

Benchmarking Infrastructure Debt

November 2017



For discussion purposes only

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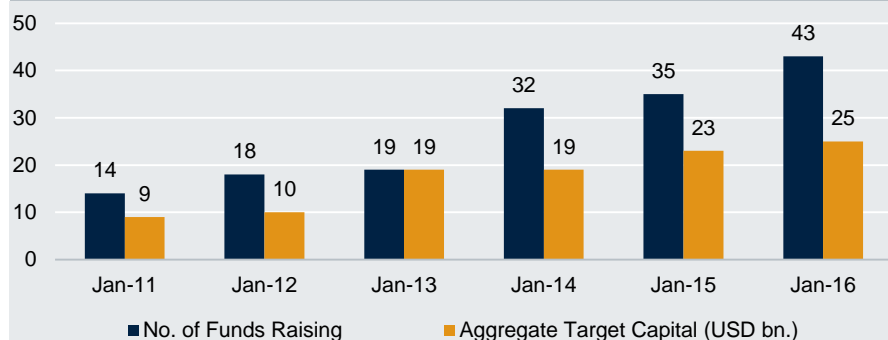
(UKC: MBC 31/10/2017, CD: 214174)

A Growing Role for Private Infrastructure Debt

The Need for A Benchmark



Unlisted Infrastructure Debt Funds in Market, (2011 – 2016)



Source: Preqin, September 2017. Past performance is not a guide to future results. Data as at August 2017.

Unlisted Infrastructure Debt Aggregate Capital Raised by Primary Geographic Focus, (%. 2009 – 2016 YTD)



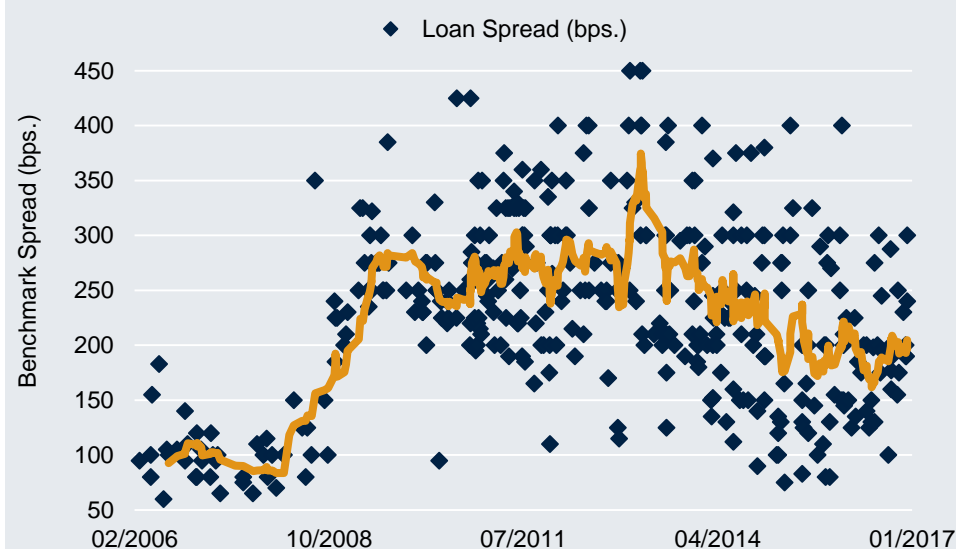
Source: Deutsche AM, Preqin, September 2017. Past performance is not a guide to future results.

Why do Investors Target Private Infrastructure Debt

- ➔ LT Duration, Pure Play, Access to Social Infrastructure
- ➔ Investment Grade & High Yield, Corporate/ Project
- ➔ Opportunities Across Senior & Mezzanine
- ➔ Portfolio Optimization
- ➔ Security, Covenant Package
- ➔ Illiquidity Premium for buy and hold strategies
- ➔ Supportive Regulation (Solvency II)

Source: Deutsche AM, July 2017. For illustrative purposes only.

European Infrastructure Private Loan Spreads (bps., 2005-2016)



Source: DeAM proprietary database, 15 January 2017. Past performance is a note to future results.

iBoxx Infrastructure Debt Index Project

Measuring the Performance of Listed Corporate Infrastructure Bonds



Summary Characteristics

- ➔ Subset of Corporate iBoxx Corporates Index Family, **daily pricing** (yield, asset swap and benchmark spread etc.)
- ➔ Sectors eligible for the iBoxx Infrastructure Index:
 - Automatically: Electricity, Gas Distribution; Pipelines; Water
 - Based on issuer profile: Integrated Oil & Gas; Multi-utilities; Railroads; Transportation Services; Mobile Telecommunications; Waste & Disposal Services; Specialty REITs
- ➔ **Companies eligible need to have “negligible exposure to non-infrastructure business”. Bottom-up issuer review.**
- ➔ **Main indices:**
 - iBoxx USD Infrastructure Index (market cap USD 499 bn., 645 bonds)
 - iBoxx GBP Infrastructure Index (market cap GBP 104 bn., 182 bonds)
 - iBoxx EUR Infrastructure Index (market cap EUR 252 bn., 307 bonds)
 - iBoxx USD Liquid High Yield Infrastructure Index (market cap USD 76 bn., 94 bonds)
- ➔ **Sub-indices: (75 sub-indices)**
 - Sectors (Telecommunications, Transportation, Utilities, **Regulated Utilities**)
 - Maturity buckets (1-3, 1-5, 1-10, 3-5, etc.)
 - Credit Rating (BBB, A, AA, AAA, for IG, BB, B, CCC for HY)
- ➔ History: IG indices, December 2005, USD HY, December 2009
- ➔ **Ideally Expanded to Project Bonds in the Future**



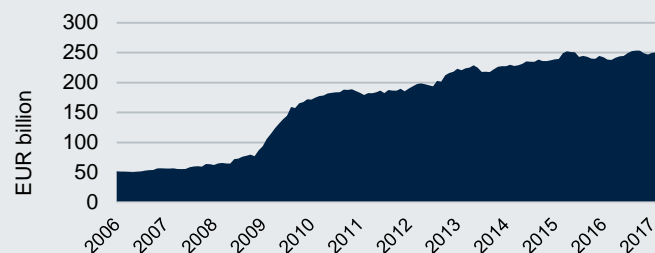
Source: IHS Markit. Press Release and Index Factsheet, July 2017. For illustrative purposes only. The indices are the intellectual property of Markit Indices Limited and/or its affiliates (Markit) and used under license from Markit. This document and information herein is not sponsored, promoted or endorsed by Markit. Markit does not make any warranties or representations on the accuracy, fitness for purpose or results to be obtained by using the index. Markit shall not in any way be liable to any recipient for any inaccuracies, errors or omissions in the Markit data, regardless of cause, or for any damages (whether direct or indirect) resulting therefrom.

Benchmarking Infrastructure Debt

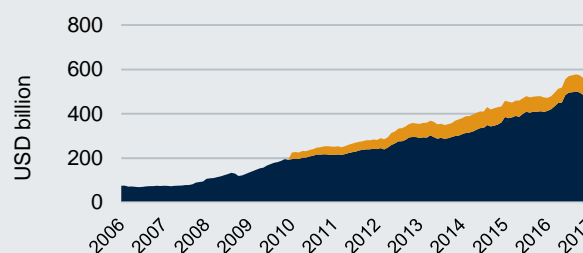
Increased Performance and Market Structure Clarity



iBoxx Infrastructure Debt Index, Market Value (2006-2017 YTD, EUR, USD, USD HY, GBP)

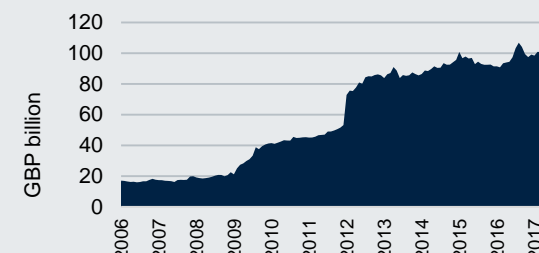


■ Market Value EUR



■ Market Value USD

■ Market Value USD HY

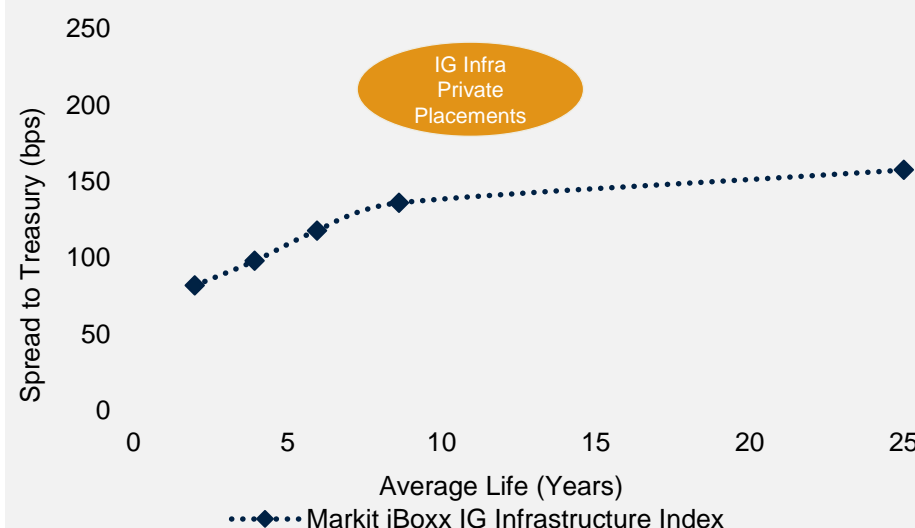


■ Market Value GBP

iBoxx Infra Sub-indices in EUR and USD

<u>Sub-index</u>	<u>Years to Maturity</u>	<u>Yield</u>	<u>Spread to Benchmark</u>
USD Infrastructure Regulated Utilities	15.4 years	3.73%	118 bps
USD Infrastructure Telecommunications	5.6 years	3.16%	121 bps
USD Infrastructure Transportation	17.7 years	3.87%	133 bps
USD Infrastructure Utilities	13.8 years	3.80%	131 bps
EUR Infrastructure Regulated Utilities	6.8 years	1.04%	92 bps
EUR Infrastructure Telecommunications	5.9 years	1.14%	120 bps
EUR Infrastructure Transportation	6.5 years	0.99%	93 bps
EUR Infrastructure Utilities	6.3 years	1.12%	106 bps

Infra Private Debt Spread vs. Listed Infra Debt (USD, Sept. 2017)



As of September 2017. Gross target return range. There is no assurance that the portfolio objectives will be achieved. This information is a forecast and due to a variety of uncertainties, and assumptions made in our analysis, actual events or results or the actual performance of the markets covered may differ from those represented. Any forecasts provided herein are based upon Deutsche Asset Management's opinion of the market at this date and are subject to change dependent on the market. Source: iBoxx indices. Past performance is not indicative of future results.

Source: iBoxx Markit. Represents Infrastructure index sub-indices as of September 15, 2017.