

RESEARCH PAPER

PRODUCTS
(ALTERNATIVELY)

The role of infrastructure in an alternatives portfolio

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Infrastructure is rapidly evolving into a global asset class, with institutions setting aside increasing allocations within portfolios to take advantage of its low volatility of returns and low correlation to equity markets. This paper examines key infrastructure investment considerations, the risks of investing in infrastructure, valuations, and infrastructure's place and role in a targeted return portfolio...

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Infrastructure assets can be broadly described as assets that underpin basic services, facilities and institutions upon which the growth and development of a community depend – for example, transport, power, communications, etc (Figure 1). Infrastructure is a source of predictable income, with a relatively low vulnerability to economic cycles. Much of the risk in an infrastructure asset is mitigated via the regulatory framework (due to the policy objective of encouraging investment in essential services) or can be hedged in a traded market. As an asset class, infrastructure has a relatively low correlation to the market as a whole and to fluctuating macroeconomic factors such as GDP, inflation and employment. It is generally acknowledged that infrastructure has a lower volatility of revenue and EBITDA than most industrial businesses, due to the regulated/monopoly nature of the underlying business in each asset. The attractive investment characteristics of this asset class revolve around the security and predictability of returns and costs. Each of the following contributes to this:

- Infrastructure provides the community with services and facilities essential to daily existence;
- Strategic competitive advantage – in most cases, there are few viable alternatives to using the asset;
- As a result of monopolistic characteristics,

infrastructure assets are subject to varying degrees of government regulation;

- Barriers to entry are high:
 - High development costs inhibit duplication;
 - Exclusive long-term concession periods;
 - Long-dated contracts account for significant portion of demand; and,
 - Efficiencies provided by economies of scale;
- Sustainable and predictable cashflows over the long term with low volatility;
- Long-term sustainable yields;
- Low risk assets – lower operating risk due to relatively low operating costs to total revenue ratio;
- Low correlation to other asset classes;
- Generally seen as a defensive asset with less susceptibility to business and commodity cycle volatilities;
- Capital intensive;
- Support relatively high amounts of leverage; and,
- Can provide a natural inflation hedge.

Figure 1: What is infrastructure?

TYPE ¹	DESCRIPTION	EXAMPLE
Patronage	Patronage is main source of revenue. Limited competition and high entry barriers	Toll roads, airports, communications
Regulated	Regulated returns to monopoly operators of essential services	Power transmission, water
Contracted	Operating assets where the output or capacity is contracted to creditworthy counterparties	Contracted power generation plant
Social	Essential community services	Schools, hospitals
Competitive	Competitive market risk e.g. supply and demand	Certain gas and electricity production

Source: Challenger Financial Services Group



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Key investment considerations

Not all infrastructure assets are created equally. A gas distribution business in the UK may be a totally different investment prospect to an almost identical business in France, Italy or Australia. There are certain variables that differentiate infrastructure investments that should be considered when assessing each.

Location

Choosing the right country to invest in is fundamental and drives many other investment considerations when assessing a global asset allocation strategy. In Challenger's experience, there is no substitute for a sound and stable economy and political landscape with a track record of consistently applied laws and rational political and economic behaviour. A common investment strategy is OECD and 'OECD-like' countries. Such a strategy works as a starting point but obviously each project needs to be assessed on a case-by-case basis. For example, an airport in Central Europe may well be a far more suitable asset and have a more stable and long-term regulatory history than a rail network plagued by inefficiency and industrial action in the same country.

Operational issues

The tyranny of distance needs only be a fundamental problem for infrastructure investments if investors are leading transactions without sufficient resources to manage them. Monitoring investments in a different time zone poses some practical impediments but should rarely be a reason for choosing not to make an investment. Obviously, this depends on the kind of involvement an investor wishes to have with an investment. Without doubt, originating and leading transactions require a local presence, however investing through funds or via a consortium as a minority should be much easier to manage remotely.

Currency

Currency and interest rate hedging of foreign returns needs to be carefully managed. A decision must be made on whether or not to hedge the initial capital investment. Every asset is different in this regard. Often, infrastructure assets have an in-built natural hedge that may make hedging the capital invested unnecessary. For example, where revenue from an investment is linked to inflation, often the value of the asset will go up in the local currency when inflation goes up. This provides a natural hedge against the negative currency effects caused by inflation in the local country.

Legal systems

Choosing the right legal system flows closely on from choosing the right country. Investors familiar with the common law (English) system will often prefer those jurisdictions to those where the civil (French) system is used. Generally speaking, common law jurisdictions have more efficient and predictable legal processes.

Regulatory environment

Probably the key value driver for most infrastructure assets will be the regulatory environment. Regulation ranges from very prescriptive monitoring of pricing and fixing of revenues through to loose monitoring of anti-competitive practices. Often, the former is preferred as it allows certainty of revenue and clarity of cashflows. Conversely, where the regulator has a lighter hand, there is often more opportunity for upside by efficiently running businesses and careful management of the regulator to avoid greater, more heavy-handed regulation.

Regulators make or break an infrastructure investment. Often, the approach of a regulator will be influenced by political considerations. An "industry friendly" regulator can be quickly replaced if political expediency dictates. Infrastructure assets such as toll roads seem particularly prone to regulatory changes due to political changes in direction. Spain has done an excellent job in demonstrating a long-term, consistent approach to regulating roads. The people have benefited by over 10 years of private investment in Spanish toll roads and an excellent network of freeways that the country certainly would not have been able to afford if the public purse had been called upon.

Supply

Ultimately, the ability of a portfolio manager to make investments in infrastructure assets comes down to what investments are available to invest in or can be developed into an investment opportunity. Investing with experienced infrastructure investors is one way to limit risk, however blindly following the crowd will generally not produce results. Each project should be evaluated against the general risks outlined in this paper and any asset specific risks to assess whether or not an investment should be pursued.

Risks of investing in infrastructure

Key risks are largely driven by the relevant sub-sector. The following are typical of infrastructure investments.

Real interest rates – a relatively high level of financial leverage is common to infrastructure assets, due to the stability of income to service debt payments. The risk of higher real interest rates or higher inflation can readily be hedged and the cost of this risk mitigation can be priced into bids at the time of asset acquisition.

Regulatory risk – perhaps, the largest risk to infrastructure investment is the regulatory environment (as described above). A fair and transparent regulatory environment encourages certainty for both investors and operators and is key when assessing investment propositions.

Inflation – Tariffs from regulated assets are typically set in real terms for the duration of the regulatory period. Increases in inflation will typically increase revenues received by the investor. There may be a residual risk

where cost inflation exceeds revenue inflation, but the relatively high operating margins in infrastructure investments mean that the net impact will tend to result in nominal income increases.

Credit risk – In most infrastructure assets, there is either a very wide dispersion of credit risk (across retail consumers) or credit exposure to a highly rated entity (or entities).

Real tariffs – Regulated infrastructure assets have regulated tariffs, providing certainty around real revenue for the duration of the regulatory period.

Volume risk – Different assets have varying degrees of exposure to volume risk. At the higher end of the volume risk spectrum are patronage-linked assets such as toll roads and airports. At the lower end of the risk spectrum are those assets where revenue is based on availability rather than volume.

Real cost increases – Mature infrastructure businesses typically have well defined and predictable cost structures thereby reducing the risk of unforeseen cost increases. To the extent that cost increases do occur, they are typically taken into account by the regulator in reviewing allowable revenues.

Exchange rate risk – Individual infrastructure assets do not typically have financing currency exposure. To the extent the income and/or capital distributions from the asset are to be repatriated to another country, the foreign currency exposure is generally able to be hedged.

Consortium risk – Due to the relatively large size of most of these assets, they are often acquired via investment consortia. Investors may therefore have minority or controlling stakes. Minority investors will typically have limited ability to influence the operations or distribution policy of any investment. This risk is primarily mitigated via the investment process and only participating in investment consortia where there is a clear alignment of interests supplemented via supporting documentation (for example, business plans and shareholder agreements).

Liquidity risk – Due to the relatively large size of the assets, unlisted investments are generally not liquid in the short term. Liquidity risk is largely mitigated via an increasing institutional appetite for these types of assets as well as shareholder negotiated terms such as pre-emption and drag and tag.

Returns by asset sub sector

Forecast returns from infrastructure investments fluctuate depending on the underlying characteristics of the asset (that is, maturity, risk, taxation treatment and the prevailing macroeconomic environment). However, return expectations are also a function of the capital structure and the cost of capital employed

by the investors who seek to buy these assets. Over the last 20 years of infrastructure investments, most sophisticated investors have arrived at target return expectations for each of the asset types in Figure 2 based on a combination of their view on micro/macro economics and the return expectation of capital markets as funds listed on stock exchanges.²

The different expectations highlight the various risk/return characteristics embedded in each of the assets and enables the sector to attract a variety of investors from growth- to income-oriented. The key difference between the two investor styles is the source of return – early stage investment returns are driven by capital growth, while mature stage investments produce higher income yields. As the asset class evolves from ‘alternative’ to ‘mainstream’ it is likely that attractive subsectors will re-rate, forcing prices up and therefore return expectations slightly lower.

Portfolio considerations – listed vs unlisted infrastructure

Infrastructure offers many benefits for retail investors and is most suitable for those with a low risk profile who are seeking income or seeking diversification within the defensive component of their portfolio. Infrastructure will generally suit investors in the pre-retiree and retiree phases given its predictable cash flows and relatively lower risk/return profile.

As infrastructure assets are relatively uncorrelated to the other major asset classes and offer consistent income with the potential for capital growth, they are an appropriate option for many retail investors. An important consideration for portfolio construction is the allocation to listed versus unlisted infrastructure assets, given each has its own characteristics and offers benefits and disadvantages to investors.

Listed infrastructure

Listed infrastructure can be easily accessed by retail investors and the cost of investing is generally lower than with unlisted infrastructure. Greater diversification can be achieved through listed infrastructure investments

Figure 2: Returns by asset sub-sector

ASSET	AVG RETURN IRR ¹	CASH YIELDS ¹ (5 YR)	CAPITAL GROWTH
Toll road - greenfield	12-16%	3-5% ²	Yes
Toll road - operating	8-12%	8-10%	Limited
Airports	10-15%	5-10%	Yes
Broadcast networks	15-20%	8-10%	Yes
Regulated assets	10-16%	8-12%	Limited
Contracted assets	9-14%	6-11%	Limited
Rail	12-16%	8-12%	Limited
PPP	9-13%	6-11%	Limited

Notes: 1. Geared nominal post-tax asset returns. 2. Cash yields on greenfield toll roads are post a construction period of 3-5 yrs.

Source: Challenger Financial Services Group

and the global market is deep and continues to grow. In essence, investors can receive the benefits of investing in infrastructure (such as steady income and the potential for capital gain) while receiving regular valuations on their investment and the ability to exit their investment if they require their funds.

The disadvantages of listed infrastructure for retail investors are that volatility can be high, particularly over the short term, beta is higher, and fees can be higher than is the case with unlisted investments.

Case study in UK-listed water stocks

In early 2005, Challenger bid as part of a consortium for the Mid-Kent water business. While the consortium was unsuccessful in acquiring the Mid-Kent business, the infrastructure investments team recognised the opportunity to gain exposure to undervalued UK water stocks in the listed market. The due diligence that was part of the Mid-Kent bid highlighted the significant future investment required in the sector, a relatively benign recent regulatory determination, increasing corporate activity and the potential for value-creation from more efficient balance sheet management. The UK-listed water sector is attractive due to the following characteristics:

- A regional monopoly on an essential service with stable demand pattern;
- Predictable, regulated revenue stream (return on RAV approach);
- Regulatory certainty for next five years (reset occurred effective March 2005);
- Increased interest from private equity / offshore companies supports valuations;
- The sector trades at a discount to recent transaction multiples;
- The potential for financial structuring to enhance returns;

- It is seen as a defensive stock if fears develop around outlook for broader market; and,
- There are high barriers to entry – licences are granted for 25 years with 10-year notice required to revoke.

The selection of stocks was based on a review of the entire listed water sector (including both water only companies or WOCs and water and sewerage companies or WASCs) and a ranking based on a number of criteria including current and future premium to the Regulated Asset Base (RAB), re-gearing potential, dividend yield and yield growth, and likely interest from industry or financial players. This review resulted in the selection of Pennon, Severn Trent and Kelda Group as preferred stocks in the sector. Severn Trent met all of the acquisition criteria. While Kelda and Pennon were attractive stocks, they did not meet all filtering criteria. The listed portfolio was divested in early March 2006 after having achieved a total return (income and growth) of 36% across the three stocks.

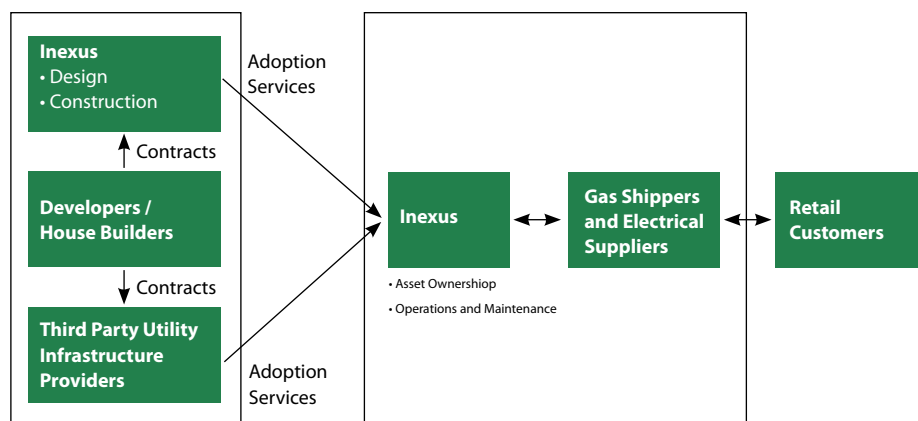
Unlisted infrastructure

Unlisted assets can offer lower volatility and, due to the risks of investing in a sole asset, have the potential to deliver higher returns. Investors reap the benefit of knowing they are helping the community, while unlisted assets are relatively uncorrelated to listed markets. The most significant disadvantage for investors in unlisted infrastructure is lack of liquidity. Unlisted investments will not deliver regular valuations nor give easy access to funds. In addition, given the size of infrastructure developments that are not always readily available, there is the risk that demand will outstrip supply.

Case study – Inexus

Inexus is an example of a major infrastructure deal. Inexus is the leading independent gas transporter in the UK and its revenue is derived primarily from the ownership of the Last Mile of gas pipes and electricity cables (fully linked to inflation). Inexus represents one

Figure 3: Case study – Inexus



Source: Challenger Financial Services Group

of the best risk-adjusted returns available in the market because Inexus gets paid for owning the gas pipes and electricity cables that connect domestic customers to the distribution networks. If the connection is established and metered, Inexus gets paid regardless of the actual volume of gas or electricity consumed. Its customers are the gas shippers, all of whom are investment grade with the majority being A-rated. Its key risk is that domestic houses stop using electricity. Importantly, there is full alignment between the fund and the Inexus management team. Management has literally bought in to the business plan by investing £12.6m of their own money.

Hybrid infrastructure vehicles

Over the past 18 months, a number of hybrid infrastructure funds have emerged that invest in both listed and unlisted infrastructure assets. These offer retail investors access to the benefits of direct infrastructure while also giving them the ability to withdraw their funds if required, while providing daily unit prices. Some other key advantages are outlined below.

Diversification – this can be achieved across listed, and unlisted infrastructure assets, industry sectors and geographically and ensures as diverse a set of investment opportunities as possible, but it also serves to diversify risk. However, it is important not to pursue diversification at the expense of quality and value.

Meaningful exposure – a hybrid approach allows retail investors the opportunity to achieve meaningful exposure to unlisted infrastructure assets in particular, while also achieving global exposure to both global listed and unlisted markets.

Flexibility – A direct investment in infrastructure is dependent on the availability of suitable assets. In this respect, a hybrid structure means there is no pressure to ‘overbid’ for available direct assets as there is always the option of gaining exposure via a listed trust (at least until a suitable asset is found). This structure ensures that higher quality assets are pursued, rather than purchasing an asset purely to gain exposure.

Synergies – Subject to appropriate Chinese wall policies, regular formal meetings between the listed and unlisted infrastructure teams in close proximity to each other enable constant exchange of ideas. The combined research effort essentially doubles the information network available. In searching for direct assets, research and investment opportunities are discussed between both teams and this can assist in uncovering opportunities (such as the UK-listed water stocks outlined above).

Liquidity – Managing the liquidity constraints often posed by direct infrastructure investments can be achieved through an allocation to listed infrastructure investments. The allocation to listed infrastructure

investments also means the risk/return profile of the portfolio is not diluted by a large allocation to cash.

In a recent paper, Mercer Investment Consulting recommended that an integrated approach of both listed and unlisted infrastructure assets will provide:

- access to infrastructure types or sub-markets that are not readily accessible in other markets;
- a broader spectrum of risk and returns as well as alternative investment structures;
- reduction of infrastructure-specific risk;
- flexibility in tactical asset allocation shifts; and,
- better quality information regarding pricing, cap rates and other valuation factors.

The role of infrastructure in a retail investor's portfolio

One of the key features of an infrastructure investment is that it is uncorrelated to bonds and equities, so overall risk is reduced through diversification. While still seen by the majority as an alternative asset class, infrastructure is increasingly being viewed as a distinct, mainstream asset class.

Infrastructure offers many benefits for investors and is most suited to those with a lower risk profile who are seeking income or diversification within the defensive component of their portfolio. It will generally suit investors in the pre-retiree and retiree phases given its predictable cash flows and relatively lower risk/return profile.

Contemporary thinking around strategies which bring so-called ‘real diversity’ (that is, higher long-term returns with less volatility), suggests investors should consider up to a 10% exposure to infrastructure as one component of their overall portfolio³. This allocation could form part of an investor's allocation to alternative assets or, in a more traditional asset allocation, given its income and capital growth characteristics, an allocation to infrastructure can be funded from both shares and bonds.

Historically, listed infrastructure assets have delivered in the vicinity of 9% to 11% per annum⁴, providing a guide to those tailoring a target return portfolio. In the early stages of an unlisted infrastructure investment, the income level is relatively lower, however this will generally increase over time. Over a five-year term (generally the minimum timeframe recommended), income should eventually contribute around 60% of total return⁵. Investigating return characteristics further, within infrastructure there are a number of subsectors that exhibit unique risk/return profiles that can be used to further tailor the portfolio.

Conclusion

Previously the domain of large institutional investors

and super funds, infrastructure is emerging as a mainstream asset class in Australia, following the launch of several listed and hybrid vehicles. Despite the relatively small number of infrastructure projects being undertaken in Australia, Australian investors are at the forefront of infrastructure investing and are accustomed to investing in infrastructure opportunities overseas. This will ensure that in the years to come, the pipeline for infrastructure investments remains deep.

Two of the distinguishing features of infrastructure investments are that they are largely uncorrelated to other markets and they provide reasonably predictable, stable income. For these reasons, infrastructure is highly suited to pre-retirees and retirees who are increasingly seeking income-producing investments. As the population ages and more Australians move into the drawdown phase, demand for income generating assets will grow significantly. Given the diversification that infrastructure can bring to an investor's portfolio, it will assume an increasingly important role.

For retail investors, access to infrastructure assets can be via a listed infrastructure vehicle or a hybrid unlisted and listed vehicle. A hybrid approach is recommended as it delivers the benefits of a direct infrastructure asset while offering investors liquidity via daily unit pricing and the ability to redeem their investment if necessary. Currently, there are few infrastructure managers in the Australian market, however this is likely to grow over time. The size and experience of the team sourcing the infrastructure investments should be a key criteria on which to assess a fund manager's ability to deliver in this asset class.

The key risks are associated with the specific asset (such as gearing, cost increases, consortium risk) and factors associated with the region (for example, tariffs, currency, political, legal, exchange rate, etc). Investors can expect reasonably predictable returns of around 9% to 11% per annum, depending on the infrastructure sub-sector in which they are invested. Some sources have recommended that up to 10% of an investor's portfolio should be allocated to infrastructure. ■

ENDNOTES

1. Challenger Financial Services Group.
2. Challenger Financial Services Group.
3. Mercer Investment Consulting, 2005, "Infrastructure – going global and listed", Discussion paper, December.
4. Challenger Financial Services Group.
5. Challenger Financial Services Group.

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Gary Kalmin is Head of Infrastructure Origination with Challenger. He joined Challenger in 2002 and is responsible for infrastructure investment origination and transaction management. Prior to this, he worked in corporate finance roles at PricewaterhouseCoopers in Sydney and Barclays Bank in the UK. He is a member of the Institute of Chartered Accountants of Australia, a Fellow of the Financial Services Institute of Australia and has an MBA from the Australian Graduate School of Management.



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Challenger Financial Services Group is a top 100 listed company and employs over 900 people. It is focussed on four core businesses: funds management; asset management; mortgage finance; and, financial planning. As at June 2006, Challenger had \$12.9bn in funds under management. The company operates a boutique style investment culture backed by a well resourced business which specialises in Australian equities, fixed interest, property and infrastructure.