A discussion paper for the London Borough of Harrow

Date: 10 June 2013

Prepared for: The Pensions Committee

Prepared by: Tony Baily

Infrastructure as an asset class

Introduction

The London Borough of Harrow Pension Fund (the Fund) has decided to look in to one alternative asset class at each pensions committee meeting. The first of these asset classes, infrastructure, will be discussed at the meeting on 25 June 2013. This paper addresses the characteristics of infrastructure investment, how it can be accessed and whether local investment is a viable option.

Executive Summary

- Historically, the vast majority of global infrastructure has been funded with public capital. It was not until relatively recently that institutional investors began including infrastructure as an asset class either on a stand-alone basis or as part of their allocation to other real assets. Unlisted infrastructure funds have raised c.£216bn from institutional investments since 2005.
- We expect trends such as deleveraging by corporates and banks, government privatisations and policies to promote infrastructure development to create a healthy pipeline of infrastructure assets globally.
- Infrastructure is not a homogenous asset class. There is significant variation in the types of infrastructure assets and manager strategies.
- Key differentiating characteristics include source of revenue (availability, demand), lifecycle stage (brownfield, greenfield), sector (transport, utilities, communication), geography (regional, global) and position in capital structure (debt, equity).
- Depending on the strategy, returns can vary from low single digits to high double digits plus.
- The infrastructure opportunity can be accessed in a number of ways, including: unlisted funds (closed and open-ended), listed infrastructure, secondary market opportunities, Fund of funds, customised managed accounts, co-investment and direct investment.

Characteristics of infrastructure investments

Historically, the vast majority of global infrastructure has been funded with public capital. Towards the end of the 20th century, however, governments began to sell off infrastructure assets, either permanently or for specified lease periods, to private bidders in order to fund their budget deficits. The 1980s and 1990s saw the onset of privatisation and Public Private Partnership ('PPP') projects. The creation of infrastructure specific partnerships aimed at institutional investors was not prevalent in the marketplace until the early 2000's.

Consulting | Investment Consulting Practice
10 Devonshire Square | London EC2M 4YP
t +44 (0) 20 7086 8000 | f +44 (0) 20 7086 1878 | aonhewitt.co.uk

There is no universally accepted definition of what constitutes an infrastructure investment, but most agree that is should exhibit some or all of the following characteristics:

- Provision of essential services
- Strong market position with high barriers to entry
- Sustainable, stable long term cash flows, underpinned by regulation or long-term contracts
- Explicit or implicit inflation correlated revenues and pricing
- Low correlation to other asset classes

There is significant variation across the infrastructure asset class. Some key differentiating characteristics include:

- Source of revenue
- Lifecycle stage
- Sector
- Geography
- Position in capital structure

These are each discussed in turn below. Depending on the type of asset, the risk and return profile can differ considerably.

Source of revenue

Infrastructure assets typically derive revenue either from a government backed long-term concession arrangement ('social' infrastructure) or directly from end users ('economic' infrastructure).

Lifecycle stage

The risk and return profile of the same asset can vary substantially depending on whether an investment is made before or during ('greenfield') or after ('brownfield') the development and construction stage.

Sector

Infrastructure investment covers a range of sectors, including:

- Transportation – includes toll roads, bridges, tunnels, parking facilities, railroads, rapid transit links, airports, refuelling facilities, and seaports.
- Utilities – includes electricity transmission, electricity generation, gas, water distribution, sewage treatment. Renewable energy assets such as wind, solar and hydro generation can also be included in this category.
- Communication – includes broadcast and wireless towers, telecommunications, cable networks and networks.
- Social – includes courthouses, hospitals, schools, prisons, stadiums, and social housing.

Each sector can differ materially in terms of market dynamics, types of user, cash flow and the risk/return profile.

Geography

Returns from infrastructure assets and the risks that need to be considered vary considerably depending on the country or region. Differentiating factors include macroeconomic conditions, regulatory regimes, political stability, counterparty credit ratings, capital markets, natural resource availability and other country specific factors. Currency risk also needs to be considered.

Position in capital structure

Another key source of variation that affects the risk/return profile relates to where the investment sits within the capital structure of the business or project. Equity sits higher in the capital structure and takes first loss above debt. Equity is therefore higher risk but investors also expect a higher return potential.

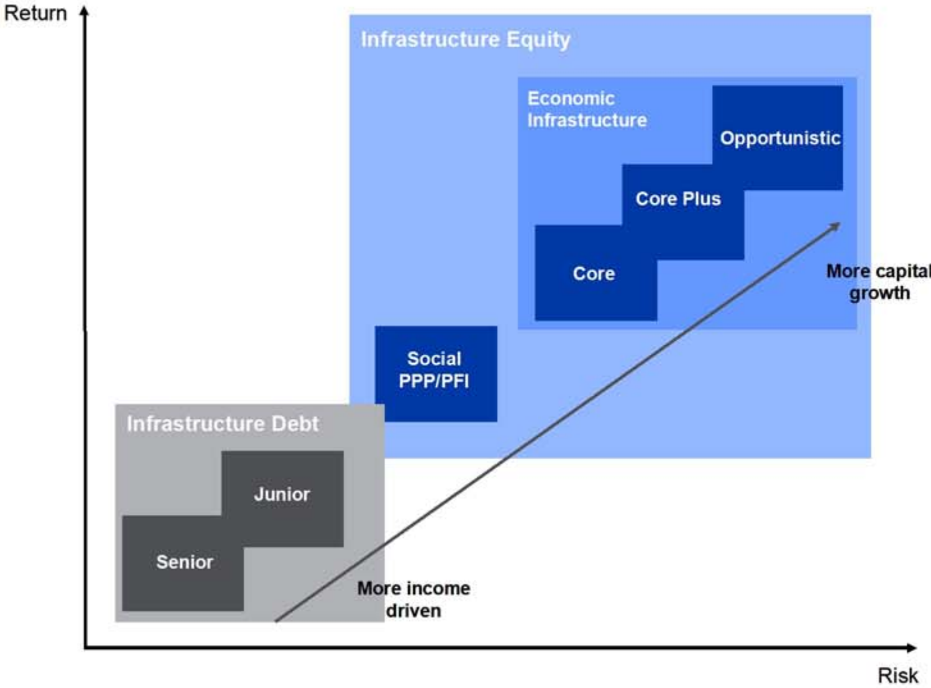
Below are two charts that summarise the types of infrastructure investment available (Chart 1) and their risk return profile (Chart 2).

Chart 1: Infrastructure is not a homogenous asset class

	Social (PFI/PPP)	Economic		
	Availability	Regulatory	Demand based	Market
Revenue Source	▪ Government backed concession	▪ End users	▪ End users	▪ End users
Investment risks (incremental)	▪ Operating costs ▪ Delivery (service performance) ▪ Political	+Regulatory risk +Volume risk (generally low)	+Volume risk (e.g. traffic) +Some pricing risk (generally low)	+ Competitive and pricing risks + Commodity risks
Examples	▪ Hospitals, schools, government accommodation ▪ Sports stadia ▪ Availability based transport	▪ Energy distribution and transmission ▪ Water, waste water ▪ Renewable energy	▪ Tolled roads, tunnels, bridges ▪ Rail ▪ Airports ▪ Seaports ▪ Pipelines	▪ Merchant power (no off-take) ▪ Service stations ▪ Car parks ▪ Waste / waste to energy

Risk Low → High

Chart 2: The infrastructure risk/return spectrum



Accessing Infrastructure investment

The infrastructure opportunity can be accessed in a number of ways, including:

- Unlisted funds (closed and open-ended)
- Listed infrastructure
- Secondary market opportunities
- Fund of funds
- Customised managed accounts
- Co-investment
- Direct investment

We have assumed that the Fund will be unlikely to invest more than 30% in infrastructure and so will be limited to c. £160m. This amount is not large enough to invest directly and unless the maximum was invested co-investment and customised managed accounts are unlikely to be an option. Therefore we have concentrated on the other four options below.

Unlisted funds (closed and open-ended)

Unlisted funds are pooled vehicles generally structured as limited partnerships. Such vehicles have been prevalent in the private equity space for many years. LGPS regulations have recently been amended to increase the maximum that can be invested in limited partnerships from 15% to 30%. The driving force behind the increase was to enable the LGPS more flexibility to invest in infrastructure.

Closed-ended unlisted infrastructure funds have historically been the preferred vehicle for accessing the asset class. Investors make capital commitments that are drawn down over a period of three to five years as the manager sources and executes appropriate investment opportunities. Distributions are then returned to investors over the life of the fund (which can be anything from 10 to 50 years depending on the strategy).

There are a small number of open-ended unlisted infrastructure funds in the market. These funds buy assets and then hold them for the long-term. Open-ended structures have the advantage over their closed-ended counterparts of offering liquidity to their limited partners, although some funds have lock-up arrangements as well as exit penalties and managers typically eschew investors who are short term driven.

Listed infrastructure

Many infrastructure assets and companies are listed on global stock exchanges. However, we generally prefer access through closed ended limited private-equity style partnership vehicles as described above. We believe that a number of potential opportunities will generally not be available in the listed market, that there is a clear diversification benefit with privately held equity and far more opportunities for managers to add value. Long-term investors should also benefit from an expected illiquidity premium.

However, there are occasions when accessing infrastructure through the listed markets may be more appropriate for some investors. For example those that have clear liquidity needs or are prohibited in some way from investing in unlisted funds.

Secondary market opportunities

Although not a well developed market, it is possible to purchase interests in established limited partnerships from existing limited partners looking to exit their investment. The secondary buyer purchases the interests from the seller at a negotiated price and typically assumes any unfunded obligation of the seller. Investors can reduce uncertainty by participating in secondary investments as many of the underlying investments are already known. Secondary transaction discounts fluctuate widely and the availability of specific fund interests are unpredictable and may be difficult to access. Furthermore, pricing a secondary transaction is complex and laborious and an investor is likely to require external expertise and resource to do this with confidence.

Fund of funds

Fund of funds can offer a more diversified exposure than might otherwise be achievable, particularly for smaller investors. They also offer access to primary, secondary, co-investment and direct opportunities through a single wrapper.

However, there is a double layer of fees to consider and among the few products available portfolios tend be tilted toward the higher risk end of the spectrum as fund of fund managers need to outperform their own return hurdles before earning performance fees. In addition, the relatively small size of the underlying funds universe can make it difficult to construct a high quality fund of funds portfolio.

We do not generally recommend a fund of funds approach.

Local infrastructure investment

Local councils commonly express an interest in local infrastructure to try and utilise the pension scheme assets for the good of the community. This would have the benefit of giving something back to the local council taxpayers who fund the deficit. However others argue that investing in local infrastructure is not a viable option for the following reasons:

Conflicts of interest

The infrastructure projects that the Fund would be investing in would be run by the Council. This potentially creates a conflict of interest since the Council will aim to obtain the best terms for the investment eg by receiving a higher investment or paying a lower fee whereas the Fund will want to maximise the return on their investment. In this case the Council would be negotiating with itself.

An additional conflict may be created in that one of the Fund's objectives is to maximise the returns that they receive in order to recover the deficit and reduce the impact on council tax. They therefore should be looking to investments that give them the best risk return trade offs not just those that are based in a certain location.

Diversification

Investing in just one area creates a lack of diversification since all the investment is concentrated in one small area. The fact that this area is also the location of all the Council Tax payers reduces the diversification even further. For example, if the investment were in a car park then the return on investment would come from the users, probably the residents of the borough. If the average income fell then there would be less people driving and so using the car park. This would reduce the return on the infrastructure investment. The resulting deficit in the Fund would need to be made up by council tax payers however there would be less of these since the average income has fallen.

With the amount of cash that the Fund would have to invest c.£160m max, only one or two investments would be possible. This would create a lack of diversification by project type.

Funds needed

If the Fund were to invest locally then it would need to either invest directly or try to find a manager to invest on its behalf. The minimum needed to invest directly in infrastructure would be £500m-£1,000m. Therefore this is not a viable option. Finding a manager who would solely invest in one area and raising funds from other investors would also be very difficult. This can be seen in the fact that the Pensions Infrastructure Platform has been looking to set up a fund for the last year and details on the investment strategy or how the fund will be managed have not yet been released.

Other options

One way could be to invest in a European infrastructure fund that has or plans to have investments in London so that there is an element of localism within the asset class.

Current opportunities

We believe there are a number of factors that continue to support and expand the infrastructure investment opportunity:

- Historically there has been **underinvestment** in the maintenance and development of infrastructure across developed economies. Booz Allen estimates that $41 trillion will be required globally in the next 25 years with €9.1 trillion required in Europe by 2030.
- We expect to see most of the compelling opportunities in the **developed markets**. Although economic growth and urbanisation will require a substantial build out of infrastructure in emerging markets, we expect this infrastructure to be of a much higher risk profile than core infrastructure in developed markets.
- The corporate world is moving to **lower levels of leverage**. This is leading to opportunities as companies **re-focus on core businesses** through the unbundling and disposal of non-core assets. Examples are the disposal of Finland's transmission grid by Vattenfall and the sale of the Open Grid Europe gas network by E.On.
- Regulators and policymakers around the world continue to adopt more favourable frameworks to encourage and promote participation and **competition** among private investors. The unbundling of non-core energy assets due to EU directives and forced airport divestments by BAA in the UK are examples. New regulation such as Basel III could force further disposals of investments held on bank balance sheets and limit their ability to participate in new opportunities.
- **High government debt levels** are also encouraging the sale of core infrastructure assets through privatisations. An example is the privatisation of certain French regional airports. However, the pace of privatisations has generally been slower than anticipated.
- With growth at low levels for most developed economies, governments need to **boost economic activity** and are increasingly looking at infrastructure to provide that boost. The UK government, for example, has been calling on institutional investors to increase investment in infrastructure.
- Discovery of **shale resources** globally, especially in the US, will require a significant infrastructure build out. We expect a number of midstream opportunities such as pipelines and storage facilities to come to market.
- Although there have been a significant number of energy related opportunities, other parts of the market in the US such as transportation and social infrastructure have been slow to evolve. However, over 30 states now have **PPP legislation** and we have seen steady growth over the last 5 years.
- There will be an increasing level of **funds looking to exit** portfolios. This will be driven by infrastructure managers that raised capital in the early to mid 2000s that will soon be looking to sell some of their portfolio companies as they near the end of their investment terms.
- **Financing terms** for infrastructure assets are currently very attractive due to low LIBOR rates and a good level of liquidity in the markets.

Pensions infrastructure platform (PIP)

The PIP is an infrastructure fund being developed and sponsored by the National Association of Pension Funds ('NAPF') and the Pension Protection Fund ('PPF') along with an expected 10 – 12 founding UK pension funds. It is being put forward as a solution 'for pension plans by pension plans' and follows on from the Memorandum of Understanding signed by two groups of pension funds (one being the NAPF/PPF led group) with the UK Government to support additional infrastructure investment.

The NAPF/PPF are currently in discussion with a group of larger UK pension plans interested in participating as founding investors. As well as investing directly in the fund itself, the founding investors will also own the management platform and have responsibility for developing the PIP into a full fund offering. The founding investors are expected to make an initial investment of £100-250k each to cover establishment costs, with minimum commitments of £100m to be invested in the fund once it is ready to be launched. The PIP is targeting commitments of £2bn, with broadly £1bn from the founding investors and £1bn from later stage investors. Minimum investment levels for later stage investors will be substantially below the £100m threshold set for founding investors.

The PIP has 10 founding investors to date with Lloyds TSB and the London Pension Fund Authority being the most recent additions.

We are yet to receive clarity on how the PIP will be managed, viz-a-viz recruiting an in-house team vs. an externally managed vehicle. We also await more details on the investment strategy it will pursue. Notwithstanding this, there are clear potential benefits of a solution 'for pension funds by pension funds'. Management fees are one area where we expect to see such benefits (even though infrastructure managers are increasingly competitive here).

We believe that this could develop into a credible opportunity for clients looking to gain exposure to the infrastructure asset class. We understand that a 2013 launch date is targeted for the PIP. We will continue to monitor the development of the platform and will look to undertake a comprehensive due diligence and rating exercise in due course including a full appraisal against market peers.

Next steps

- Discuss the asset class at the 25 June Pensions Committee meeting
- If investment in the asset class is desired then Aon Hewitt can provide further details or additional training

Signed on behalf of Aon Hewitt Limited

Tony Baily FIA
Partner
+44 (0)20 7086 9011
tony.baily@aonhewitt.com

Disclaimer

This document and any enclosures or attachments are prepared on the understanding that it is solely for the benefit of the addressee(s). Unless we provide express prior written consent, no part of this document should be reproduced, distributed or communicated to anyone else and, in providing this document, we do not accept or assume any responsibility for any other purpose or to anyone other than the addressee(s) of this document.

Notwithstanding the level of skill and care used in conducting due diligence into any organisation that is the subject of a rating in this document, it is not always possible to detect the negligence, fraud, or other misconduct of the organisation being assessed or any weaknesses in that organisation's systems and controls or operations.

This document and any due diligence conducted is based upon information available to us at the date of this document and takes no account of subsequent developments. In preparing this document we may have relied upon data supplied to us by third parties (including those that are the subject of due diligence) and therefore no warranty or guarantee of accuracy or completeness is provided. We cannot be held accountable for any error, omission or misrepresentation of any data provided to us by third parties (including those that are the subject of due diligence). This document is not intended by us to form a basis of any decision by any third party to do or omit to do anything.

Any opinions or assumptions in this document have been derived by us through a blend of economic theory, historical analysis and/or other sources. Any opinion or assumption may contain elements of subjective judgement and are not intended to imply, nor should be interpreted as conveying, any form of guarantee or assurance by us of any future performance. Views are derived from our research process and it should be noted in particular that we can not research legal, regulatory, administrative or accounting procedures and accordingly make no warranty and accept no responsibility for consequences arising from relying on this document in this regard.

Calculations may be derived from our proprietary models in use at that time. Models may be based on historical analysis of data and other methodologies and we may have incorporated their subjective judgement to complement such data as is available. It should be noted that models may change over time and they should not be relied upon to capture future uncertainty or events.