

**Presenting
debate on
contemporary
and emerging
portfolio
construction
issues**



portfolio
construction

CONFERENCE

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Infrastructure investment crossing the divide from asset to investment characteristics



Presentation to PortfolioConstruction Conference 2007

Agenda

- Increased popularity of infrastructure
- Defining infrastructure
- The importance of packaging - making the leap from asset to investment characteristics
- Strategies to capture the best attributes of unlisted and listed infrastructure
- Wrap up

**Popularity of
infrastructure
as an asset class**



Increasing popularity of infrastructure

- Increased allocations from institutions and pension funds
- Rapid development of infrastructure funds management
- Increased securitisation
- Indices to track infrastructure performance
- Development of retail products

Increased allocations from pension funds

- Australian super funds have increased allocations to direct investments, including infrastructure, from 0.7% to 3%*
- Allocation of 5-10% infrastructure for growing super funds**
- Unsatisfied demand from pension funds and institutions
 - Early adopters are increasing allocations
 - Late entrants are playing 'catch up'

*Between June 2003 and May 2007. Source: Mercer

** JANA

Development of infrastructure funds management

- Investment bank participation has evolved
- Australian infrastructure managers exporters of best practice
- Estimated 27 new infrastructure funds launched in 2006*
- US\$100-150 billion of available capital seeking opportunities*

*Source: Standard & Poor's

Increased securitisation of infrastructure

Percentage of listed infrastructure in the ASX200

Period	Percentage	MV (A\$m)
June 02	1.10%	\$6,952
June 07	5.20%	\$64,994

Percentage of listed infrastructure in the S&P Global Broad Market Index

Period	Percentage	MV (A\$b)
June 02	4.20%	\$716
June 07	5.10%	\$1,787

Source: UBS and Standard & Poor's

Creation of new infrastructure indices

- Variety of new indices to track performance
 - S&P Global Infrastructure Index
 - UBS Global Infrastructure & Utilities Index
 - Macquarie (FTSE) Global Infrastructure Index
 - Geographic and sectoral sub-indices

- Issues with indices

Development of retail products



Evolution from listed-only to 'best of both worlds'

Defining infrastructure



Characteristics of infrastructure assets

- Provision of essential services
- Regulated operations – monopolies or high barriers to entry
- Long duration
- Inflation-linked revenues
- High initial capital build/purchase costs but low ongoing operational costs and volatility
- Low levels of counterparty payment or credit risk

Investment risks for infrastructure assets

- Increases in real interest rates
 - Increases in inflation provides natural hedge against nominal interest rate rises
 - Real interest rate rises can lead to negative performance and impact asset valuation
- Exposure to regulatory or political risk and exogenous shocks such as terrorist events
- Risk trade-off: lower operating risks can mean higher financing and exogenous risks

**Making the
leap from asset
to investment
characteristics**



The importance of packaging

Relatively high and predictable level of running yield

Inflation and interest rate hedged cashflows and returns

Predictable and stable cashflows



Packaging through listed and unlisted investment structures can preserve, dilute or alter these characteristics

Unlisted infrastructure

Unlisted infrastructure assets provide:

- 'Pure' exposure to asset class characteristics
- Stable, low volatility and uncorrelated investment performance
- Exposure to broader range of infrastructure sub-sectors



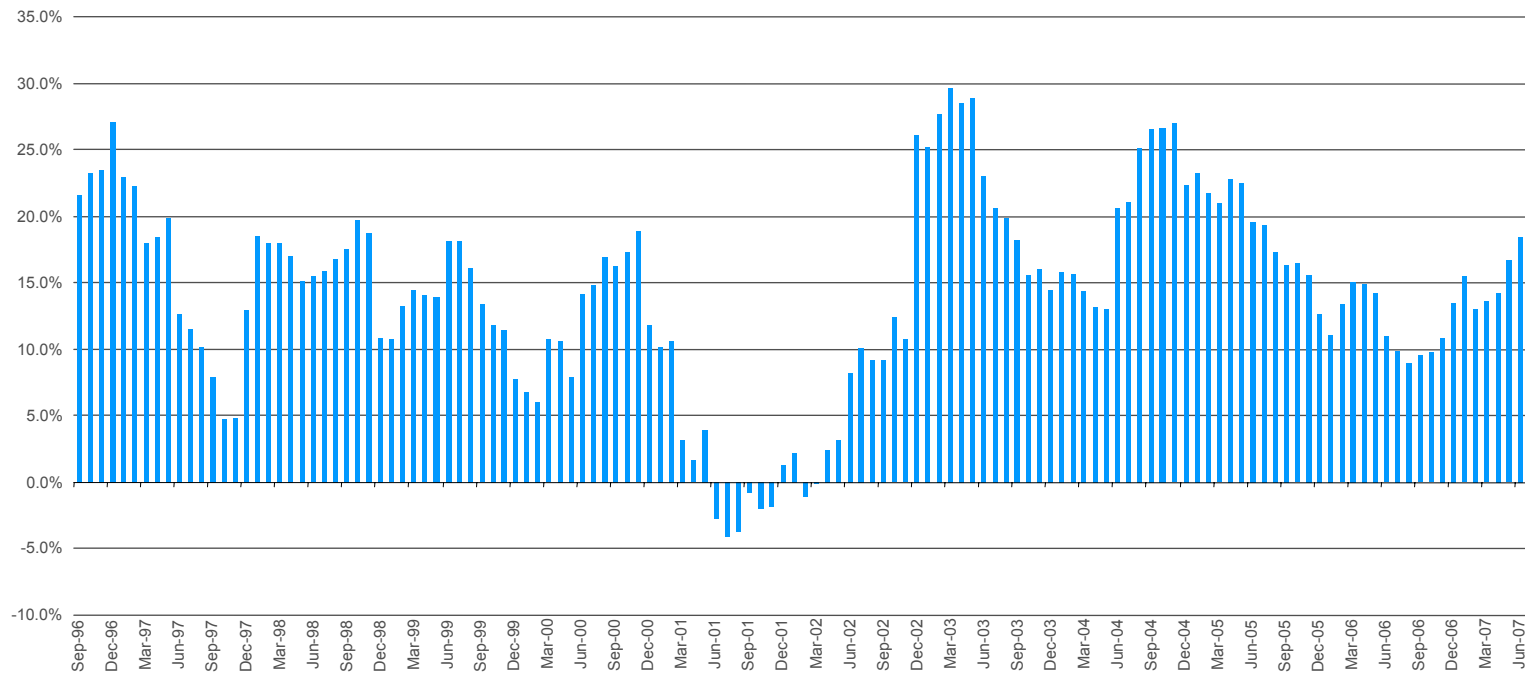
Trade-off

The cost to investors:

- Illiquidity
- Scale of capital commitment to construct diversified portfolios is beyond reach of most retail investors

One year rolling returns

Positive one year returns 94% of the time*



*Between September 1996 and June 2007. Source: AMP Capital

Listed infrastructure

Listed infrastructure assets provide:

- Liquidity to an inherently illiquid asset class
- Timely and efficient implementation ability
- Diversified portfolio construction with smaller capital requirements



Trade-off

The cost to investors:

- Volatility of investment performance
- Equity market beta

Return correlations

Correlation of returns 5 years to 30/06/07	Australian equities	Unlisted infrastructure	Listed infrastructure
Australian equities	1.00	0.11	0.61
Unlisted infrastructure	0.11	1.00	0.12
Listed infrastructure	0.61	0.12	1.00

Source: AMP Capital, UBS and Standard & Poor's

Asset risk and returns

5 years to 30/06/07	Return (% pa)	Risk (volatility % pa)	Reward to risk ratio
Unlisted infrastructure	18.4	8.9	2.08
Listed infrastructure	20.5	10.7	1.92

Source: AMP Capital, UBS and Standard & Poor's

Issues with listed infrastructure indices

- Many companies and assets do not fulfil a valid definition of infrastructure
- Indices heavily weighted towards merchant electricity generating and vertically integrated utility businesses
 - unregulated and possess low barriers to entry
 - more akin to traditional industrials than infrastructure assets
- AMP Capital has constructed a customised listed infrastructure index
 - screens a global universe of stocks using defined infrastructure characteristics

AMP Capital Global Infrastructure Index

Performance relativities between listed infrastructure indices

5 years to 30/06/07	Return (% pa)	Risk (volatility % pa)	Reward to risk ratio	Dividend yield %
AMP Capital Global Infrastructure Index	19.6	8.6	2.3	4.0
UBS Global Infrastructure & Utilities Index	20.5	10.7	1.9	3.8

Source: AMP Capital Investors

**Strategies to
capture the best
attributes of listed and
unlisted infrastructure**



Benefits of listed and unlisted infrastructure

5 years to 30/06/07	Return (% pa)	Risk (volatility % pa)	Reward to risk ratio
Portfolio 1 50% Australian shares, 50% Australian bonds	12.26%	4.39%	2.79
Portfolio 2 45% Aust. shares, 45% Aust. bonds, 10% Unlisted infrastructure	12.90%	4.20%	3.07
Portfolio 3 45% Aust. shares, 45% Aust. bonds, 10% Listed infrastructure	13.00%	4.51%	2.88
Portfolio 4 45% Aust. shares, 45% Aust. bonds, 5% Unlisted infrastructure, 5% Listed infrastructure	12.95%	4.32%	3.00

Source: AMP Capital Investors

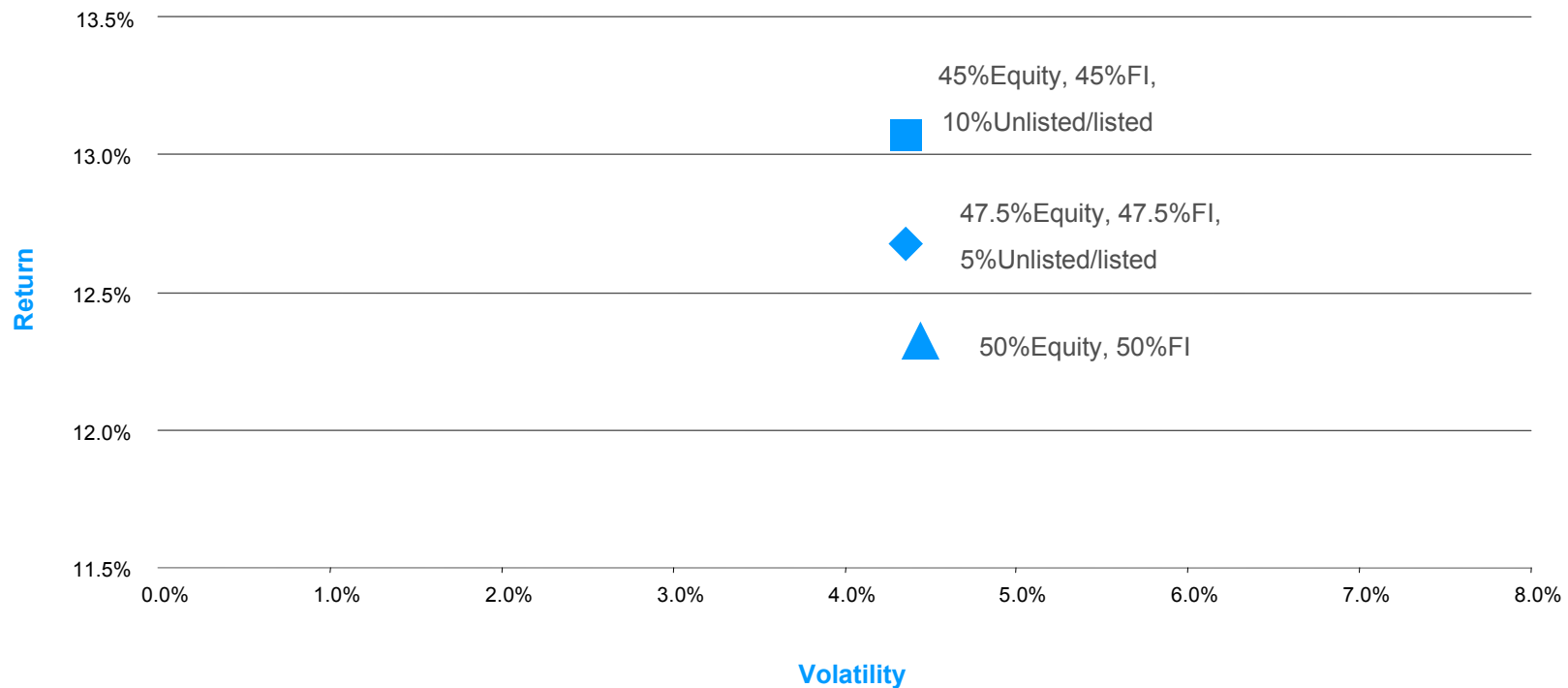
Combined infrastructure products – listed and unlisted

Risk and returns of a combined infrastructure portfolio before fees and tax

5 years to 30 June 2007	Return (% pa)	Risk (volatility % pa)	Reward to risk ratio	Dividend yield (%pa)
Unlisted infrastructure	18.4	8.9	2.1	5.1
AMP Capital Global Infrastructure Index	19.6	8.6	2.3	4.0
Combination listed/unlisted infrastructure portfolio	19.2	7.0	2.7	4.5

Sources: AMP Capital Investors

Improving performance – combining listed and unlisted infrastructure



Conclusion

- Packaging is important!
- New opportunities available giving the best of both worlds
- Combined infrastructure products provide diversification, low volatility and liquidity
- A 10% infrastructure allocation, with a 50/50 split between listed and unlisted assets, has the potential to improve performance

Any questions?

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