



Asset
Management

Infrastructure – Debt and Equity Investments for U.K. Insurers



Institute
and Faculty
of Actuaries

Risk and Investment Conference 2014

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Goldman Sachs Asset Management
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Activity of U.K. Insurers in Infrastructure



Aviva, Friends Life, Legal & General, Prudential, Scottish Widows, and Standard Life will work alongside partners with the aim of delivering at least £25 billion of investment in UK infrastructure in the next five years. Suitable projects will include, but not be limited to those included in the National Infrastructure Plan 2013 and can include major infrastructure projects led by private sector sponsors

"The UK insurance growth action plan", HM Treasury, December 2013

Aviva announces that it is making an immediate allocation of £500 million to invest in UK infrastructure projects. [...] Aviva expects to allocate new funding for debt financing of UK infrastructure projects

Aviva, December 2013

Pension Insurance Corporation invests £74m in second Manchester social housing PFI bond

PIC, January 2013

Key Questions to U.K. Insurers



Funding needs

- What are the financing needs of infrastructure projects?
- What type of infrastructure?

Insurance balance sheet

- What type of infrastructure assets could fit
 - An annuity book
 - A with-profits fund

Debt

- What is today the value of infrastructure debt relative to other types of credit ?

Equity

- Can infrastructure equity complement a with-profits or P&C listed equity portfolio?

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1 Infrastructure Investment Needs

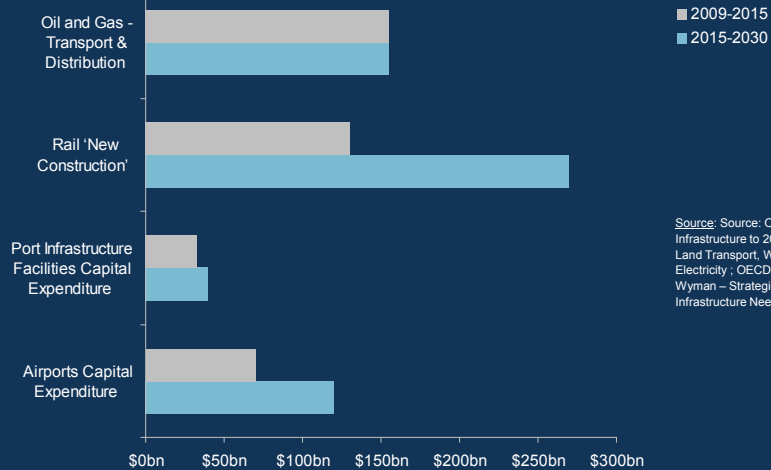


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Global Infrastructure Investment Needs

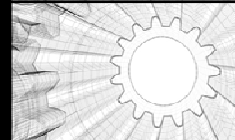


Annual infrastructure investment needs 2009-2030

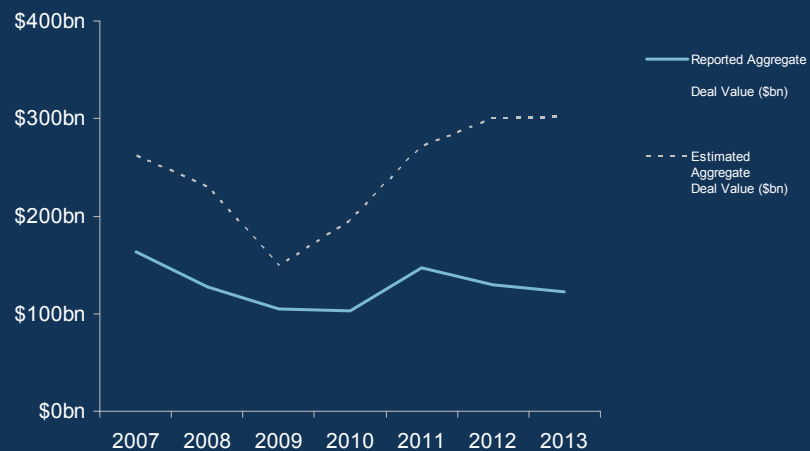


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Realized Infrastructure Investments

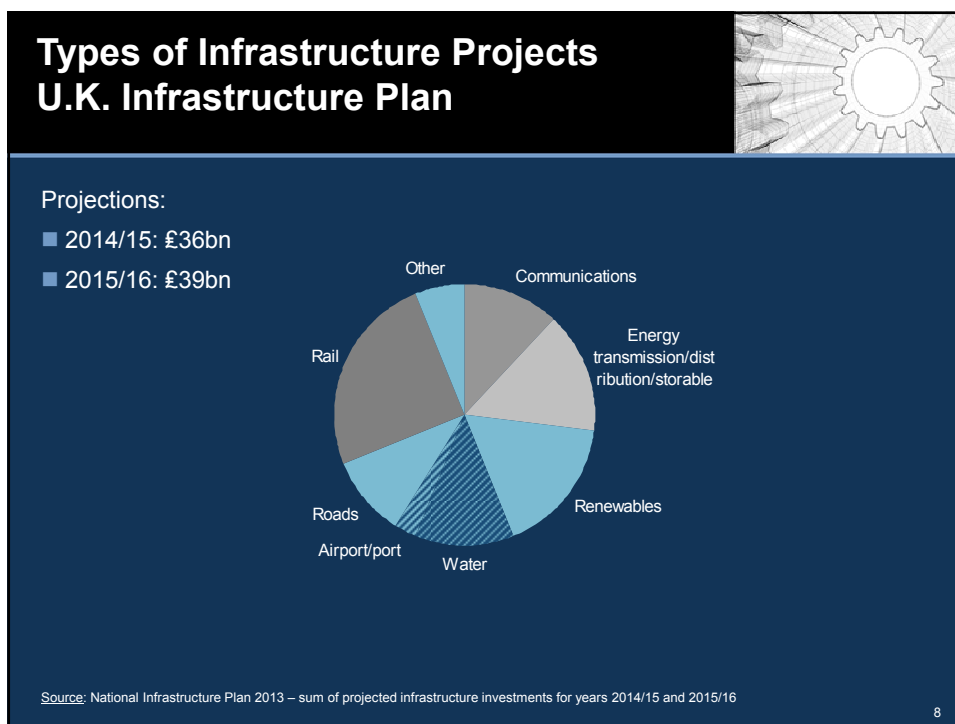
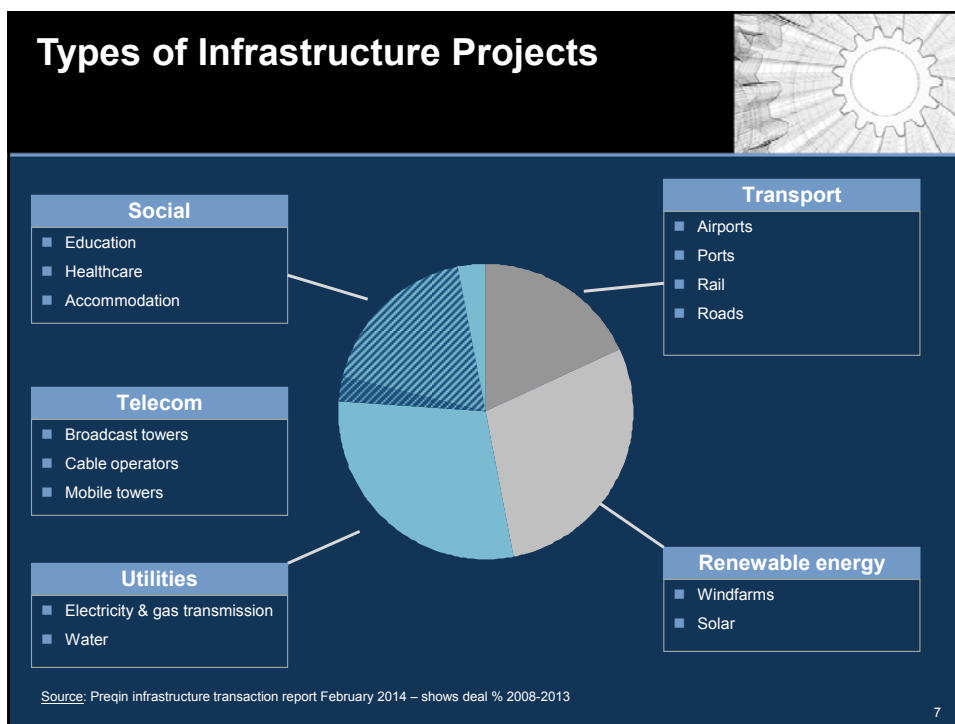


Infrastructure investments made 2007-2013

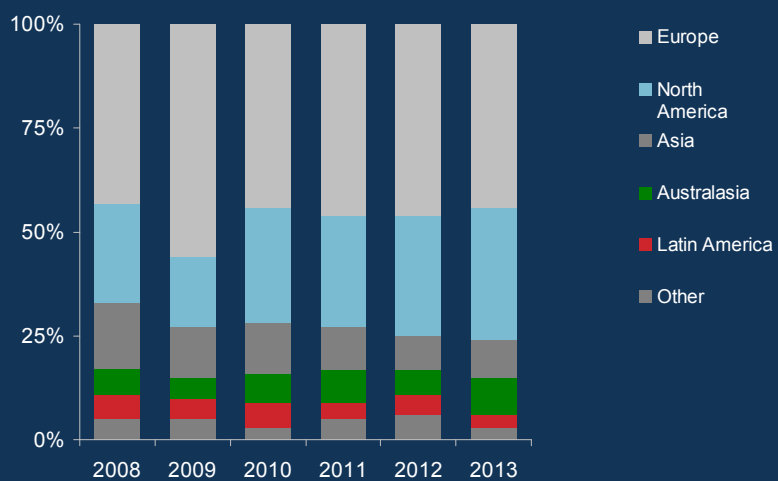


Source: Preqin infrastructure transaction activity report, February 2014

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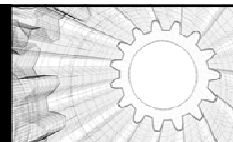


Regional Split



Source: Preqin infrastructure transaction activity report, February 2014

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Investment Needs – Conclusion



Large infrastructure investments will need to be financed over the next ten years

Europe represents more than 40% of projected infrastructure needs

The entire infrastructure value chain must be considered – not just the operators of infrastructure

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2 An Insurance Balance Sheet Perspective



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Investment Considerations



Equity vs. debt

- Liability matching vs. income generation

Listed vs. private

- Tradeoff between illiquidity premium and flexibility

Fund vs. single assets

- Asset diversification objectives
- Investment and risk constraints

Debt specific criteria

- Ranking in capital structure and rating
- Prepayment risk

Equity specific criteria

- Potential for coinvestment
- Fund structure (open end vs. close end)

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Annuity Perspective



Insurance and reinsurance undertakings may apply a matching adjustment [...] where the following conditions are met: [...]

- (c) the expected cash-flows of the assigned portfolio of assets replicate each of the expected cash-flows of the portfolio of insurance or reinsurance obligations
- (h) the cash-flows of the assigned portfolio of assets are fixed and cannot be changed by the issuers of the assets or any third parties [...]
- (c) the fundamental spread shall be increased where necessary to ensure that the matching adjustment for assets with sub investment grade credit quality does not exceed the matching adjustments for assets of investment grade credit quality

Source: Council of the European Union, November 2013

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Long-dated cash flows matching liabilities

Source: Council of the European Union, November 2013

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Annuity Perspective



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No call option
– or appropriate call protection (penalty, make whole) needed

Source: Council of the European Union, November 2013

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Annuity Perspective



Investment grade bias

Insurance and reinsurance un...
following conditions are met

] where the

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Source: Council of the European Union, November 2013

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Annuity Perspective



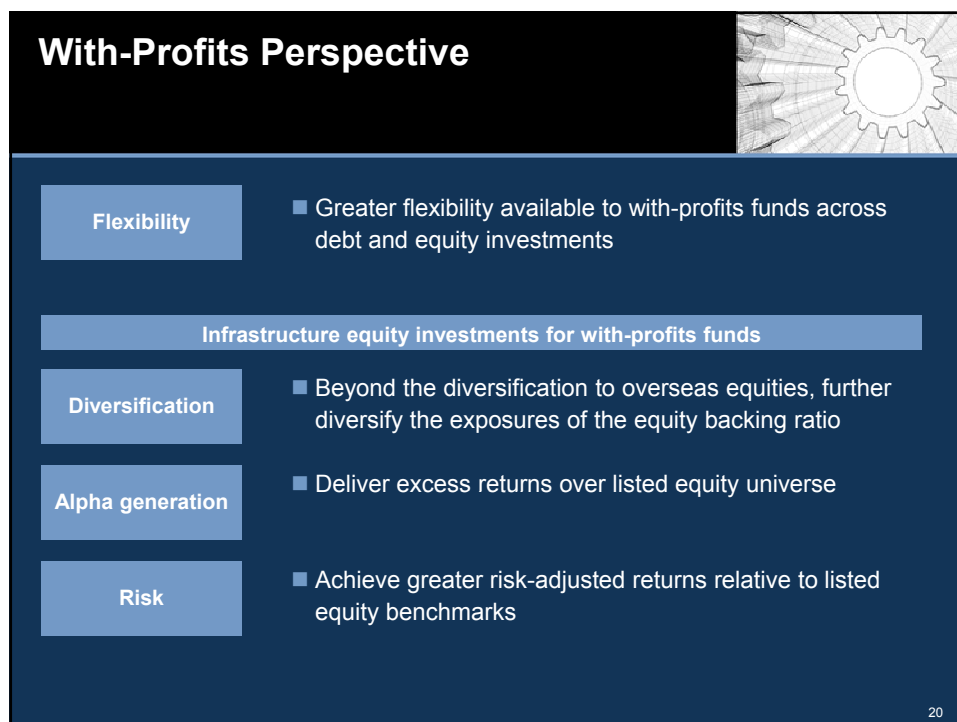
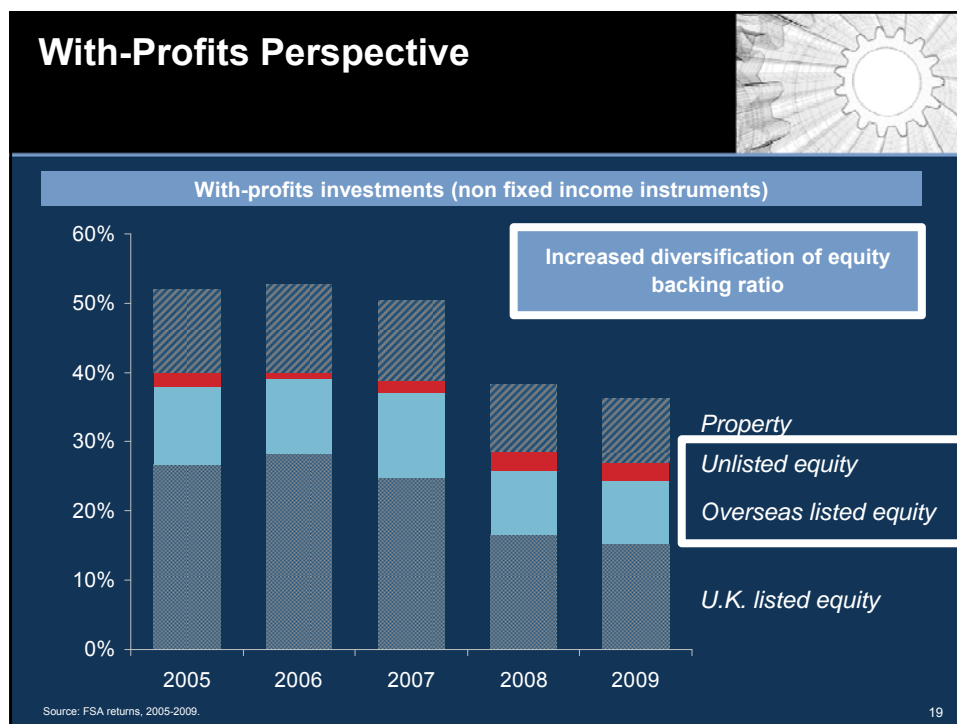
■ Debt financing of infrastructure appears to be an appropriate fit:

- Long-dated (12y+ duration)
- Fixed coupon, or floating-rate coupon hedged to fixed
- External or internal rating often in BBB to A- range

■ But structuring challenges must be addressed:

- Callability
- Fixed vs. floating coupon (management of interest rate swap overlays)
- Implementation format

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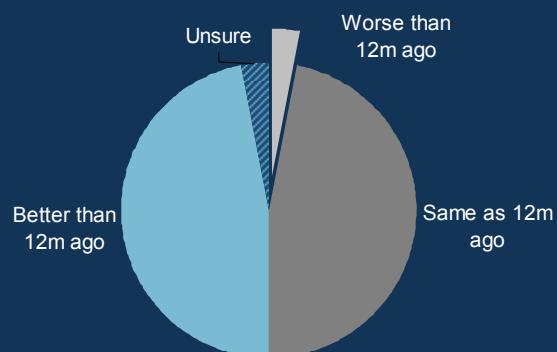


3 Debt

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Access to Debt Financing is Not Currently a Constraint

Infrastructure fund managers' views on the availability of debt financing for infrastructure assets



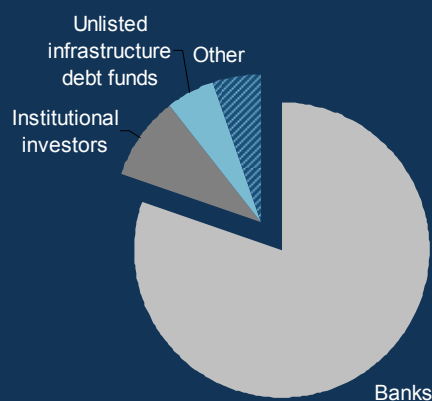
Source: Preqin infrastructure transaction activity report, February 2014

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Who are the Providers of Debt Financing for Infrastructure?



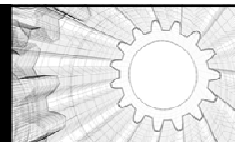
Infrastructure fund managers' views on the expected primary source of debt financing for infrastructure assets in 2014



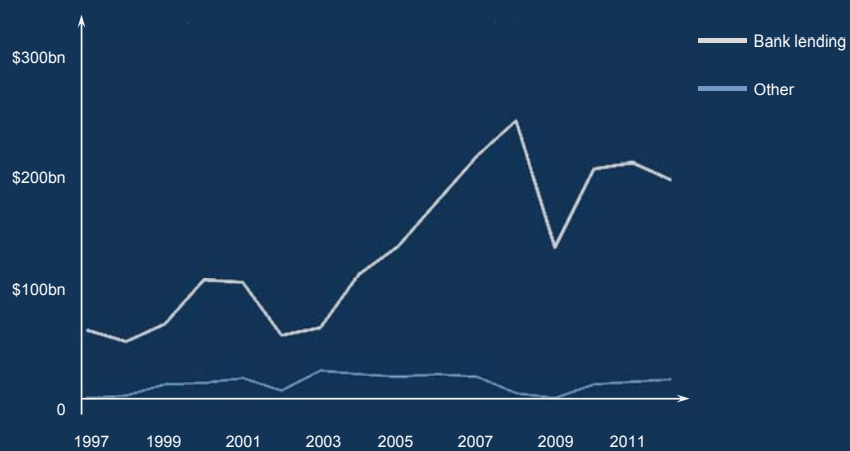
Source: Preqin

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Bank Debt Financing Does Not Appear to Decline



Global project finance volume



Source: Standard & Poor's, 2013

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Bank Capital Perspective: Should Banks Lend Less to Infrastructure?



Risk weighted assets



Leverage

- Leverage ratio introduces a "return on assets" metric in addition to a "return on capital / RWA" metric.

Liquidity & funding

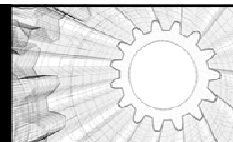
- Net Stable Funding Ratio (NSFR) to be monitored from 2015, in-force in 2018
- Long-term illiquid assets must be funded with long-term liabilities

NSFR and leverage ratios are important priorities for banks

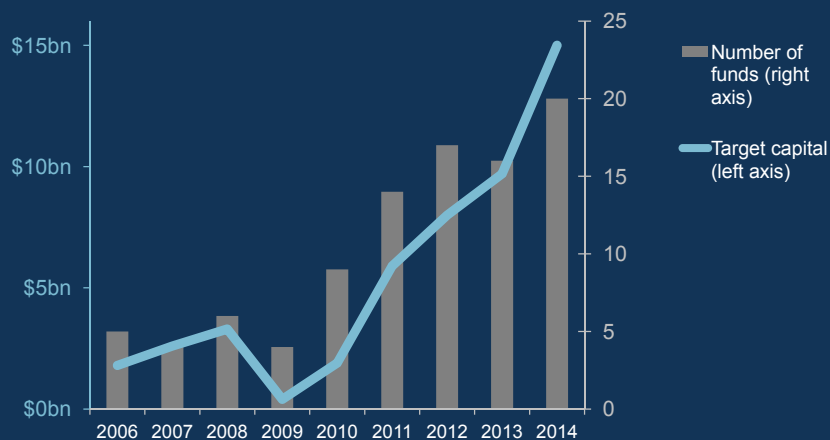
Source: Standard & Poor's, 2013

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Increased Supply of Financing by Infrastructure Debt Funds



Unlisted infrastructure debt funds in market over time (Jan06-Jan14)



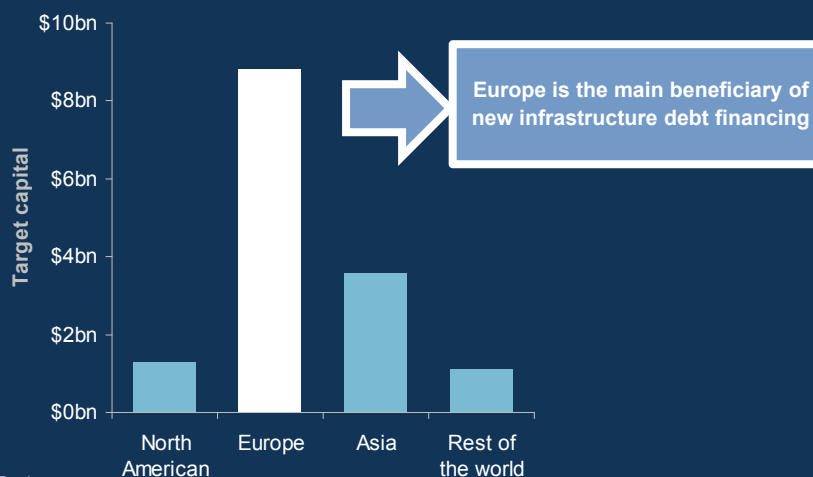
Source: Preqin 2014 global infrastructure survey

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Infrastructure Debt Supply is Particularly Strong in Europe

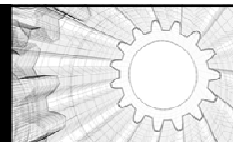


Breakdown of debt/mezz infrastructure funds by primary geographic focus



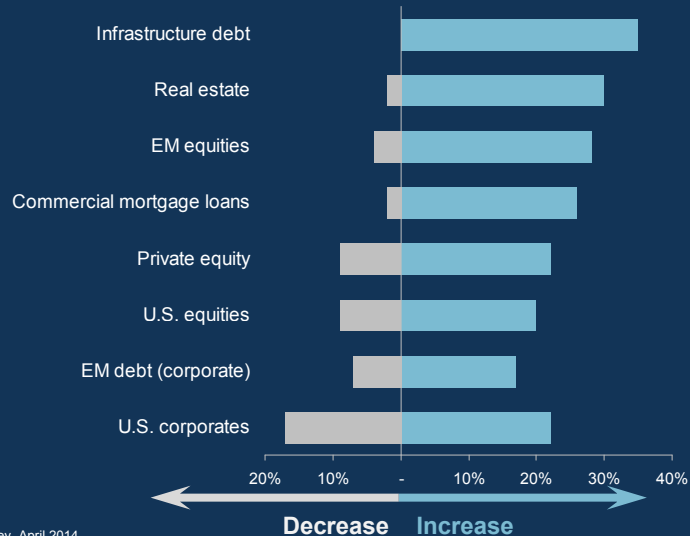
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GSAM Annual Survey of Insurance CIOs and CFO



Are you planning to increase, decrease, or maintain your allocation to the following asset classes in the next 12 months?

(Results for European participants only)



Source: GSAM Insurance Survey, April 2014

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Formats of Debt Financing



Public markets

Retain investment flexibility with liquid securities

Corporate bonds

PFI bonds

Securitization (incl. whole business)

U.S. taxable municipal bonds

Private markets

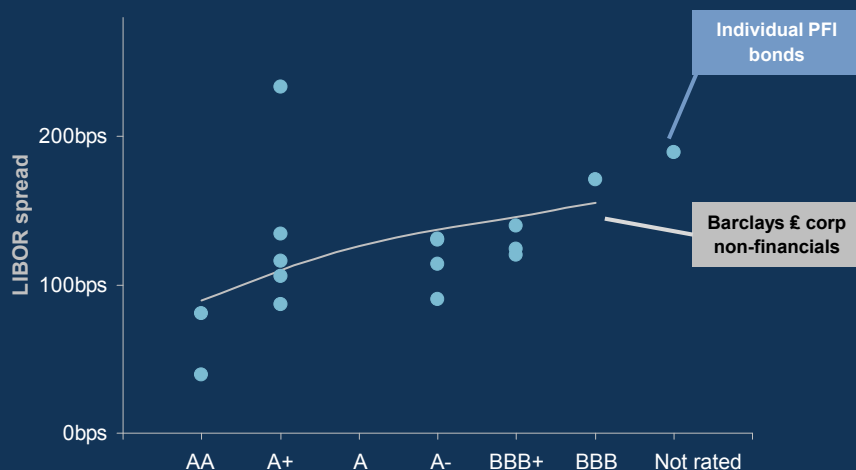
*Seek to monetise illiquidity premium where significant
Bespoke structure matching annuity constraints*

Private placements

Infrastructure loans

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U.K. PFI Bonds Example spread profile of PFI Bonds



Source: GSAM ; market data as of 16 May 2014
In the absence of a reference index, sample PFI bonds are presented above (Integrated Accommodations, Annes Gate, Exchequer Partnership, Connect M77, Derby Healthcare, NATS, Ctrl Section, Octagon Healthcare, RMPA Services, Aspire Defence, Progress Health, Merseylink, High speed rail, Greater Gabbard, Scot Roads Partnership)

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Private Infrastructure Debt



Illiquidity premium

- Illiquidity premium in infrastructure loans has significantly decreased (to 25bps–50bps today) relative to public markets

Diversification

- Greater sector and geographic diversity may be achieved with directly originated loans – but public issuance recently increased in regions historically available only through loans (e.g. Belgium, Slovakia)

Complexity

- Significant credit / legal complexity in private infrastructure debt deals

Pace of funding

- Direct origination takes time to complete ; portfolio diversification requires a large number of deals

Format

- Unfunded loan commitments

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Alternative Infrastructure Debt: U.S. Taxable Municipal Bonds



Municipal bonds

Tax-backed

State GO

County GO

City GO

Dedicated tax

42% of municipal market

- Typically backed by the full faith, credit and taxation power of the issuer. Taxes can be from income, sales or excise, while most counties and cities tend to rely on property taxes for payment of the GO bonds.

Revenue

Transportation

Hospitals

Universities

Utility

58% of municipal market

- Issued to fund specific projects (i.e. bridges, toll roads, colleges) and a portion of the revenue generated from these projects is used to pay the interest and principal of the bonds.

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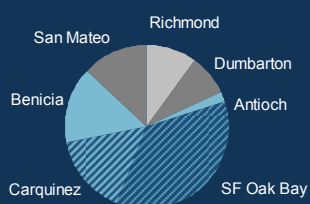
Alternative Infrastructure Debt: U.S. Taxable Municipal Bonds



Case Study: San Francisco Bay Area Toll Authority (BATA)

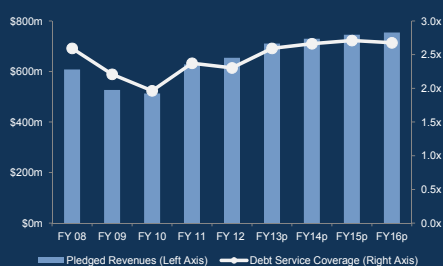
- Bonds are backed by gross toll revenues from seven bridges in the Bay Area.
- BATA operates, maintains, and administers tolls on seven State-owned bridges in the Bay Area (excluding the Golden Gate Bridge).
- Ratings: Moody's - Aa3/Stable, S&P - AA/Stable, Fitch - AA-/Stable

Traffic breakdown from the bridges



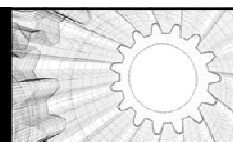
Source: GSAM, as of April 2014

Revenue / debt service profile

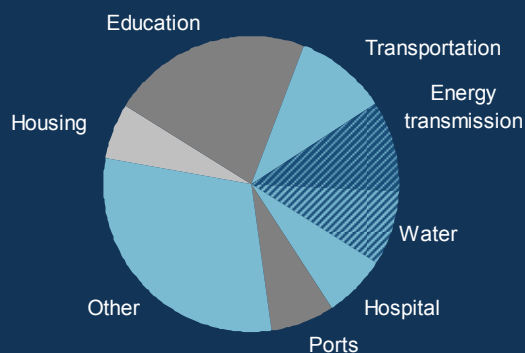


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Alternative Infrastructure Debt: U.S. Taxable Municipal Bonds



Sources of financing for revenue taxable municipals



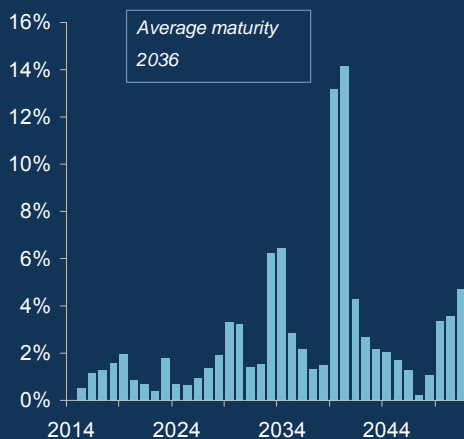
Source: Bloomberg ; GSAM calculations. As of May 2014

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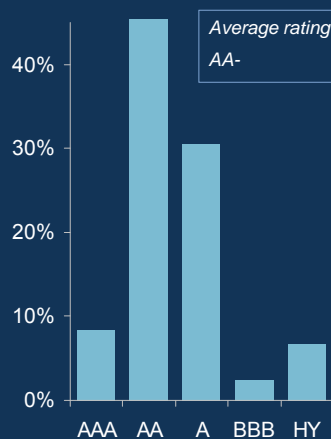
Alternative Infrastructure Debt: U.S. Taxable Municipal Bonds



Maturity profile



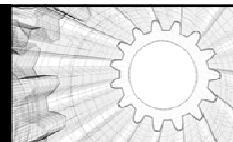
Rating mix



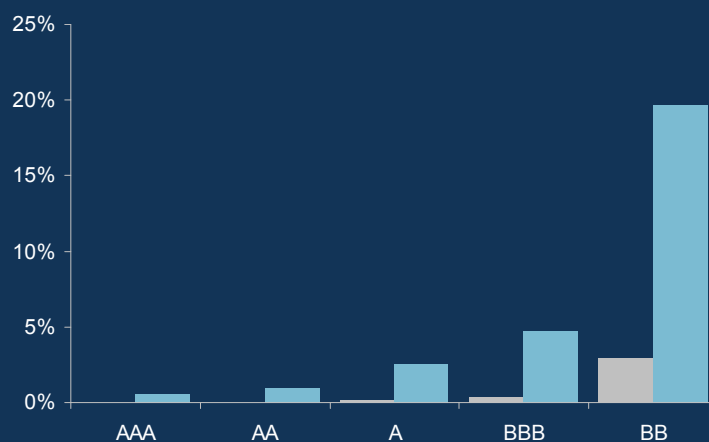
Sources: (1) Barclays taxable municipals index, as of April 2014 ; (2) Bloomberg, as of April 2014

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Alternative Infrastructure Debt: U.S. Taxable Municipal Bonds



Historical default rates (10y cumulative since 1970)



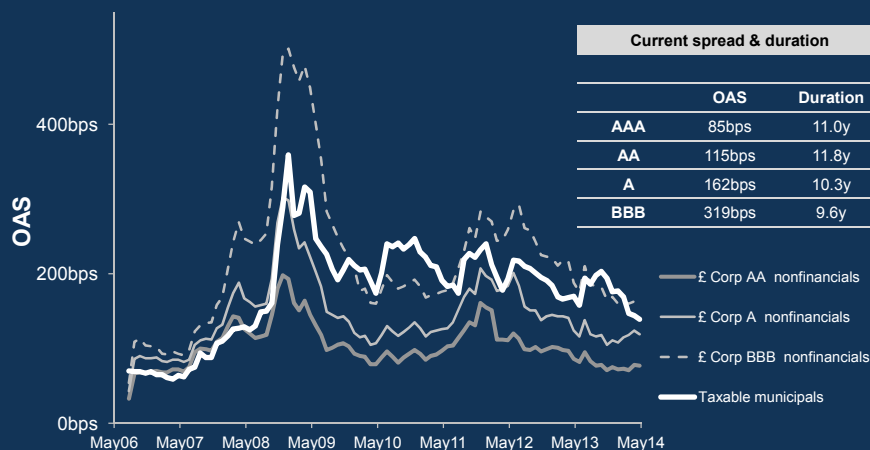
Source: Moody's Report from May 7, 2013.

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Alternative Infrastructure Debt: U.S. Taxable Municipal Bonds



Spread / duration profile



Source: Barclays Capital. Market data as of 30 April 2014

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Debt – Conclusion



Infrastructure debt has an attractive maturity and credit profile for a U.K. annuity fund

Bank funding remains strong, while vast amounts of new capital are deployed by pension/insurance

Very tight credit spreads on infrastructure debt

The U.S. taxable municipal bond market can be used as an alternative to European infrastructure loans

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4 Equity

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Europe – Key Themes

Competition for assets

- Particularly strong competition for core infrastructure assets in Western Europe where auctions are the norm
- Secondary sales

Macro risks

- Reduced macro risk in the Euro periphery

Regulatory risk

- In certain countries and in certain sectors, fear of regulatory cliff risk (e.g. Gassled, Spanish renewables)

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North America – Key Themes



Macro

- Shifting balance of world economic growth
- Mexico GDP growth is expected to rebound in H2 2014

Liquidity

- Record IG and leveraged finance issuance

Political & fiscal

- State and local governments continue to feel fiscal pressure

Energy transportation

- Need for midstream and transmission infrastructure
- Renewables activity remains strong

Transportation

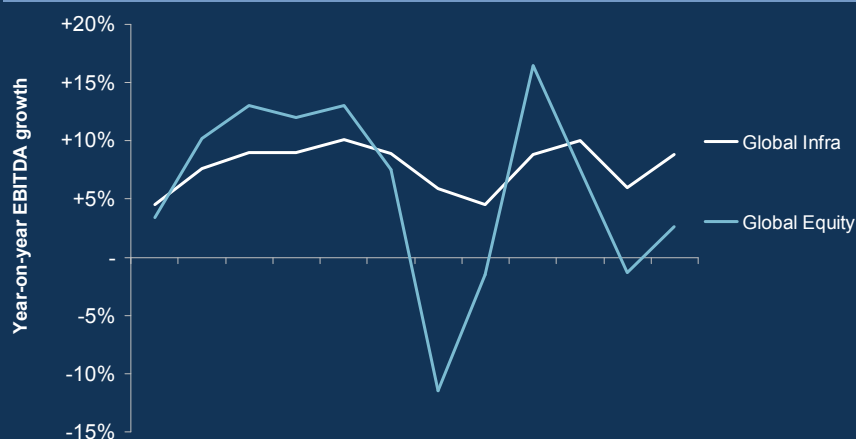
- Underinvestment in transportation infrastructure
- PPP activity picking up (LaGuardia, Midway, etc.), but off of a low base and dominated by greenfields
- Riskier freight-based core sectors (rail and ports)

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Listed Infrastructure Equity *Stable Underlying EBITDA*



EBITDA growth of global infrastructure vs. global equities



Source: GSAM, World Economic Forum. Global Infrastructure / Global Equities as measured by the EBITDA growth of constituents of Dow Jones Brookfield Global Infrastructure index / MSCI World index, respectively. Past performance does not guarantee future results, which may vary

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Listed Infrastructure Equity

Leverage is made possible by stable cash flows



Comparison of gearing across industries

	Net Debt/ EBITDA		
	FY11	FY12	FY13
Infrastructure & Utilities	4.0x	4.5x	4.2x
Infrastructure	4.1x	5.5x	4.4x
Utilities	4.0x	4.3x	4.1x
MSCI World	3.7x	3.6x	3.1x

Source: GSAM, World Economic Forum, as of Q1 2014

. Any reference to a specific sector or security does not constitute a recommendation to buy, sell, hold or directly invest in the sector or its securities. It should not be assumed that the recommendations made in the future will be profitable or will equal the performance of the securities discussed in this document. **Past performance does not guarantee future results, which may vary**

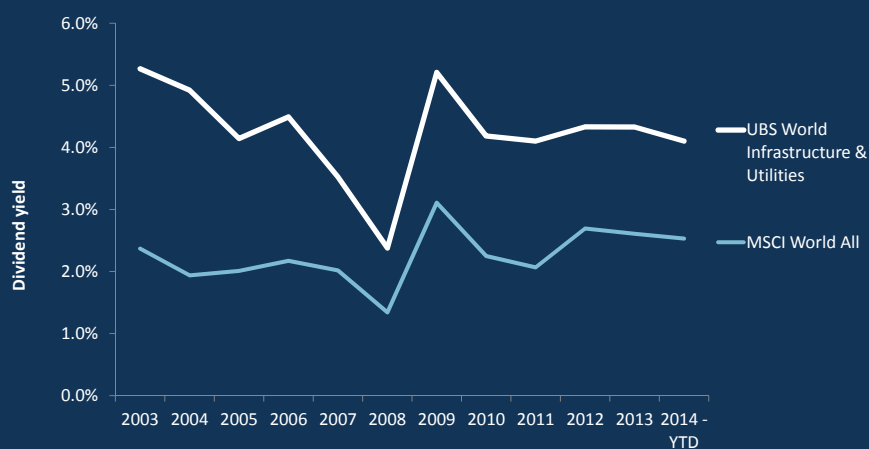
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Listed Infrastructure Equity

However, dividend yield remains high...



Historical dividend yield of infrastructure equity vs. overall equity universe



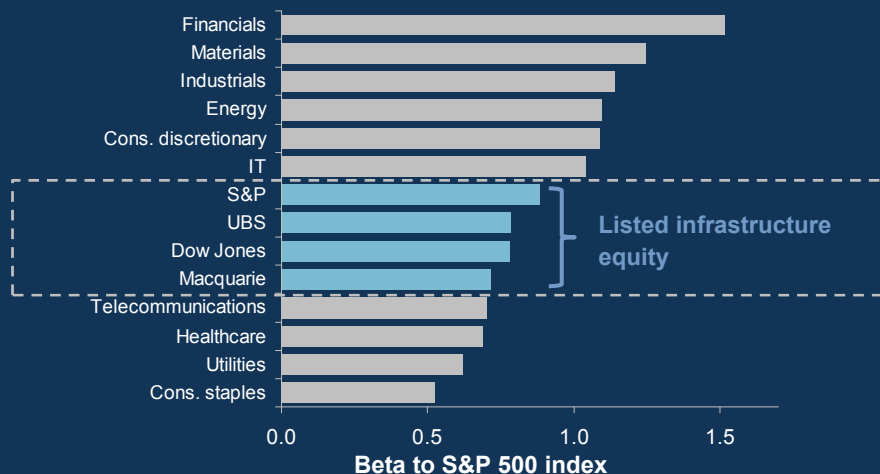
Source: GSAM, Bloomberg, UBS, MSCI, FactSet. Market data as of Q1 2014. **Past performance does not guarantee future results, which may vary**

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Listed Infrastructure Equity ... and equity beta low



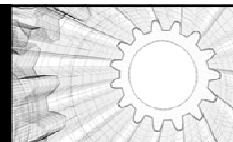
Equity beta of listed equity sectors (2004-2014)



Source: GSAM. Market data as of May 2014. Beta calculated based on weekly returns over the May 2004-May 2014 period

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Private Infrastructure Equity Historical Returns



Exit rates of return showing the size, and dates, of equity sales



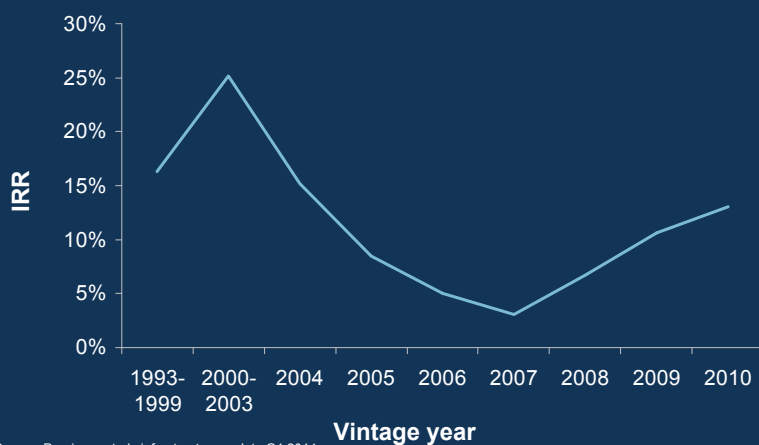
Source: National Audit Office, "Equity investment in privately financed projects"

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Private Infrastructure Equity Historical Returns



Historical returns of private infrastructure equity funds

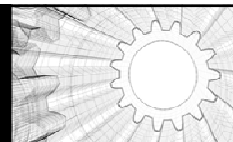


Source: Preqin quarterly infrastructure update Q1 2014

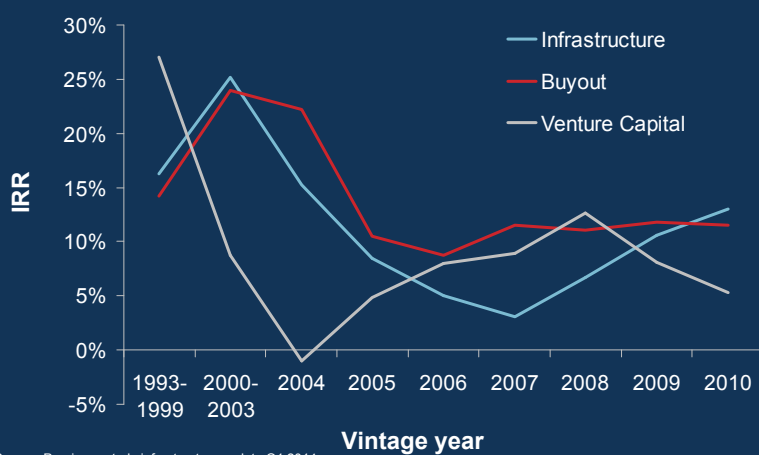
Past performance does not guarantee future results, which may vary

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Private Infrastructure Equity Historical Returns



IRR comparison to other private equity investments



Source: Preqin quarterly infrastructure update Q1 2014

Past performance does not guarantee future results, which may vary

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Private Infrastructure Equity Value Drivers for an Insurance Investor



Stable underlying cash flows

Lower volatility than listed equity

Operational performance and incentives

Private structure suited to long-term investments

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Equity – Conclusion





Private infrastructure equity investments have historically achieved comparable IRRs to other PE

Inexpensive debt financing levels make infrastructure equity investments attractive

Infrastructure equity may complement a with-profits portfolio of listed equity

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Conclusion

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Conclusions



- 1

Global infrastructure investments needed to sustain growth
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Annuity funds – long-term debt, no prepayment
With-profits funds – more flexibility
- 3

Infrastructure debt valuations have become expensive
Look beyond private European infrastructure debt
- 4

Value in infrastructure equity

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Asset Management



Questions?

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Market data and positions as of May 2014

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