Publication for professional investors
In-depth insights from NN Investment Partners

FocusPoint

Infrastructure debt for institutional investors

- Stable, long-term cash flows that provide a good match for liabilities
- Superior credit fundamentals with low cyclicality
- Enhanced expected returns and portfolio diversification benefits
- Efficient solvency requirements
- Positive ESG impact of 'real assets' with direct benefits to society and economy

Stable Cash Flows for Liability Matching

Liability-matching portfolio managers currently face a number of challenges posed by insufficient fixed income yields, decreasing bond liquidity, escalating regulatory complexity and stricter environmental, social and governance (ESG) standards, all of which are reshaping investment policies. At the same time, the demographic shift for an ageing population requires cash flow certainty from fixed income products.

Infrastructure debt may help to address some of these challenges while providing many additional benefits. We explain why this asset class has attractive credit fundamentals and offers a compelling risk-return profile.

The search for yield has pushed many institutional investors to consider alternative sources of income. However, many alternatives introduce additional risk into portfolios as investments migrate down the credit spectrum to secure higher returns. Justifiably, investors also wish to avoid complex structured products with superficially high credit ratings, which failed to deliver the required cash flows during the credit crisis. One practical alternative solution to increase returns while maintaining (or reducing) risk is to consider "real assets", like infrastructure, where higher yields can be achieved by investors in return for giving up some liquidity.

NN Investment Partners has an impressive track record of direct infrastructure debt over the last 24 years. Today, NN IP is one of the top-tier institutional investors in the European infrastructure market, with a strong pipeline of exclusive opportunities and a conservative approach that is focused on delivering low-risk, sustainable cash flows for investors.

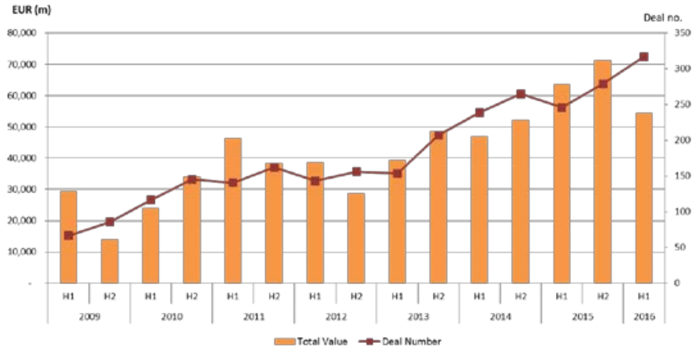
Infrastructure Debt as an Asset Class

Infrastructure is not an asset class in and of itself. Investments in infrastructure can take various forms ranging from private equity at one end of the risk spectrum to investment grade senior debt at the other. Some investors may be attracted by the higher returns offered by infrastructure equity and high yield debt investments in higher-risk or higher-leverage projects. For investors seeking to enhance cash flow matching portfolios, though, lower-risk senior debt investments are generally seen as the most suitable option.

Like many asset classes, infrastructure debt may also be categorised by sector. Typical infrastructure sectors include concession contracts with governments or government-related entities (such as public/private partnership projects for government buildings, schools, hospitals and roads), renewable energy, regulated utilities and energy transmission, water and environment, telecoms, public transportation, ports and airports. In most cases, infrastructure projects are deemed to be "essential" by the host government or state because their operation directly benefits society and facilitates economic growth. For this reason, many infrastructure projects have highly positive ESG outcomes and can even yield reputational benefits for investors.

The size of the European infrastructure market in terms of the total transaction volume during 2015 was about EUR 140 billion[1], of which approximately 60% (EUR 80 billion) was financed by debt.

Figure 1: European infrastructure market growth shown as the total number and volume of transactions (debt and equity)



Source: Inframation Group

During 2015, commercial banks provided the majority of all infrastructure debt financing, with institutional investors participating for approximately 20% market share. Although the institutional contribution may seem relatively limited, particularly when compared to the North American market, the direct involvement of institutional investors in the European infrastructure debt market has largely occurred during only the last five years. This market shift is also forecast to continue as banking regulations (notably Basel III and IV) gradually erode the appetite of many banks to lend in large volumes and for the long tenors required for infrastructure projects. Furthermore, many project sponsors, including major construction companies and equity funds, are becoming increasingly comfortable and willing to engage directly with non-bank institutional lenders, like NN IP, which have a dedicated team of experienced infrastructure professionals, well-defined internal processes, proven ability to deliver, and sufficient resources to provide bid support and to rapidly respond to waivers or other project-specific requests as they arise.

Characteristics of Infrastructure Debt

Definitions of infrastructure debt, which may be referred to more generically as project finance, tend to be broad and can vary between different organisations and regulators. Therefore, it can be best described in simple terms as a form of cash flow-based lending to a special purpose company or regulated entity for the construction and/or operation of a single project or a portfolio of assets. The infrastructure assets themselves may comprise physical assets or a legal right to cash flow in the case of government concessions.

Debt investments in infrastructure assets can be made either at the start of construction or later during the operating and maintenance phase. As a result, the returns to investors may vary from project to project depending on the specific risk profile as well as the sector and jurisdiction. Similarly, infrastructure debt financing parameters are

[1] Source: Inframation Group

usually tailored to the specific needs of the project and tend to vary with the type of asset or sector, although there are a number of common features of this asset class as outlined in Figure 2.

Figure 2: Common Features of Infrastructure Debt

Characteristic	Description
Borrower/Issuer	Either a bankruptcy remote SPV or regulated entity
Commitment	Fully committed, fixed draw-down schedule
Repayment	Mostly amortising
Tenor	5-30 years (WAL 5-15 years)
Interest	Fixed or floating rate facilities available
Commitment Fee	Paid on undrawn amounts
Spread Premium	70-100bps above relevant corporate bond benchmark
Solvency II Charge	Qualifying Infrastructure 33% lower SCR (Standard Formula) than equivalent rated corporate bonds
Credit Ratings	Some project ratings available but most unrated

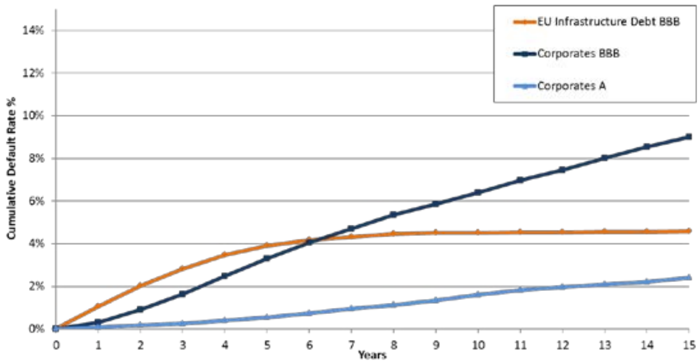
Debt capacity is similarly determined on a project-specific basis by reference to the stable portion of cash flows generated by operating the relevant asset. Detailed sensitivity analysis is also performed as a key part of the due diligence process by experienced infrastructure debt teams to ensure that the debt service payments are sustainable over the whole life of the project and can withstand a wide range of potential downside scenarios, both in the macro-economics as well as any future under-performance of the project.

Superior Credit Fundamentals

One of the most striking attributes of infrastructure debt as an asset class concerns the risk profile, which generally improves over time as the assets mature.

Moody's Investors Service has compiled historical default and recovery data from the Data Consortium, an extensive group of infrastructure debt investors. The data set comprises 5,880 projects accounting for some 62% of all project finance transactions originated globally from 1983 to 2015. Interestingly, the historical data show that the default rate for infrastructure debt is initially consistent with the default rates for corporate issuers of comparable credit quality up to 5 years, but thereafter trends significantly lower (see Figure 3).

Figure 3: Cumulative Probability of Default Comparison

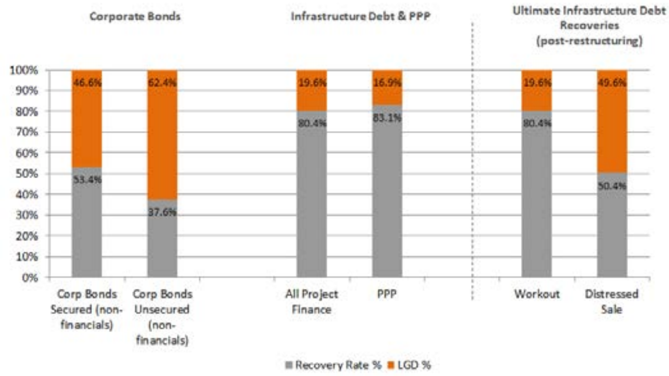


Source: Moody's Investor Services and S&P Global Fixed Income Research 2016

This unique characteristic of infrastructure debt occurs as the probability of default generally reduces after a project completes construction and commissioning and enters into steady-state operations. It is also driven by the amortising debt profile of many infrastructure projects, which results in a gradual de-leveraging effect over the life of the asset. For this reason, it is more common for infrastructure debt to experience credit rating upgrades than downgrades throughout the term of the investment.

Another striking attribute of infrastructure debt concerns the high recovery rates following default. The historical data from the Moody's Data Consortium reveals that infrastructure debt has significantly lower losses following default than observed in the corporate bond market (see Figure 4).

Figure 4: Loss Given Default Comparison



Source: Moody's Default & Recovery Rates for Infrastructure Debt

The higher recoveries in infrastructure debt are driven in part by the security provisions and finance documentation, which is usually based on the Loan Market Association (LMA) standard form for European infrastructure projects. Typically, such documentation includes extensive representations, warranties, financial and information covenants, equity distribution lock-up conditions and events of default. In addition, many infrastructure projects include stand-by liquidity in the form of maintenance reserves and also debt service reserves as well as comprehensive security packages with direct agreements and step-in rights enabling debt investors to take swift action in case material credit issues arise. In this context, it is unsurprising that investors have recorded lower losses in infrastructure debt, although higher recoveries are generally obtained not by distressed sales but by following a detailed workout and restructuring process, which demands an experienced team with relevant experience.

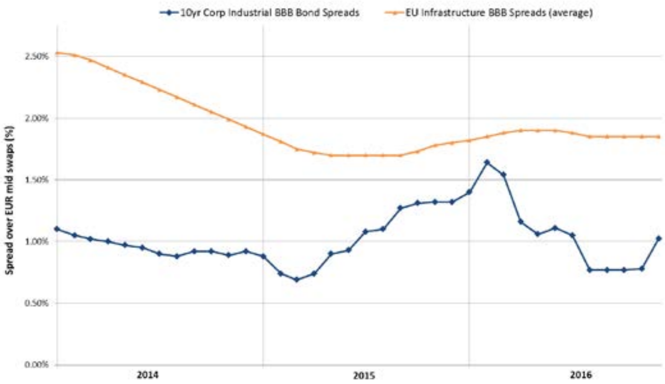
Lastly, the majority of infrastructure debt investments exhibit very low cyclicality. This distinguishes infrastructure debt from many other asset classes and can help to reduce the portfolio impact of more cyclical markets, like commercial and residential real estate. During the credit crisis, many infrastructure debt portfolios proved to be very resilient and continued to perform well with no material increase in the number of defaults observed. However, infrastructure investments can show positive correlations within the same sector and jurisdiction. For example, the retrospective changes made to Spanish renewable energy tariffs during 2013 caused many such investments to become distressed at the time. This correlated risk effect highlights the importance of selecting an experienced asset management team to build a well-diversified infrastructure debt portfolio and to limit any potential risk concentrations.

Portfolio Context

Institutional investors with fixed income portfolios may consider making an allocation to infrastructure debt in order to enhance returns when compared to traditional investment grade credits, and without materially increasing risk or associated capital charges. During the last few years, European infrastructure debt returns have exceeded the relevant corporate bond benchmarks by an average of 70 to 100 basis points. However, such portfolio optimisation requires the investor to forego some liquidity since infrastructure debt, like other forms of private debt, is generally less liquid than traditional fixed income securities. As a result, investors will need to evaluate the surplus portion of liquidity in their portfolios in advance, although this exercise may prove worthwhile not just in terms of boosting returns but also increasing asset diversification by securing access to new markets as well as a broader universe of borrowers and issuers. On the other side of liquidity, many infrastructure debt portfolios, as well as other types of private debt, generally experience low market price volatility when compared to the daily market price fluctuations experienced by more liquid listed securities.

The graph below shows a pricing comparison between average spreads observed in the European infrastructure debt market versus average spreads for 10-year industrial corporate bonds rated BBB. During the last three years, European infrastructure debt pricing has generally exceeded the corporate bond benchmarks by an average of 70 to 100 basis points. In addition, significantly lower price (spread) volatility has been observed in the infrastructure debt market.

Figure 5: Relative Asset Value



Source: Barclays, Inframation Group, NN IP

An allocation to infrastructure debt may also significantly improve the ESG footprint of many portfolios since many infrastructure projects are deemed to be essential real assets, which provide major public and community benefits as well as facilitating local economic growth.

NN IP: a trusted partner in European Infrastructure Debt

NN IP is an established and active participant in the European infrastructure debt market. It is one of only a few institutional investors having a track record of direct investments spanning 25 years. This long term strategic vision and commitment to the European infrastructure market is acknowledged by project sponsors as well as our dedicated team of infrastructure professionals, which ensures that we maintain an extensive network to source high-quality private investments. As a result, our clients benefit from a strong pipeline of exclusive transactions, as well as unique access to research data and a strong alignment of interests by co-investment alongside NN Insurance.

The Private Debt team comprises more than 40 dedicated professionals. We support our clients throughout the lifecycle of their investments, from sourcing and screening new opportunities, conducting detailed due diligence, negotiating terms and conditions and executing documentation through to monitoring, servicing and reporting.

In summary, NNIP's Infrastructure Debt platform exhibits the following key strengths and core competencies:

- Active in direct lending to infrastructure projects with zero credit losses since 1993
- Well-established and trusted partner, with strong relationships across Europe, ensuring first-ranking access to attractive investment opportunities
- Team of infrastructure investment professionals with experience in asset selection, negotiating terms and conditions, documentation and due diligence, financial advice and modelling, portfolio monitoring, debt restructuring and secondary loan trading
- Proven execution and delivery platform comprising dedicated support from NN IP's legal department, credit risk management, compliance, tax and accounting, debt valuation as well as middle and back office administration support, which provide for a robust governance framework and with established procedures in place
- Investment alongside NN Insurance, benefiting from alignment of interest, reputation, pipeline, scale and competitive terms

Solvency II: infrastructure as a new asset class for insurers

Solvency II came into effect on 1 January 2016. Under the initial standard formula set out in the Delegated Act, risk charges for infrastructure debt investments were treated in line with corporate exposures.

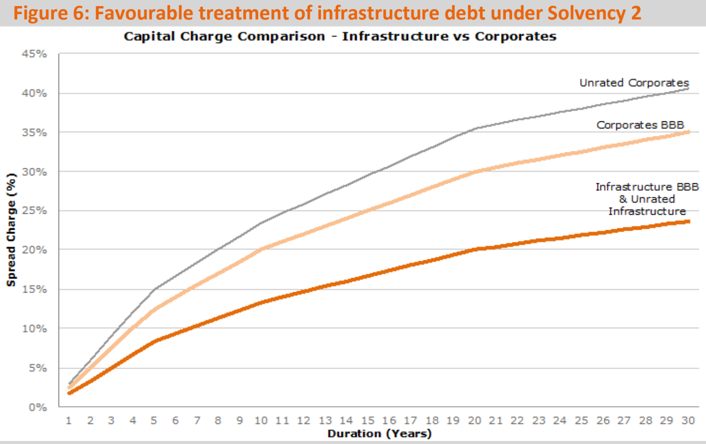
There were essentially two problems with this approach: first, the credit characteristics of infrastructure debt were not properly reflected, in particular the historical default and recovery characteristics observed by Moodys et al.; and, second, the capital charges increased significantly with duration under the spread module in the Solvency II standard model, which was generally unfavourable for long term investments like infrastructure debt.

At the request of the European Commission, the European Insurance and Occupational Pension Authority ("**EIOPA**") consulted on changes to the treatment of infrastructure investments under Solvency II and published its final report on the identification and calibration of infrastructure investment risk categories on 29 September 2015.

The modifications adopted by the European Commission largely follow the advice of EIOPA and provide for a more favourable treatment of infrastructure investments. The resulting amendment to the Delegated Act came into force on 1 April 2016.

Subject to investments meeting specific detailed criteria set out in the new definition of "Qualifying Infrastructure Investments" then the capital charges in the standard model relating to infrastructure debt investments are lower by an average of 33% than equivalent corporate bonds in credit quality step 3, and more than 40% lower than unrated bonds (see Figure 6 below).

Figure 6: Favourable treatment of infrastructure debt under Solvency 2



Source: European Commission Regulations for Infrastructure enforced 1 April 2016; calculation: Spread Module – Standard Model

The definition of Qualifying Infrastructure is reasonably broad and includes the majority of infrastructure assets held in special purpose vehicles, although notably it currently excludes large infrastructure corporates, like airports. However, EIOPA has recently conducted a review of the existing definition with a view to a possible further expansion to include a broader range of infrastructure sectors in the near future.

Apart from lower capital charges, the new Solvency II regulations also set out minimum risk management requirements for infrastructure debt investors, including the performance of adequate due diligence, the validation of base case financial model, performance of regular monitoring and active management of assets, and the performance of portfolio stress testing. In addition, infrastructure debt investors are required to demonstrate satisfactory internal policies covering risk management, internal control and audit processes as well as adequate asset-liability management.

Overall, the European Commission's aim for a consistent approach with the Capital Markets Union as well as an increased level of institutional investment in European infrastructure now seems to be making positive steps forward.

Issues to consider

Infrastructure debt should be considered as a buy-and-hold investment. Although there is an active market engaged in trading of secondary infrastructure loans and bonds, it is a private bilateral market that is less visible and generally less liquid than listed investment grade credit. Investors should also be aware of the relative complexity of investing in infrastructure projects compared to other traditional fixed income asset classes and the fact that it takes a relatively long period of time to complete each transaction.

The following factors provide an insight into the key considerations for each infrastructure debt investment:

- ***End-User:*** recognised need/demand for the asset - is it essential?
- ***Counterparty Credit Risk:*** government, municipality, public authority, end-users, and/or offtaker
- ***Credit Risk of Major Project Parties:*** sponsors/equity investors, contractors, subcontractors and supply chain
- ***Project Scope:*** land, planning, permits, environment, construction, technology, operations, maintenance, supply chain, insurance, handback or exit conditions
- ***Project Economics:*** robust and stable cash flows, base case assumptions, growth projections, financial ratios and covenants, reserves, detailed downside sensitivity analysis
- ***Macro Risks:*** political, legal, regulations, change in law risk, taxation, inflation, currency, interest rates, availability of skilled labour
- ***Documentation:*** scope, structure, format, quality and complexity of contracts, guarantees, covenants and security
- ***Due Diligence Advisers:*** appropriate experience, resources, track-record, scope of services and liability limits
- ***Risk-Return Profile and Pricing:*** absolute and relative value compared to other projects and other asset classes
- ***Probability of Success:*** effective market positioning; efficient allocation of resources and bidding process
- ***Portfolio Considerations:*** geography/jurisdiction, sector, counterparty, sponsors, contractors and technology diversification

Investing in infrastructure debt requires investors to make a strategic long-term decision that is best served by an asset manager with a similar long-term commitment and stable platform. Maintaining regular dialogue, pipeline updates and periodic reporting with our clients is essential throughout the entire investment process, particularly in a private market where there is often scarce publicly-available information.

Supporting your investment

Investing in infrastructure debt involves two distinct phases: (i.) portfolio construction by sourcing and structuring new investments and (ii.) portfolio management of the existing investments. NN IP offers extensive support in both of these specialist areas, which can otherwise be challenging for investors without sufficient resources or expertise.

In terms of portfolio construction, NN IP works closely with investors to identify suitable primary and secondary investment opportunities, secure optimal terms, conduct detailed due diligence and coordinate documentation. These activities primarily include:

- Identifying, sourcing and pre-screening potential investment opportunities
- Negotiation and structuring of terms and conditions with project sponsors and their financial advisers
- Conducting detailed credit analysis and due diligence with specialist advisers
- Drafting and executing documentation with external legal counsel

Once an infrastructure debt investment has been made, NN IP provides comprehensive monitoring, servicing and reporting over the full life of the investment.

The Infrastructure Team maintains overall responsibility for monitoring the ongoing performance of each investment, ensuring that it maintains compliance with all applicable covenants and other obligations under the finance documents as well as proactively respond to waivers or other project-specific requests as they arise and managing the interaction with the facility agent and other project parties on behalf of our clients. These functions are overseen by the credit risk management team to ensure compliance is maintained, including the annual credit rating updates for every investment in the infrastructure debt portfolio.

NN IP's dedicated middle and back office support teams monitor the cash flows to ensure that they reconcile with drawing and payment schedules, process fiscal events including prepayments and updating asset management data systems.

NN IP's dedicated legal team implements any amendments to the documentation and oversees all legal processes.

Regular portfolio reporting is provided to clients, which includes a summary of the team activities during the preceding period.

Investing in European Infrastructure Debt

The primary investment objective of NN Investment Partners' Infrastructure Team is to generate income by building a high quality portfolio of infrastructure assets. Portfolio diversification is achieved by carefully screening and selecting assets across a broad spectrum of sectors and European jurisdictions as well as a range of creditworthy counterparties, sponsors and contractors. All investments are rated investment grade or, if not rated, of equivalent credit quality at inception.

Clients can participate in this strategy by investing in the NN European Infrastructure Debt Fund, or via tailor-made mandates using our proven platform and with a strong alignment of interests by co-investment with NN Insurance. Through both solutions, NN Investment Partners' Infrastructure Debt Team can offer its clients the benefit of an established conservative investment strategy focused on delivering low risk, sustainable cash flows tailored to the needs of institutional investors.

For more information about NN IP's European Infrastructure Debt strategy, please contact your local sales representative or visit our website www.nnip.com

NN investment partners