- Fitch Ratings, (2011): “European Debt Investor Landscape”.
- Fitch Ratings, (2011): “Solvency II set to reshape Asset Allocation and Capital Markets “.
- Fitch Ratings, (2011): “ The future of bond market “.
- Fleuriet, V and C Lubochinsky (2005): “Interest rate risk management by insurance companies and pension funds”, Financial Stability Review, no 5, pp 95–111, June.
- Geanakoplos, J (2009): “The leverage cycle”, The NBER Macroeconomics Annual, vol 24.
- The Geneva Association (2010a): “Systemic risk in insurance: an analysis of insurance and financial stability”, Special Report of the Geneva Association Systemic Risk Working Group, March.
- (2010b): “Key financial stability issues in insurance: an account of The Geneva Association’s ongoing dialogue on systemic risk with regulators and policy makers”, Special Report of the Geneva Association Systemic Risk Working Group, July.
- Gieve, J (2007): “Uncertainty, policy and financial markets”, Speech delivered at the Barbican Centre, BIS Review, vol 84, 24 July.
- Group of Ten (2005): “Ageing and pension system reform: implications for financial markets and economic policies”, Report prepared at the request of the Group of Ten by a group of experts chaired by I Visco, OECD Financial Market Trends, 89 (Supplement 1).
- Guy Carpenter Briefing, (2011): “Pillar One: Capital Requirements”.
- Harshaw, J (2011): “Protection of cleared swaps customers before and after commodity broker bankruptcies”, Letter to the Commodity Futures Trading Commission, January 18.
- Heaton, L and R McDonald (2010): “Is mark-to-market accounting destabilizing? Analysis and implications for policy”, Journal of Monetary Economics, no 57, pp 64–75.
- Holsboer, J (2000): “The impact of low interest rates on insurers”, The Geneva Papers on Risk and Insurance, 25(1), pp 38–58.
- IFRS (2010): A snapshot at the proposed changes regarding insurance contracts.

- IFRS Foundation (2011): “Taking stock: progress towards an IFRS for insurance contracts”, discussion paper for the Insurance Working Group meeting 16 May 2011.
- JP Morgan (2010): “Judging the impact of Solvency II on euro area fixed income markets”, European Rates Strategy, 26 November 2010.
- Klein, R (1995): “Insurance regulation in transition”, *Journal of Risk and Insurance*, 62(3), pp 363–404.
- Mercer Oliver Wyman, (2006): “Solvency II: Strategic impact on insurers”.
- The Netherlands Bank (2010): “Life insurance corporations reduce interest rate risk using derivatives”, DNB Statistical Bulletin, June.
- Novy-Marx, R, and J Rauh (2011): “Public pension promises: how big are they and what are they worth?”, *Journal of Finance*, forthcoming.
- OECD (2010a): Pension markets in focus, no 7, July.
- (2010b): The impact of the financial crisis on the insurance sector and policy responses, April.
- Ortec Finance, (2010): “Impact of the Solvency II Guidelines on ALM for Life Insurers”.
- Plantin, G and J–C Rochet (2007): *When insurers go bust: an economic analysis of the role and design of prudential regulation*, Princeton University Press.
- PricewaterhouseCoopers LLP (2010): IFRS Bulletin, IASB updates IFRS 9 for financial liabilities, November.
- Pugh, C and J Yermo (2008): “Funding regulations and risk sharing”, OECD Working Papers on Insurance and Private Pensions, no 17.
- Schmeiser, H, M Eling, N Gatzert, S Schuckmann and D Toplek (2006): “Volkswirtschaftliche Implikationen des Swiss Solvency Test”.
- Schludi, M (2005): *The reform of Bismarckian pension systems*, Amsterdam University Press.
- Shim, I and G von Peter (2007): “Distress selling and asset market feedback”, *Financial Markets, Institutions and Instruments*, BIS Working Papers, vol 16(5), pp 243–91.
- Sjostrom, W (2009): “The AIG bailout”, *Washington and Lee Law Review*, vol 66, p 943.
- Swinkels, L (2007): “Have pensions plans changed after the introduction of IFRS?”, Working paper, European Pension Academy.
- Swiss Re (2001): “The economics of insurance: how insurers create value for shareholders”, Swiss Re Technical Publishing.
- (2010): “Insurance investment in a challenging global environment”, Swiss Re Sigma Study, no.5.
- Tsatsaronis, K and H Zhu (2004): What drives housing price dynamics: cross-country evidence, *BIS Quarterly Review*, March.
- Van Rixtel, A and L Romo González (2011), “Non-enhanced debt financing by euro area banks under severe financial stress”, Banco de España Financial Stability Review, April.
- Vaughan, E and T Vaughan (2008): *Fundamentals of Risk and Insurance*, 10th edition. John Wiley & Sons.

Wall Street Journal (2010): “Low interest rates hurt insurer’s bottom line”, 6 November.

World Economic Forum (2011): “The future of long-term investing”, a World Economic Forum Report.

Xu, B (2007): “Hedging interest rate risks in Dutch pension funds and life insurance companies”, mimeograph, 14 April.