Pensions CIV Sectoral Joint Committee

Item no: 6

Investing in Infrastructure

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Summary	This report lays out the case to the Joint Committee of investing in infrastructure, and some of the options that will be open to the CIV. It should be noted that for the purposes of this paper, infrastructure does not include housing, which is being covered in a separate work stream. However, it should also be noted that the rationale for investing in housing, and the return profiles and attributes of that asset class, are the same as those of the broader infrastructure sector.
Recommendations	The committee is recommended to consider the issues raised in this report and to allow further exploratory work to be completed, in order to move forward with investment in infrastructure

Investing in Infrastructure

Infrastructure: where supply side policies meet demand side

1. There is a renewed and increasingly urgent requirement for increased expenditure on infrastructure if mature cities and economies are to remain competitive. London is a noteable example of a city which many fear will become a victim of its own success, if infrastructure upgrades (including property) cannot keep pace with the demand generated by the increase in population.

2. Governments have become increasingly concerned that the economic trajectory of advanced economies has flattened in recent years. There is a growing weight of opinion that economies are suffering from a deficiency in aggregate demand, for a variety of reasons. This is not currently an issue for the UK, and particularly not an issue in the Greater London area. Nonetheless, governments are increasingly viewing the challenge of retooling national infrastructure as an opportunity to inject new vigour into the economy, and in that sense the challenge of upgrading infrastructure is a demand side opportunity as well as a supply side necessity.

Infrastructure: Bridging the Funding Gap

3. Infrastructure has rapidly morphed from being a peripheral asset class into a mainstream strategy for pension funds and Sovereign Wealth Funds. The dramatic increase in the need for infrastructure expenditure has coincided with a similar increase in investor appetite for infrastructure assets.

4. The structural challenges facing the global economy are legion, and on the current trajectory, pension funds globally must continue to grapple with low interest rates, which create large funding gaps via the material reduction in discount rates. Equity markets are expensive, and traditional fixed income investments are too expensive to deliver a meaningful yield, on top of which, market valuations are rich. The combination of high prices, rising levels of volatility and lowered expectations of returns in public markets in the context of a slower-growing world, have led investors to seek investments which are more favourable from a risk / reward profile. Infrastructure can deliver attractive returns, combined with lower volatility than publicly-traded instruments. This involves a trade-off of low levels of liquidity, but pension funds with a long investment horizon stand to benefit from the “illiquidity premium” (i.e. higher returns in exchange for lower liquidity).

Size matters

5. The confluence of these factors is leading many pension funds globally to revisit their allocation to infrastructure, and “alternatives” in general; the categorisation is becoming something of a misnomer, as the “alternative” asset class becomes increasingly mainstream.

6. Individual funds in the LGPS sector have accessed infrastructure, but the ways in which they have done so can no longer be viewed as optimal. Smaller LGPS funds have not had sufficient scale to invest directly in infrastructure, and have therefore tended to buy funds or funds of funds. There are two key factors which have led to a need to revisit the current ways of investing. Firstly, in a lower-return, lower growth world, the high fees levied by many of these funds render the net return to investors insufficient to meet the

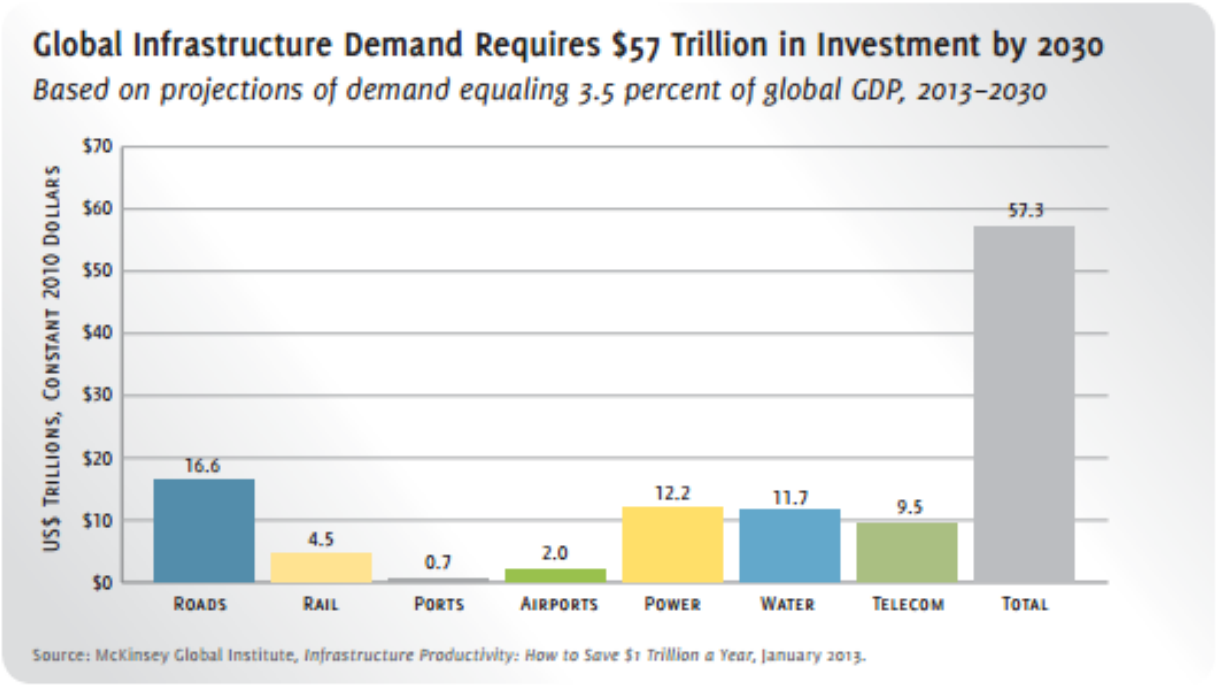
pension funds' return targets set by their actuaries. Secondly, the growing structural weight allocated to the asset class means that the importance given to these investments, and hence the cost of accessing these investments, has naturally come to the fore.

7. The economies of scale which are derived from the pooling of assets will deliver an opportunity for participating boroughs through the London CIV to access investments which will partially address the funding gap which many of the funds suffer, by enabling more direct access to infrastructure assets, and hence lower the costs of investing. Currently, the LGPS lags many of the world's "best of breed" pension funds in their allocation to infrastructure (excluding property), as can be seen below:

Investor	Country	Current Infrastructure allocation (% of AUM)
LGPS	UK	0.3%
Ontario Municipal	Canada	19.4%
Ontario Teachers	Canada	8.2%
Australian Super	Australia	10.0%
Future Fund	Australia	7.4%
Universities Super	UK	4.8%
Public Sector Pensions	Canada	6.3%

Global Infrastructure expenditure requirements are rising

8. McKinsey Global Institute published a seminal report in 2013, in which they argued that the world would need to spend US$57 trillion on infrastructure by 2030. A summary of their finding can be seen below:



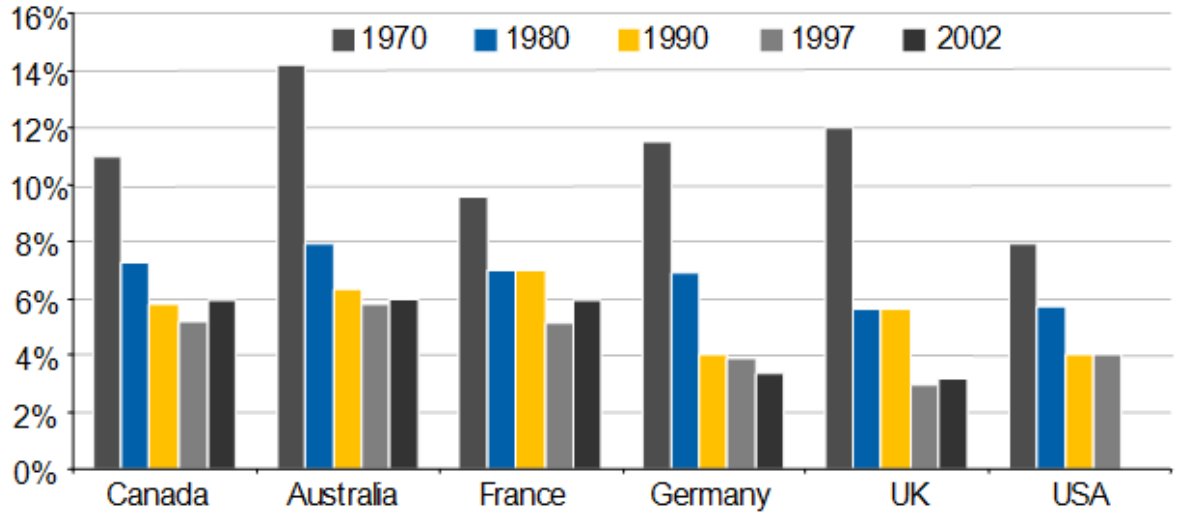
The need for private capital to fund infrastructure

9. The use of infrastructure spending to boost economies is not new. The renewed appetite by governments to explore the use of infrastructure as an economic policy is largely a result of the Global Financial Crisis but also comes at a time when, in many countries, there is a need for existing infrastructure to be overhauled (developed markets) and for new infrastructure (emerging markets). The drivers for non-governmental infrastructure expenditure can be broadly explained by the following factors:

Reduced government infrastructure expenditure in recent years

10. The world's major, mature economies' governments have dramatically reduced their infrastructure spend in recent decades. It should be noted that this does not mean that overall infrastructure expenditure has dropped (the UK, for example, led the way in attracting private capital to fund public infrastructure) but rather that many governments no longer have the fiscal wherewithal to fund new projects. As can be seen below, for the six countries shown, governments will need to find between 4% and 8% of GDP to return infrastructure expenditure to levels last seen in 1970, unless they tap the capital markets.

Government Infrastructure Expenditure



Ageing capital stock

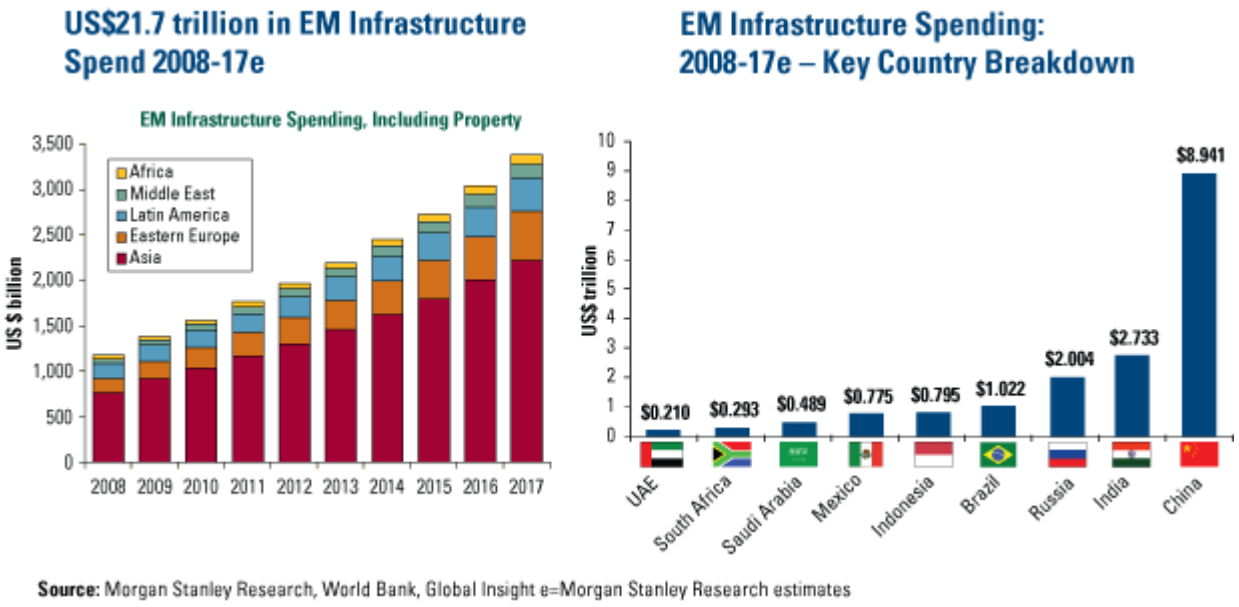
11. Mature economies are faced with the triple whammy of ageing infrastructure which needs to be replaced, new technologies and both changing (ageing) as well as growing populations, where urbanisation remains a theme.

12. For example, much of the USA's infrastructure dates back to the era of the New Deal, and Germany is faced with increased concerns about the state of its roads, some of which date back to the same era.

New technologies (including environmental issues)

13. Examples of new technologies increasing demand for infrastructure would include the ever-increasing demands for the transmission and storage of data, and new/upgraded airports to meet the needs of increasing passenger volumes.

14. The combination of ageing capital stock and increasing concerns over the strain on the environment resulting from economic development together with the growing population has resulted in new technologies designed to improve the environment, particularly in the renewable energy space. In recent years, for example, the Chinese government has emphasised the need to balance environmental sustainability with the quest for economic growth. The country's need for ongoing investment in expenditure can be seen below:

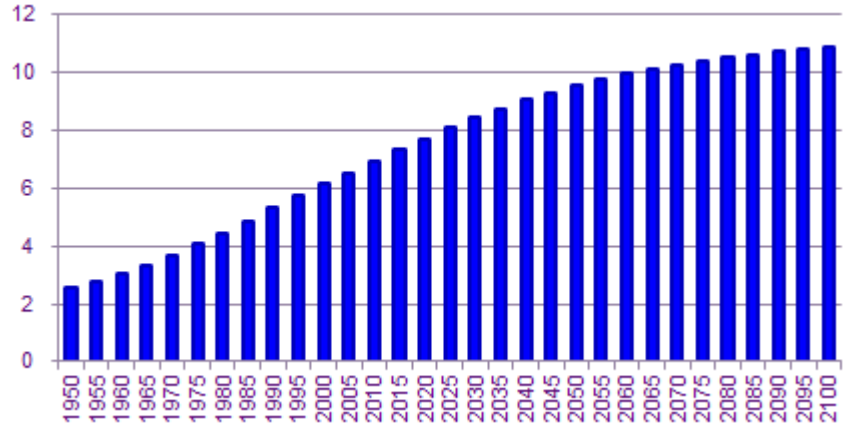


Source: Morgan Stanley Research, World Bank, Global Insight e=Morgan Stanley Research estimates

Population growth (emerging economies and migration)

15. Global population growth, when combined with the long terms trends of economic development and urbanisation, will likely put ever-greater strains on existing infrastructure, and require ever-increasing amounts of infrastructure, both brownfield and greenfield. Moreover, the increasing penetration of technology (internet, smartphones etc) and reduction in the price of travel could support the trend for global migration, thus putting new strains on existing infrastructure, as is clear in cities like London.

Global Population (bn)



The changing nature (and popularity) of UK assets

16. Broadly speaking, one can divide infrastructure assets into amortising assets, which will be written down to zero over the lifetime of the assets, and perpetual assets, for which there is no obviously finite lifetime.

17. There has been a broader trend globally as large pension schemes have come together as a result of consolidation (such as in Australia and Canada), and have actively searched for suitable acquisitions. Sovereign Wealth Funds, which together account for some US$ 7 trillion, have also scoured the globe in their quest for suitable targets. These buyers are far more likely to be looking for perpetual assets. As a result, attractive assets will come to the marketplace far less frequently, as buyers will not be looking for an exit, all things being equal. This means that the UK infrastructure landscape is changing, and so UK pension funds simply have to be of sufficient scale in order to be able to bid.

18. Given the implied infinite life span of these assets, the regulatory environment is of paramount importance. This makes UK assets particularly attractive, given not only the stable political climate and deeply entrenched rule of law (including property rights), but also the transparency and stability of the regulatory regime. The UK's track record of using private capital for public infrastructure dates back to the 1980s, which means that the UK is (in some cases) on its 5th or 6th regulatory cycle, whereas other countries are fairly new to the use of private capital for public infrastructure. Even in mature economies, having a relatively young regulatory environment leaves investors open to regulatory risk.

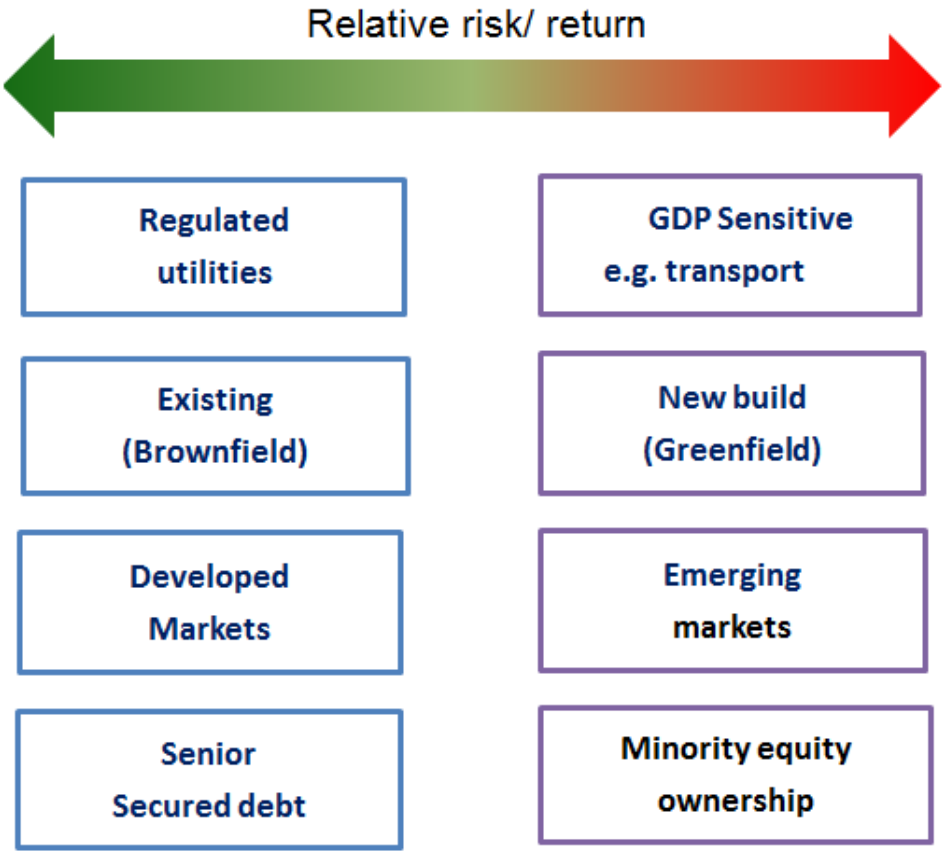
19. The attractiveness and increasing rarity of UK assets means prices are well bid, and therefore cash yields tend to compressed. Simply put, the premium which investors are willing to pay for assets within a safe legal and regulatory environment means that returns are likely to be lower. Many market participants complain that in the UK, there is strong demand from pools of capital from across the globe, combined with a shortage of large-scale, long term infrastructure assets. In short, there is too much money chasing too few sizable, high quality infrastructure assets and developments.

Building exposure to infrastructure: Investment Considerations

20. Investors need to consider key considerations in terms of risk appetite, the need for a certain return, the desire for diversification, and so forth when considering infrastructure investments.

21. Infrastructure is far from being a homogenous asset class. Investors must consider key variables including the differing characteristics of physical assets, and the varied funding requirements, capital structures, and regulatory and political environments.

22. Some of the key considerations can be seen below:



23. When assessing infrastructure exposure, key considerations include, but are not limited to:

    i. **Risk profile of asset:** As described in more detail below, these can be divided into Core, core-plus, value-add, opportunistic.

    ii. **Risk profile of market: DM vs EM.** Typically, Emerging Markets are seen as higher risk/reward, but the boundaries between these categories are in many cases becoming more blurred. As a result, the division between Developed Market and Emerging Market is not necessarily an accurate indicator of the relative predictability and transparency of the regulatory regimes.

    iii. **Access Route: Diversified funds vs co-investment.** Broadly speaking, established global infrastructure funds offer instant returns, and diversification across a range of geographies and assets, which means that the returns profiles are less volatile and more predictable. They also tend to be more liquid.

    On the other hand, a co-investment will tend to have a long lead time, have upfront costs, will likely have a J-Curve, and the time and financial commitment means that the portfolio will contain fewer assets and thus the returns are potentially more volatile.

    The key difference, of course, is cost, and hence potential returns. A co-investment will tend to have far lower fees and thus the net return profile will likely be very different. Further, there is an element of control that is not possible

to achieve by investing in large pooled funds, which to date has been the route which has lent itself to individual funds.

iv. **Capital Structure.** A key decision for investors is where to sit in the capital structure, i.e. to buy equity in a project, or debt; and whether the debt is senior and collateralised, or junior ("subordinate") and perhaps uncollateralised, thus offering a higher yield to compensate for the incremental risk. Typically, investors in infrastructure in mature economies favour equity investments, and owners of these assets will use leverage (i.e. debt) to boost returns. However, equity investors in brownfield projects in emerging markets will likely not look to use material leverage, as to do so may well push the project too far along the risk/reward curve.

Infrastructure: an attractive and varied asset class

24. It can be useful to break the sector into three categories, those being Core Infrastructure, Value Added and Opportunistic, the characteristics of each are described below:

<u>Core Infrastructure</u>

25. Core infrastructure assets include regulated utilities, i.e. water and electricity companies which have their ability to raise prices constrained by regulatory bodies, normally because of the asset's near-monopoly business model. Currently, in the UK, the target total annual return for core infrastructure would be in the range of 6-8%, with most or all of that coming from the cash yield. For pension funds, the key benefits for core infrastructure (i.e. mature) are as follows:

i. **Investments Matching Liabilities**

The long duration nature of the assets provides natural liability hedging, and is therefore an attractive way to match duration without having to lock in low returns, which is a risk with many Liability Driven Investment (LDI) strategies.

ii. **Strong cash yield**

Core infrastructure investments tend to be mature, highly regulated assets which deliver a predictable and attractive cash yield which can be materially superior to levels seen in more liquid instruments (and without the price volatility, all things being equal).

iii. **Inflation linkage**

Revenues tend to be linked to inflation, either explicitly through the formulae which regulators use for price setting, or indirectly through the ability of the asset operator / owner to raise prices.

iv. **Uncorrelated to GDP**

Investors can choose infrastructure assets which are uncorrelated to GDP, which means that attractive returns can be locked in independent of the overall economy's trajectory. This should also mean that infrastructure is uncorrelated to asset classes which are sensitive to economic growth.

Value added

26. Moving along the risk/reward spectrum, there are value added assets, which will typically include transport infrastructure, such as railways and airports. The expected total return is 9-11% (with cashflow yield expected to be 4-5%) . This sub-sector typically has the following characteristics:

    i. **Investments Matching Liabilities**

    The nature of the return profile means that value add assets are typically less frequently viewed as liability-matching assets.

    ii. **Strong cash yield, but less predictable**

    Value added infrastructure assets should deliver a strong cash yield, but sensitivities to overall economic growth will likely lead to more volatile cashflows.

    iii. **Exposure to economic growth rather than explicit inflation linkage**

    Revenues are likely to be indirectly linked to inflation, via the sensitivity to nominal GDP growth, rather than via an explicit pricing formula.

    iv. **Correlated to GDP**

    Value-add infrastructure assets tend to be sensitive to changes in economic conditions. Airports are a good example of this; passenger traffic figures tend to grow faster when the economy is buoyant; moreover, retail sales are key profit drivers in many airports and hence the asset class is sometimes viewed as an operationally leveraged play on the retail sector.

Opportunistic

27. Moving further along the risk/reward spectrum, there are “opportunistic” assets, which are higher risk but if successful, could deliver total annual returns of 15%+. Examples of such assets would include those with more exotic EM exposure; taking on construction risk; brownfield site issues; and so on. This sub-sector typically has the following characteristics:

    i. **Growth asset, rather than liability matching**

    The risk/reward profile of this asset class, plus the volatility of returns, would make this asset class unsuitable to seen as a way to match liabilities. Capital gains are a key component of total returns.

    ii. **Strong cash yield, less predictable**

    Value add infrastructure assets should deliver a strong cash yield, but sensitivities to overall economic growth will likely lead to more volatile cashflows.

    iii. **Asset specific drivers rather than explicit inflation linkage**

    Revenues are very unlikely to be directly linked to inflation, but instead will likely be driven by the nature of the specific asset, as well as exposure to overall exposure to the economy in which the asset operates.

iv. **Correlated to GDP**

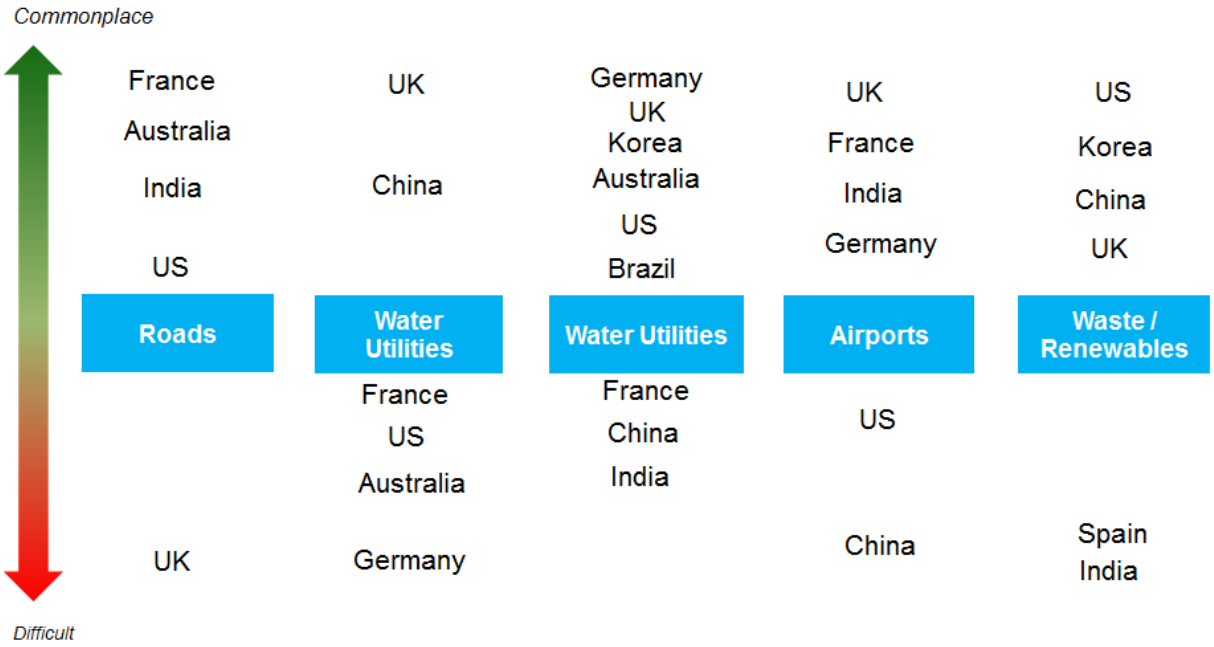
As described above, opportunistic infrastructure assets tend to contain embedded company-specific or asset-specific risks, as well as showing sensitivity to changes in economic conditions. Further, there may be a "J Curve" effect as there may well be a longer lead-in time, and higher up-front expenses with brownfield projects (i.e. whilst the asset is constructed).

Risks and challenges of investing in infrastructure

28. As discussed, investing in infrastructure can address the current challenges faced by both governments and pension funds. However, no investment is ever entirely without risk, and investors need to take into account the following aforementioned considerations, which if not given due consideration, could represent risks:

- **The lack of liquidity and long duration of the investment:** The very nature of investing in infrastructure means that extra care needs to be taken when investing; if the project fails to deliver, there will be no quick and/or easy exit (unless the investor is willing to endure a substantial loss of capital in exchange for a rapid exit).
- **Financial leverage:** Whilst leverage can boost returns, it can also work against investors. There have been several high-profile examples of projects such as toll roads, where the models turned out to have been over-optimistic, and the shortfall in revenues was disastrously magnified by imprudent levels of financial leverage which investors had employed in a bid to boost returns.
- **Operating leverage:** High fixed costs means that profit is very sensitive to fluctuations in revenue. Airports are a fine example of this, as they have a high and fixed running cost. This should be considered alongside financial leverage.
- **Management quality:** This is a key part of due diligence. In all likelihood, even an excellent asset purchased at an attractive price will fail to perform if management quality is found to be lacking.
- **Regulatory / political exposure:** Investors must understand clearly the political and regulatory environment in which they are investing. Some variations are driven by factors unique to that country. For example, new airports in China have tended to be funded by central government and therefore have not required outside pools of capital, whereas projects which fall under the remit of fiscally-constrained local government have needed to tap outside investors.

  Some countries have gained a reputation for reneging on long-term infrastructure contracts, either because they can no longer honour their commitments (such as government subsidies to companies operating in the renewable energy space) or there is a change of government, and the new government takes a different view over the role of overseas, private capital. The investment climate for sub-sectors in select countries can be seen below.



Infrastructure: the road to better returns

29. Investing in infrastructure is becoming more mainstream, on account of structural changes which affect both governments and pension funds globally. Scale is required to best harness the investment opportunities which the asset class produces, and to that end the formation of the London CIV is timely as it facilitates more direct routes to access infrastructure assets.

30. Given the likely scale and duration of the investment, execution is of paramount importance. To that end, great care must be taken, not only in the selection of an outside manager, but in terms of due diligence on the asset. This will likely entail up-front costs and patience, in order to avoid the pitfalls of being locked into a suboptimal asset for many years.

31. Nonetheless, the potential rewards of successfully investing in infrastructure projects are material and durable. Perhaps more than other asset classes therefore, infrastructure is an example of how best the local authorities which invest through the London CIV can benefit the most from pooling and deploying patient capital, in a bid to cut costs and enhance returns in a long duration asset class.

Recommendations

32. The committee is recommended to consider the issues raised in this report and to allow further exploratory work to be completed, in order to move forward with investment in infrastructure

Financial implications

33. There are no financial implications.

Legal implications

34. There are no legal implications.

Equalities implications

35. There are no implications for equality.