

# VanEck™

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## Investing in global infrastructure

September 2016

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## 1. Introduction

For a society to function effectively and to allow for the entire population to prosper, a sound infrastructure framework is imperative.

The infrastructure required for a modern society to function effectively is extensive, complex and expensive. Governments respond to this challenge by asking capital markets to own and/or operate the assets. This creates a valuable opportunity for investors.

In this paper we articulate the benefits of investing in listed global infrastructure securities. In sections two and three the paper identifies the characteristics of global infrastructure securities and the benefits for investors of including an allocation to global infrastructure securities in their portfolio.

In section four we examine how global infrastructure securities perform in different market conditions. Section five presents the impact of adding global infrastructure on risk adjusted returns to a diversified portfolio and in section six we examine the different options available to investors when looking to invest in this sector. In section seven, infrastructure securities are compared to and contrasted with the more familiar, traditional defensive asset allocation, listed real estate.

The paper finishes with an explanation of the importance of hedging global infrastructure securities for Australian investors and an introduction to the FTSE Developed Core Infrastructure 50/50 Hedged into AUD Index.

The key drivers of the performance of global infrastructure securities are that they:

- are long lived assets;
- are protected by high barriers to entry;
- have steady cash flows;
- exhibit inelastic demand for the services offered; and
- receive regulatory advantages shielding the return on assets from the effects of inflation and interest rates.

Infrastructure securities provide defensive characteristics that protect against the uncertainty of equity markets and are beneficial as a long term allocation in a portfolio. By investing in global infrastructure securities, investors gain access to:

- a steady and reliable income stream;
- high risk-adjusted returns;
- diversification from other core asset classes; and
- a hedge against inflation.

The VanEck Vectors FTSE Global Infrastructure (Hedged) ETF (ASX code: IFRA) is the first infrastructure ETF on ASX. IFRA tracks the FTSE Developed Core Infrastructure 50/50 Hedged into AUD Index (FTSE Index), the world's leading diversified global infrastructure benchmark.

The FTSE Index is transparent and rules-based, containing sector targets which provide diversification and reduces concentration risk at both the sub-sector and stock level. This index has become the global infrastructure benchmark used by industry participants including asset consultants<sup>1</sup> and asset managers<sup>2</sup>.

### Infrastructure growth

The growth of the infrastructure sector will be driven by two structural factors:

1. a growing global population; and
2. an underinvestment in infrastructure in the developed world over the last thirty years that has created an infrastructure deficit.

These factors are predicted to lead to infrastructure investment of over USD 40 trillion by 2030, predominantly in the form of fiscal policy initiatives.

1. Frontier Advisers, "The Frontier Line: GII Benchmarks", March 2015  
 2. Andrew Maple-Brown, "Building a Defence", June 2016

## 2. Characteristics of infrastructure securities

In *The Wealth of Nations*, Adam Smith<sup>3</sup> wrote of the importance of sound infrastructure:

*Good roads, canals, and navigable rivers, by diminishing the expense of carriage, put the remote parts of the country more nearly upon a level with those in the neighbourhood of the town. They are upon that account the greatest of all improvements.*

Infrastructure securities are the equity in those companies that are active in the building, maintaining and operating of the structures, networks and facilities that are needed for the operation of a society and the prosperity of an economy.

These are companies that include builders of roads, railways and bridges as well as toll road operators, telecommunication network providers, satellite operators, storers and transporters of oil and gas as well as airport operators.

Infrastructure investing is about owning assets and owning the rights to use assets and income that is generated from society paying to use those assets. These assets are generally long lived, protected by high barriers to entry and benefit from inelastic demand.

### Long lived assets

The assets that generate the revenue for infrastructure securities such as power plants, railroads and mobile phone towers last a long time. The projects that infrastructure companies are active in require large upfront capital spending with smaller ongoing operational costs to maintain the revenue generating capacity of the assets. The capital asset may be the physical structure or it may be a long term right to operate the structure.

For example, Groupe Eurotunnel SE does not own the Channel Tunnel but has the rail concession until 2086. It runs trains through the tunnel and it grants rights to other operators to also do so.

### High barriers to entry

There are limited places where a rail can be laid or a bridge can be built. A city only needs one electricity network. The rights to exploit these limited opportunities are controlled by governments.

Governments will grant exclusive rights in respect of these assets to a chosen party rather than allowing multiple parties to operate similar assets and compete with each other. The barriers to entry are near absolute. If you are not granted the rights by the government you have no ability at all to participate in providing the particular service.

High barriers to entry typically distort prices giving the incumbents a market power that allows for high prices and supernormal profits. Infrastructure assets are therefore generally regulated as governments created the barriers so in turn regulate the prices that can be charged for the service. The price-setting benefits provided by the government are still substantial as the governments are motivated 'sellers', so they need to ensure that the 'private' owners receive an attractive return on their capital. A regulated pricing mechanism often also protects against inflation, movements in interest rates and other contingencies.

Governments' motivation to give 'private' investors a good return arises both from the long term need to have the market willing to continue to fund its infrastructure and from the short term politics of many initial investors being voters. Unhappy investors make unhappy voters.

While pricing power is diminished for infrastructure companies, the benefits of having no competition is significant. For typical equity investments such as securities in retailers and manufacturers, the investor takes the risk that the underlying business loses market share to competitors. This risk is removed for infrastructure securities. While the resulting earnings volatility for other equity investments leads to large upside exposure and large downside exposure, the earnings of infrastructure securities move within a much smaller band. The income stream for investors is therefore much more stable.

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3. The Wealth of Nations, Adam Smith, 1786

### Inelastic demand

Contributing to this stability of income is the inelasticity of the demand by consumers for the use of infrastructure assets. These are basic services in people's lives such as major roads and household energy. The consumption patterns vary little in response to price or the economic cycle.

#### Sydney Airport (ASX: SYD)

Sydney Airport possesses all of the advantages that listed infrastructure securities typically possess. The cost and scale of airports means that they are long lived assets. Sydney Airport has operated as an international airport for over 45 years.

Government regulations involved in building and operating a commercial airport means that high barriers to entry exist, with competitors unable to freely enter the market.

The high barriers to entry allow for increased pricing power which leads to high profit margins. In March 2016, Sydney Airport reported net profit margins of

72% on parking and 50% on aeronautical services. While still having some exposure to the economic cycle, airports benefit from structural drivers of demand in the form of globalisation of trade and population growth.

Since it was sold by the NSW Government in 2002, Sydney Airport has seen its share price increase.

For the five year period ending 31 August 2016 Sydney Airport returned 31.64% pa and has a forecast yield of approximately 4.50% for 2016 based on reported 2015 earnings.

Source: Bloomberg, 31 August 2016.



### 3. Benefits of investing in infrastructure securities

In most of the developed world, central bank intervention since the 2008 global financial crisis, in an effort to stimulate growth and increase inflation, has kept short term borrowing rates at historic lows. In this environment investors have been forced to allocate assets to riskier and riskier investments in a search for yield. Global listed infrastructure provides a better alternative to a mid-range dividend yield and is much more stable than other equity yields. The capital growth is also more stable than other equities and both the income and capital growth have some protection against inflation. Infrastructure investing provides low volatility returns but without the normal trade-off of risk against return.

This stability of the returns means that global infrastructure investing is a defensive asset class. The unique features of global infrastructure securities means their performance has a low correlation to other asset classes. This asset class therefore brings diversification benefits to a portfolio.<sup>4</sup>

#### Stability

The stability of income derives from the lack of competition and the regulation of prices by the relevant government. On top of this, the inelasticity of demand for the services causes sales volumes to be relatively steady.

Below is a chart of the dividend yields over the past ten years showing stable levels for infrastructure companies.



Source: FTSE from January 2006 to September 2016. Data is FTSE Developed Core Infrastructure Hedged into AUD Index

The assets are typically owned, leased or licensed for a fixed long term period with no need to sell at a profit or loss at the end of the period. There is no valuation shock waiting at the end of the lease or license.

The assets are all unique. There is no open market in which they can be traded. The capital value of the ownership rights is therefore tied strongly to the net present value of the future income stream, unaffected by any short term information of a 'market value'.

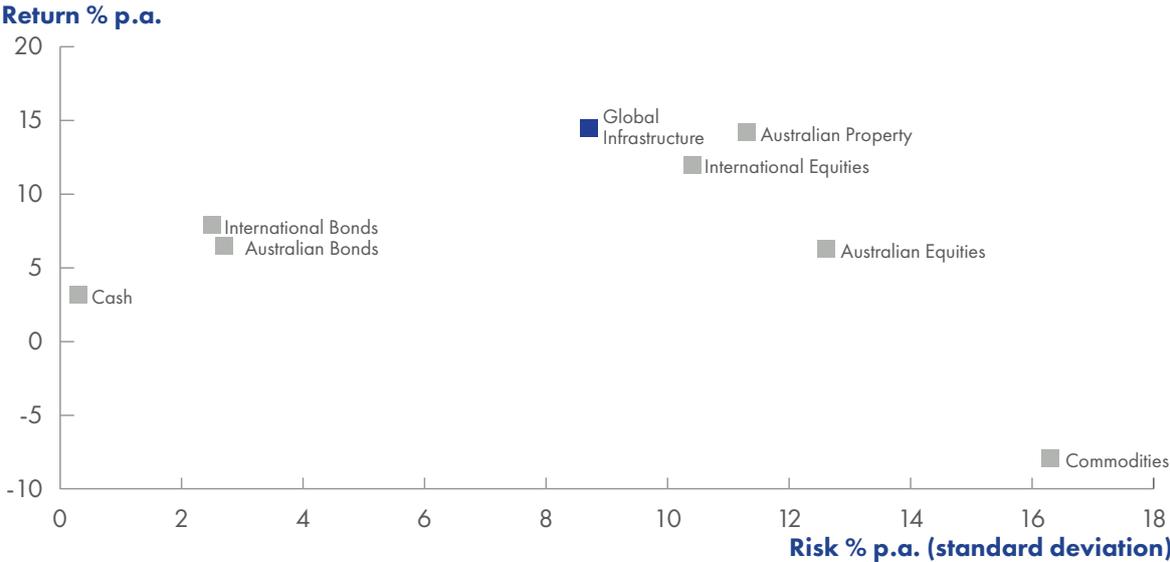
As the income is highly stable, the net present value of the income stream is also highly stable so the capital appreciation of the infrastructure securities will be more stable than that experienced with other equities.

4. Colonial First State Global Asset Management "Five myths of Infrastructure", June 2014

**Risk-adjusted returns**

In equity markets higher returns generally come at the cost of higher volatility. This does not fully translate to infrastructure securities because the price-setting mechanism is based on favourable government regulation rather than market forces. Infrastructure securities generate better risk-adjusted returns than other asset classes as shown in the following chart.

**Five year risk-return**



Source: Morningstar Direct, Five year risk-reward, 31 December 2009 to 31 August 2016

Results are calculated monthly and assume immediate reinvestment of all dividends. You cannot invest in an index.

Past performance is not a reliable indicator of future performance. Indices used Cash – RBA target cash rate, International Bonds – Barclays Global Aggregate Bond Index A\$ Hedged, Australian Bonds – Bloomberg AusBond Composite 0+ years, Infrastructure – FTSE Developed Core Infrastructure 50/50 Hedged into AUD Index, Property – S&P/ASX 200 A-REITs Index, International Equities – MSCI World ex Australia Index, Australian Equities – S&P/ASX 200 Accumulation Index, Commodities – S&P GSCI Commodities Index

As compared to the MSCI World ex Australia Index, the FTSE Index has exhibited an annualised return of 14.5% and an annualised risk of 8.7% over the period since its inception in December 2009 to August 2016, compared to MSCI’s World’s 12.0% and 10.4% respectively. The FTSE Index has therefore exhibited both higher returns and lower volatility compared to the MSCI World ex Australia Index.

## Diversification

Harry Markowitz's Modern Portfolio Theory tells us that by allocating a portion of a portfolio that otherwise would have been invested in the other asset classes to a new asset class with low correlation, investors are able to lower the overall risk of their portfolio while maintaining the return expectations. Global infrastructure investing provides this opportunity.

Infrastructure securities provide investors with diversification benefits as a complement to their existing exposure to Australian equities, international equities or international fixed income investments. The low correlation to other asset classes is shown in the following table:

### Asset class correlation

Asset class	Global Infrastructure	Australian Equities	Global Equities	Australian Property	Commodities	Australian Bonds	Global Bonds
Global Infrastructure	1.00						
Australian Equities	0.55	1.00					
International Equities	0.16	0.31	1.00				
Australian Property	0.60	0.71	0.04	1.00			
Commodities	-0.19	-0.03	0.31	-0.22	1.00		
Australian Bonds	0.20	-0.10	0.03	0.28	-0.27	1.00	
Global Bonds	0.50	0.12	-0.23	0.36	-0.42	0.61	1.00

Source: Morningstar Direct, Five year correlation 1 September 2011 to 31 August 2016.

Results are calculated monthly and assume immediate reinvestment of all dividends. You cannot invest in an index.

Past performance is not a reliable indicator of future performance. Indices used: Cash – RBA target cash rate, International Bonds – Barclays Global Aggregate Bond Index A\$ Hedged, Australian Bonds – Bloomberg AusBond Composite 0+ years, Infrastructure – FTSE Developed Core Infrastructure 50/50 Hedged into AUD Index, Property – S&P/ASX 200 A-REITs Index, International Equities – MSCI World ex Australia Index, Australian Equities – S&P/ASX 200 Accumulation Index, Commodities – S&P GSCI Commodities Index.

In addition to the above diversification benefits, infrastructure securities themselves often benefit from their own diversification, generating revenue from a diversified subset of operations and locations. As an example, American Tower Corporation is a company based in Boston, Massachusetts, that owns and leases mobile operating towers at over 100,000 sites in 13 countries, including US, Brazil, Costa Rica, Germany, Nigeria, India, Peru, Chile, Colombia, South Africa, Ghana, Uganda and Mexico<sup>5</sup>.

Infrastructure companies such as American Tower Corporation give investors exposure to the growth of the emerging markets mobile phone industry while limiting the exposure to the idiosyncratic emerging market and political risks that are specific to companies domiciled in those countries.

The final step in realising the diversification benefits, as with all other asset classes, is to diversify within the asset class by investing in a basket of infrastructure securities rather than a single one.

5. American Tower Corporation - [www.americantower.com](http://www.americantower.com)

### Hedge against inflation

It is claimed Warren Buffet once described infrastructure securities as an inflation-linked bond with rising coupons<sup>6</sup>. Inflation is the natural enemy of any income generating investment, as higher inflation reduces the value of the income received. However, unlike other income generating investments such as fixed interest, investors in infrastructure securities benefit from the link to inflation that the revenue earned by infrastructure companies possesses, which leads to the additional benefit of capital appreciation.

The link can either come from regulated fees which have annual CPI-based adjustments, as is often the case with airports or toll roads, or can be directly passed onto the consumer through increased prices, as is the case with utility companies, where such price increases are generally allowed for in the regulatory price-setting mechanism.

This means that infrastructure companies tend to be inflation agnostic. Research has shown that the outperformance of global listed infrastructure versus global equities has been more pronounced during periods of rising inflation<sup>7</sup>.

For a company such as Transurban that operates toll roads across Australia and North America, the impact of inflation on its revenue generating capabilities is minimal. When the CityLink project was completed in Melbourne in 1995, the yearly increase in tolls was set at 4.5% per annum or the increase in the consumer price index, whichever was greater. This allows for any impact on revenue generation by inflation to be offset by pricing<sup>8</sup>.

Listed infrastructure securities provides the benefit of capital appreciation, as evidenced by the correlation between inflation and equity prices, while at the same time maintaining many of the characteristics investors look for from a fixed income investment in their portfolio: a stable, reliable dividend payment similar to that of a coupon payment.

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6. Lazard, "An Inflation-linked Bond with Rising Coupons", April 2011

7. Cohen and Steers, "A Case for Global Listed Infrastructure", February 2014

8. Michael West "PPP plundering takes its toll on love", February 2016

## 4. Performance characteristics in different economic cycles

### Interest rates and infrastructure behaviour

The developed world economy is in the middle of a prolonged period of low interest rates. The market has been poor in the past at predicting when central banks will begin tightening monetary policy. Therefore it is worth looking at the effect of monetary policy on infrastructure securities in both a rising and falling interest rate environment.

### Rising interest rates

Analysts generally value infrastructure securities discounting future cash flows to a present value. Fundamental valuation theory says that in a rising rate environment, where the income earned is being discounted at a higher rate, the value of that revenue and hence the intrinsic value of infrastructure securities will be lower.

However, this is not the case for all infrastructure securities. For those that set prices and earn returns based on their cost of capital, such as utility companies providing electricity, gas and water in developed economies, as the cost of capital rises or falls, so do their revenues.

As a result, the performance of these companies is largely unaffected by rising rates<sup>9</sup>.

In some cases, rising interest rates can be indicative of improved conditions for infrastructure securities. As rising interest rates are generally an indication of a growing economy, those infrastructure companies whose revenues are linked to consumer behaviour, such as railway operators and airports, benefit from demand.

A well-diversified portfolio of infrastructure securities will therefore include both companies with a hedge against rising interest rates and companies that will benefit from that environment.

### Falling interest rates

When benchmark interest rates are falling, investment in listed infrastructure securities becomes more attractive. The steady revenue stream being earned by these companies is then discounted at a lower rate, meaning the present value of the future income and thus the intrinsic value of the companies is increased.

It also makes the cost of capital cheaper for companies looking at participating in large scale projects. If listed investment securities are able to borrow at lower rates, the return on investment increases, leading to greater net income and a higher yield for investors.

A lower cost of capital also affects government spending on large infrastructure projects. Nobel winning economist Paul Krugman pointed out in the New York Times that the US is currently in an infrastructure deficit, with government spending on public construction as a percentage of GDP declining to record lows, even as the cost of borrowing for the government has done the same<sup>10</sup>.

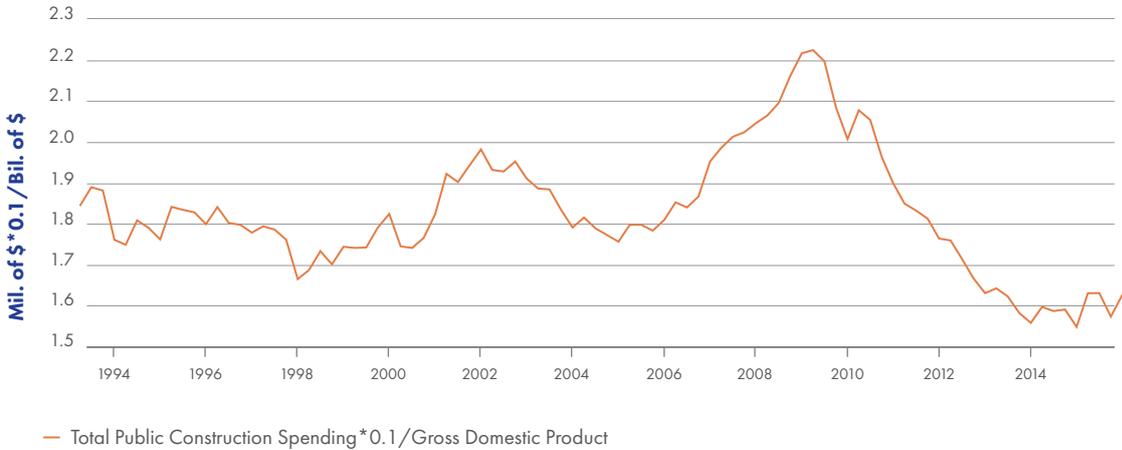
A renewed investment in large scale public infrastructure projects should result in increased revenue for existing listed infrastructure securities that can point to a proven track record of performance and ability to leverage current operations to take on projects.

Falling interest rates are also correlated with decreasing inflation. When inflation drops below an acceptable level in an economy, central banks generally cut interest rates in order to spur spending and return inflation to within the predetermined target band. If inflation is low, the real interest rate used for discounting future income will be lower and increase the present value of future projected revenue to be earned by the company.

9. Warryn Robertson, Lazard Asset Management "Listed infrastructure and rising rates", February 2016

10. Paul Krugman "The Cases for Public Investment", February 2016

Declining expenditure on infrastructure



Source: Federal Reserve Economic Data (FRED), 1994 to 2015

Current infrastructure deficit

Recent estimates on required infrastructure spending in both developed and emerging economies show investment could be as much as US\$40 trillion in infrastructure by 2030. The Australian Infrastructure Audit conducted in 2015 estimated that city congestion could cost the Australian economy A\$53 billion by 2031 without significant infrastructure spending<sup>11</sup>.

The audit also found that the improvements required cannot be sufficiently funded through institutional spending only and that a sustained fiscal response is required to combat current and future infrastructure deficits. This benefits existing listed infrastructure companies as they have operations in place to participate in large scale projects as they come online.

With central bank intervention keeping interest rates at historic lows and market expectations of further Federal Reserve rate hikes uncertain, the US Government is in a position where large scale infrastructure projects can be financed cheaply and may be needed to boost employment and stimulate growth in the economy, something that monetary policy has only been able to partly achieve<sup>12</sup>.

The Global Financial Crisis (GFC)

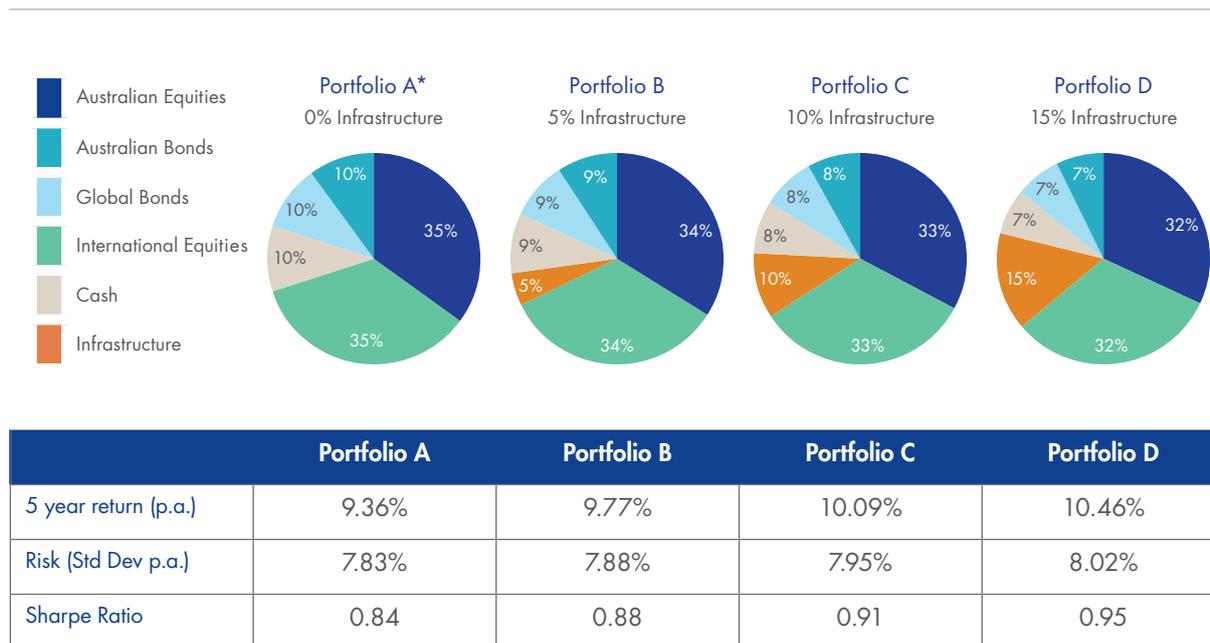
During the GFC of 2008, overall earnings of infrastructure companies in the developed world fell by just 10%, compared to a fall of 60% for general equities<sup>13</sup>. This defensive performance reflects the consistent level of demand, which exists for infrastructure services, plus the pricing power resulting from long term contracts or stable regulation.

11. Australian Government "Australian Infrastructure Audit", April 2015
12. Barry Ritholtz "2016: The Infrastructure Election" February, 2016
13. Colonial First State Global Asset Management "Five myths of Infrastructure", June 2014

## 5. Adding infrastructure to a portfolio

Infrastructure securities tend to generate growth from structural rather than cyclical drivers. Long term trends like urban congestion, globalisation of trade, security of energy supplies and mobility of communications have placed enormous strain on infrastructure networks and will require investment over many decades.

Global infrastructure assets could be added to a diversified portfolio for the income benefits and to increase returns for moderate risk. See below the impact of adding infrastructure to a typical Australian balanced portfolio.



\*Portfolio A based on MoneySmart Balanced portfolio. Portfolios rebalance annually.

Source: Morningstar Direct, Five year performance September 2011 to 31 August 2016. Results are calculated monthly and assume immediate reinvestment of all dividends. You cannot invest in an index. Past performance is not a reliable indicator of future performance. Indices used to approximate investments Cash – RBA target cash rate, International Bonds – Barclays Global Aggregate Bond Index A\$ Hedged, Australian Bonds – Bloomberg AusBond Composite 0+ years, Infrastructure – FTSE Developed Core Infrastructure 50/50 Hedged into AUD Index, International Equities – MSCI World ex Australia Index, Australian Equities – S&P/ASX 200 Accumulation Index.

A 5%, 10% or 15% allocation to global infrastructure over a five year time period would have increased returns compared to a portfolio without global infrastructure. The Sharpe Ratio combines a return measure with a volatility measure to quantify the relationship between the returns and risk. It provides a measure of risk-adjusted performance. The higher Sharpe ratio of the portfolios with infrastructure demonstrates adding infrastructure to a portfolio gives investors a better risk/return trade-off.

## 6. How to invest in infrastructure

### Listed vs unlisted infrastructure

Investors have a number of different avenues to access infrastructure investment. Historically, the most common method has been through direct investments in large infrastructure assets. This provides investors with control but requires a large capital outlay and limits involvement to institutional investors. Until recently, a global infrastructure investment has been unattainable for a large portion of the investing public.

In 2014 CBRE Clarion Securities presented the investment options and the associated advantages and disadvantages of each.

Method of Investing	Advantages	Disadvantages
Direct	Control	Large capital outlay
	Maximum transparency	Little diversification
	Discretion over capital structure	Regulatory risk
		Low liquidity
		Specialist operating skills required
Private Funds/Partnerships	Better diversification	Lack of transparency / disclosure
	Smaller capital requirements	Some regulatory risk
	No operating skills required	Low liquidity
		Slower investment execution
		Less current income, more development
Debt Financing (Bonds)	Returns largely pre-determined	Large capital outlay
	Potential asset recourse on capital	Little diversification
	Lower volatility of returns	Some regulatory risk
	No operating skills required	Low liquidity
Listed Infrastructure Vehicles	Strong diversification potential	Higher volatility of returns
	Highly liquid	Limited see-through to individual projects
	No operating skills required	Some regulatory risk
	Minimum investment threshold	
	Daily pricing	
	High levels of disclosure	

Source: CBRE Clarion Securities, September 2014

Now investors can invest in global infrastructure on ASX via an ETF. The first and only ETF on ASX is the VanEck Vectors FTSE Global Infrastructure (Hedged) ETF (ASX code: IFRA) and it has all the advantages of listed infrastructure vehicles noted above, with the additional benefits of ETFs which are transparency, liquidity and cost effectiveness.

## 7. Comparison to real estate

The following table compares an investment in global infrastructure to the traditional defensive asset class of Australian real estate. While the conclusion can be drawn that global infrastructure has better defensive characteristics than Australian real estate, the low correlation means there is value in including both asset classes in a diversified portfolio.

Characteristic	Australian Real Estate	Global Infrastructure
Type of Spend	Large upfront with smaller ongoing.	Large upfront with smaller ongoing.
Cash Flow	Income exceeds ongoing maintenance costs.	Income exceeds ongoing maintenance costs.
Type of Ownership	Ownership of a land asset or a right to use (lease) such an asset.	Ownership of a land asset or other long term physical asset or a right to use (lease or license) such an asset.
Stability of Income	Rental income streams are steadier than other business income but are still subject to market forces and economic cycles.	Infrastructure income streams are steadier than rental income streams because there is no competition, prices are regulated or linked to inflation and demand is inelastic.
Capital Appreciation Stability	Volatile over the short term as the market prices of the asset fluctuates.	More stable as there are no market prices for the unique assets and valuation is highly dependent on the net present value of the future income stream.
Risk-Adjusted Profile	There is the same strong link between returns and risk.	The link between returns and risk is broken due to the artificiality of the pricing mechanism. Empirically, the risk-adjusted returns are higher than other asset classes.
Inflation Hedge	A reasonable hedge as rent increases are often directly or indirectly linked but are always subject to market forces.	A stronger hedge as the price links to inflation are stronger and are often Government-enforced with less influence from market forces.
Future Opportunity	Real estate investing is a well-established part of the economy.	The current infrastructure deficit and the success of governments' use of investment markets in recent decades means that infrastructure securities will become a much larger part of the global economy.

## 8. Importance of currency hedging

The objective of currency hedging a global portfolio to the investor's local currency is to ensure that the only factors influencing the return from the portfolio are the income and capital gains (or losses) generated by the underlying investments.

As the majority of listed infrastructure securities are not listed on ASX, a well diversified portfolio including global infrastructure securities would expose Australian investors to currency risk unless hedged.

With a portfolio hedged to the Australian dollar, Australian investors are protected from the adverse impact that a rising Australian dollar can have on their global portfolio.

Historically, global infrastructure securities have exhibited low volatility and provided a high income for investors, much like a global bond fund, however if not hedged the currency exposure would increase volatility and negate these benefits. The cost of currency hedging is worthwhile to retain the low volatility of income.

## 9. FTSE Developed Core Infrastructure 50/50 Hedged into AUD Index

The FTSE Core Infrastructure Indices are specifically designed for use in the creation of index tracking strategies such as the VanEck Vectors FTSE Global Infrastructure (Hedged) ETF (ASX code: IFRA) which tracks the FTSE Developed Core Infrastructure 50/50 Hedged into AUD Index (FTSE Index). The FTSE Index uses a transparent, rules based construction process to screen companies within the FTSE infrastructure universe against eligibility requirements including size, liquidity, revenue thresholds as well as capping provisions on the size of sectors and individual constituent within the index.

The stocks included in the FTSE Index and therefore included in IFRA's portfolio, are weighted according to three broad industry sectors:

1. 50% Utilities
2. 30% Transportation
3. 20% mix of other sectors including pipelines, satellites and telecommunication towers.

Asset consultants, fund managers and industry participants agree the FTSE Index presents strongly in terms of the expected absolute and relative performance, focusing particularly on expected volatility, correlation and drawdown. These characteristics are critical for aligning with the primary investment objectives of infrastructure, ie low volatility and drawdown, low correlation to equities and inflation-linkage<sup>14</sup>. FTSE's definition of infrastructure results in a family of indices with the greatest purity and the FTSE Index has the lowest volatility of all the infrastructure indices over the past five years<sup>15</sup>.

### Index Characteristics as at 31 August 2016 of the FTSE Index

Attributes	FTSE Index
Number of constituents	150
Dividend Yield	3.47%
Price/Earnings Ratio	22.84
Debt/Equity Ratio	1.63
Top 10 Holdings (Weight)	31.65%

Source: FTSE, as at 31 August 2016

14. Frontier Advisers, "The Frontier Line: GII Benchmarks", March 2015

15. Andrew Maple-Brown, "Building a Defence", June 2016

## Industry exposure of the FTSE Index

Industry	FTSE Index weight
Conventional Electricity	30.03%
Transportation Services	22.49%
Pipelines	12.85%
Multiutilities	9.58%
Gas Distribution	6.68%
Specialty REITs	6.12%
Railroads	5.58%
Travel & Tourism	2.10%
Water	1.82%
Mobile Telecommunications	1.57%
Broadcasting & Entertainment	0.85%
Fixed Line Telecommunications	0.24%
Telecommunications Equipment	0.09%
<b>Total</b>	<b>100%</b>

Source: FTSE, as at 31 August 2016

## Country exposure of the FTSE Index

Country Exposure	FTSE Index weight
USA	51.60%
Canada	8.47%
Australia	8.37%
Spain	7.06%
Italy	5.47%
Japan	5.28%
UK	4.48%
Hong Kong	2.48%
France	1.89%
New Zealand	1.58%
Switzerland	0.91%
Germany	0.76%
Singapore	0.73%
Korea	0.71%
Austria	0.11%
Belgium&Lux.	0.07%
Portugal	0.04%
<b>Total</b>	<b>100%</b>

Source: FTSE, as at 31 August 2016

## 10. Conclusion

Infrastructure provides essential goods or services to society and communities. For investors, companies that own or operate infrastructure assets have the added benefit of having a low level of sensitivity to the economic cycle.

Growth in infrastructure is expected to continue as governments renew investment in large scale projects and rely on private enterprise. Investors are attracted to infrastructure securities as contracted or regulated price structures often provide inflation hedges that allow companies to raise prices in line with the consumer price index. The monopolistic qualities of infrastructure assets (high barriers to entry, inelastic demand) provide the asset class with defensive characteristics and means they are generally subject to less market volatility than other asset classes.

Until recently the ability for Australian investors to invest in global infrastructure has been limited to unlisted managed funds or direct investment by large institutions. Australian investors of all types can now access the opportunities of global infrastructure through VanEck Vectors FTSE Global Infrastructure (Hedged) ETF under via a single ASX trade under trading code 'IFRA'.

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IFRA invests in international markets. An investment in IFRA has specific and heightened risks that are in addition to the typical risks associated with investing in the Australian market. These include currency risks from foreign exchange fluctuations, ASX trading time differences and changes in foreign laws and regulations including taxation.

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