



# **INFRASTRUCTURE FINANCING SOURCES AND TRENDS: AN INVESTOR'S PERSPECTIVE**

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Strengthening Private Sector Participation for Infrastructure in the  
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# Structure of Presentation

1. Background
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3. Risk allocation
4. Contract structure
5. Financing structures
6. Debt
7. Equity
8. Cost of Capital
9. Benefits of private financing
10. Valuing infrastructure
11. Conclusion



## Infrastructure needs

- Structural decline in public sector investment in infrastructure over long time period
  - Greater priority to recurrent expenditure on social services – education, health, welfare
  - Debt reduction/consolidation from early 1990's
  
- Drivers for increased infrastructure/investment
  - Population and economic growth
  - Ageing assets need upgrading and/or replacement
  - Technological advances
  
- Widespread public recognition of the need for enhanced infrastructure investment

**Governments have run out of money for infrastructure investment**



# Traditional government funding sources

- General pool of tax revenue (Commonwealth, State and local)
- Specific user charges
  - Fare box revenue – rail, bus, ferries
  - Tolls on roads, bridges, tunnels
  - Port charges, electricity and water charges
- Government borrowings
  - Need to be serviced from tax revenue

**No “Magic Pudding”**



# Private sector role in infrastructure investment

- Government resources limited
  - Competing demands for additional expenditure
- Emphasis on service delivery rather than asset ownership and management
  - Does the public sector need to own assets to deliver services?
- History of public sector over-runs in delivering infrastructure
- Successful private sector projects interstate and overseas
- Leveraging private sector skills, expertise, experience to complement public sector

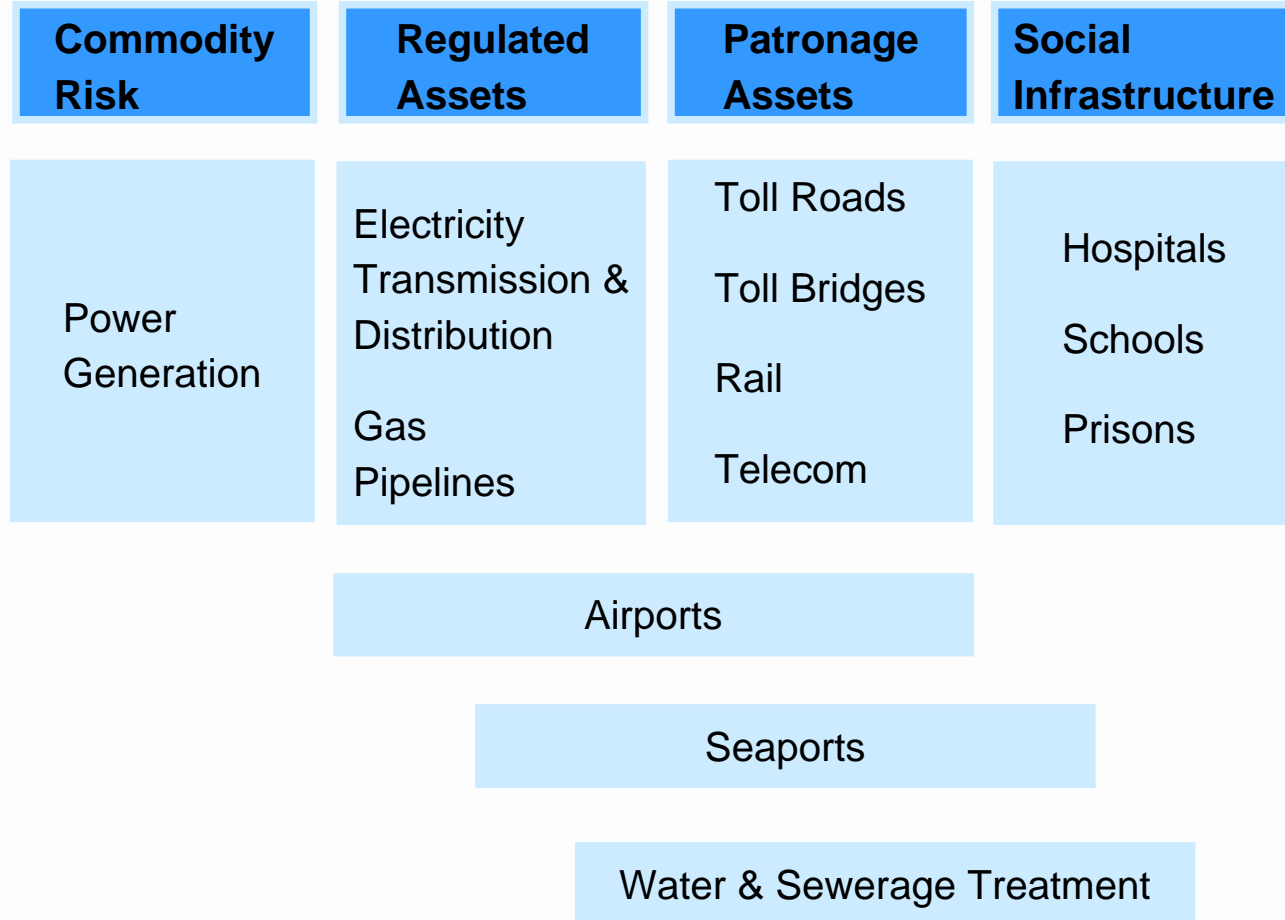


## What makes infrastructure attractive to private sector investors

- Long term assets
- Predictable long term cashflows
- Most have sustainable competitive advantage
- Backbone to economy and industrial development
- Financial optimisation can add substantial value



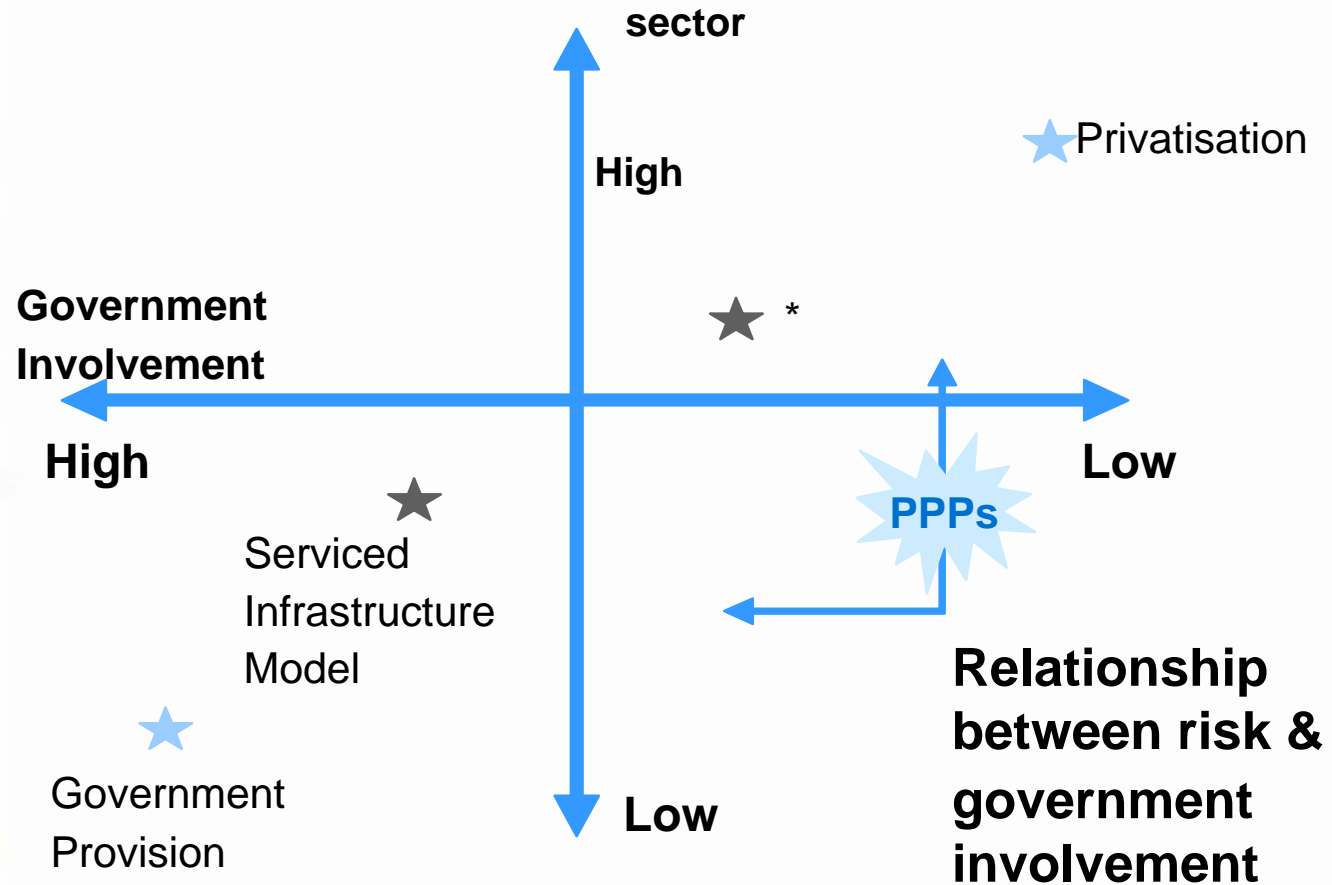
# Infrastructure assets





# Models for infrastructure delivery

Risk transfer to private

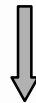


\* : build own operate transfer project



# Risk Allocation

**Optimal Risk Allocation**  
Risks allocated to party best placed to manage them  
(at lowest cost)



**Private Sector**

- Construction
- Patronage
- Operations
- Maintenance
- Network/interface
- Taxation and financing
- General change in law
- Force majeure



**Shared**

- Discriminatory legislative or regulatory changes
- Planning
- Interest rate risk



**Public Sector**

- Site availability
- Changes in scope or requirements
- Technological change
- Residual value (?)

**Risk allocation can change due to market dynamics**

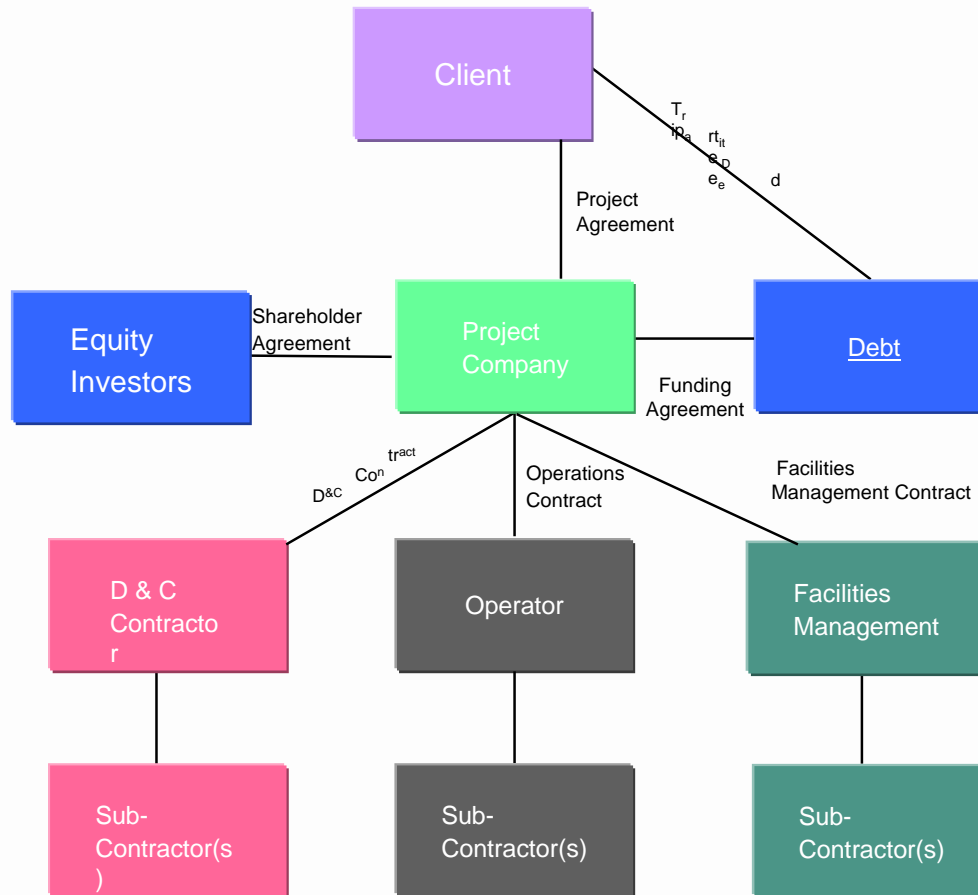


# Transfer of risks to private sector on toll road projects in Australia

Project	Year Risk	Construction	Traffic Volume	Tax Risk	Financial Risk	Network Risk	Force Majeure
Gateway Bridge	1985	Shared					X
Harbour Tunnel	1986		X	Shared	Shared		X
M4 Motorway Upgrade	1990				Shared		X
M5 Motorway	1992				Shared		X
M2 Motorway	1994					Shared	Shared
Melbourne City Link	1995					Shared	Shared
Eastern Distributor	1997						
Cross City Tunnel	2002						
Western Sydney Orbital	2003						
Lane Cove	2003						
Mitcham – Frankston Freeway	2004						
NSBT	2006						
Airport Link	2008						



# Illustrative Contract Structure





# Roles Financiers Play

- Potential roles

- Government financial adviser
- Financial adviser to bidding consortia
- Financier (debt and equity arranger and/or underwriter)
- Sponsor

- Large number of financiers pursuing PPPs

- Most acting purely as financiers
- Some pursuing multiple roles
  - e.g. Macquarie, ABN Amro, Babcock & Brown, Plenary
- Major Australian banks looking at sponsor roles
  - e.g. Westpac/Hastings, ANZ Infrastructure Services



# Financing – The “Black Box”

- Financial adviser’s key roles:
  - Financing modeling
  - Advising on the funding requirement
  
- What does the SPV need to raise today, or in the future, to meet its obligations
  - How will the payment stream (e.g. from Government) be applied to repay the funding raised
  - Sources for funding
  - Competitiveness of funding cost
  - How it can be raised
  - Develop financing structure
  - Assist financiers in analysing risk
  - Supervising due diligence processes

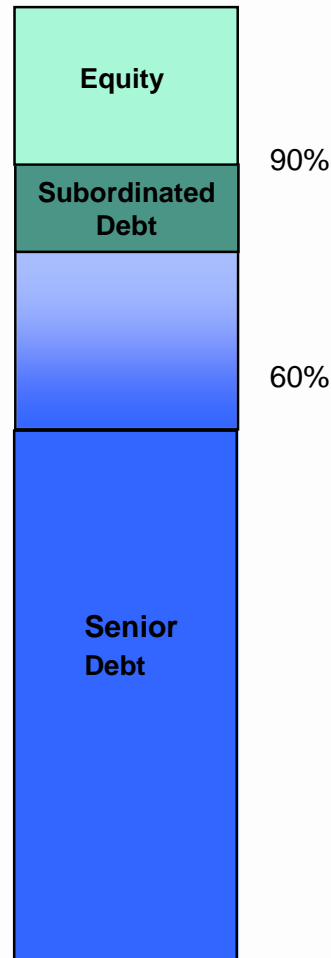


# Key issues for debt and equity markets

- Capital value and nature of underlying asset
- Size and length of contract
- Asset provision and service delivery
- Contract structure
- Risk transfer and accounting treatment
- Management of affected parties
- Third party revenues
- Asset ownership at contract completion and residual value



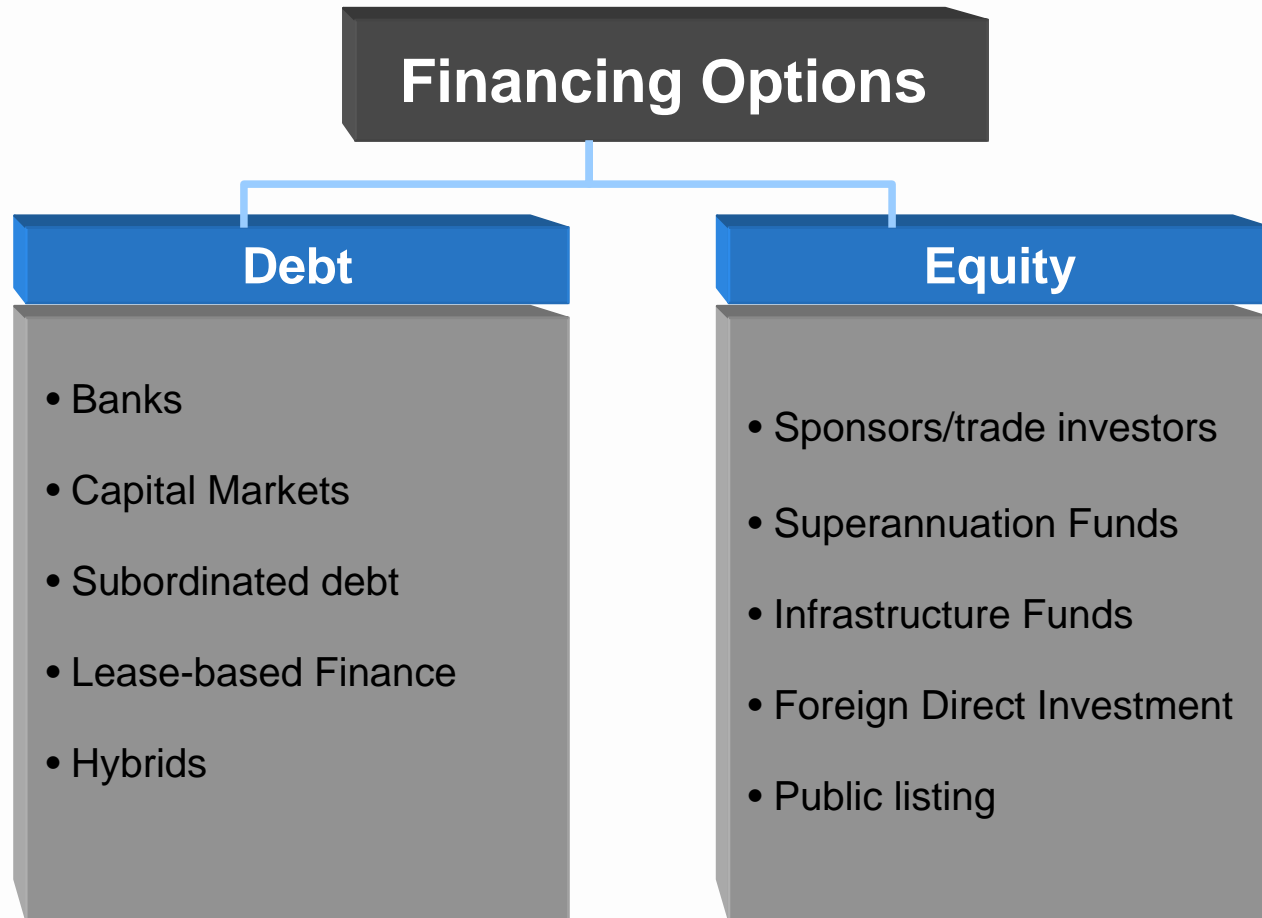
# Typical private financing structure



- Projects financed individually
  - Project companies funded by non-recourse debt and equity
- 60-90% gearing typically through bank debt or capital market bonds, with term closely matching the life of the long-term contract (or with refinancing assumption) Restrictive covenants common, for example:
  - 6 month debt service reserve and capex reserve
  - DSCR: 1.2 - 1.5 times
  - No further senior debt borrowings allowed
- Strong credit ratings possible due to long term contracts and secure cash flows
- Gearing becoming more conservative in current environment



# Financing options



Australian financial markets sophisticated for Infrastructure projects



# Debt Funding

- Major source of infrastructure funding with many PPP projects geared 60 – 70% for, 80 – 90% for Serviced Infrastructure

- Advantages:

- Tax deductibility of interest payments
- Fixed returns
- Stronger security position
- Cost of debt is cheaper than equity

- Disadvantages:

- Not able to capture up-side potential
- Over-gearing may cause distress (ie bankruptcy)

- Factors such as availability of funds, external constraints, level of government support etc will largely determine the debt to equity mix

**Debt wants to ensure it gets its money back → focus on downside risks**



## Bank Debt

- Traditional primary source of project debt funding
- Flexible repayment schedules (compared to Capital Markets)
- Historically reluctant to exceed 80% gearing or 15 - 20 year terms
- Competition from Capital Markets and international banks have seen banks offer more competitive terms
  - Up to 90% gearing
  - 25+ year term
  - Margins – 75-250 basis points above swap
- Terms of debt depend on quality of project cash flows



# Capital Market Debt

- Increasingly used to fund large infrastructure projects
- Bond structure chosen to best match project cash flows
- Wide variety of capital market debt instruments including:
  - Corporate Bonds
  - Infrastructure Debt
  - Inflation Indexed Bonds (CPI Bonds)
  - Zero Coupon Bonds
- Commercial Paper and Medium Term Notes
- Subordinated Debt



# Bank debt vs bonds

Factor	Bank Debt Bonds	
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Size of Project	<p>Suitable for big projects</p> <p>More flexible on smaller projects i.e. below \$50-100m</p>	<p>Suitable for big projects</p> <p>Not as flexible for small projects i.e. \$50-100m</p>
Maturity	<p>Typically between 15 and 20 years but increasing in tenor due to competitive pressure of other funding mechanisms i.e. bonds</p>	<p>Tenor up to 35 years</p> <p>Suitable for longer concession periods</p>
Pricing	<p>Driven by swap market demand and supply</p> <p>Competitive tension between banks has reduced margins</p>	<p>Driven by gild yields and corporate bond spreads reflecting investor's appetite for different credit risks</p> <p>Rating and pricing can be enhanced with monoline insurance</p>
Deliverability	<p>Generally considered more deliverable than bond finance</p> <p>Cost of bank finance likely to vary (in line with bonds) due to market conditions as reflected in the swap market</p>	<p>Amount raised dependent upon market conditions except if monoline wrapped.</p> <p>If not wrapped, certainty of pricing is an issue</p>
Flexibility	<p>Generally more flexible than bond finance.</p> <p>Usually accept construction risk</p> <p>Willing to deal with minor variations, debt re-scheduling to full scale refinancings</p>	<p>Less accommodating than bank finance on variations</p> <p>Usually bondholders do not accept construction risk though this risk is slowly starting to be accepted</p>

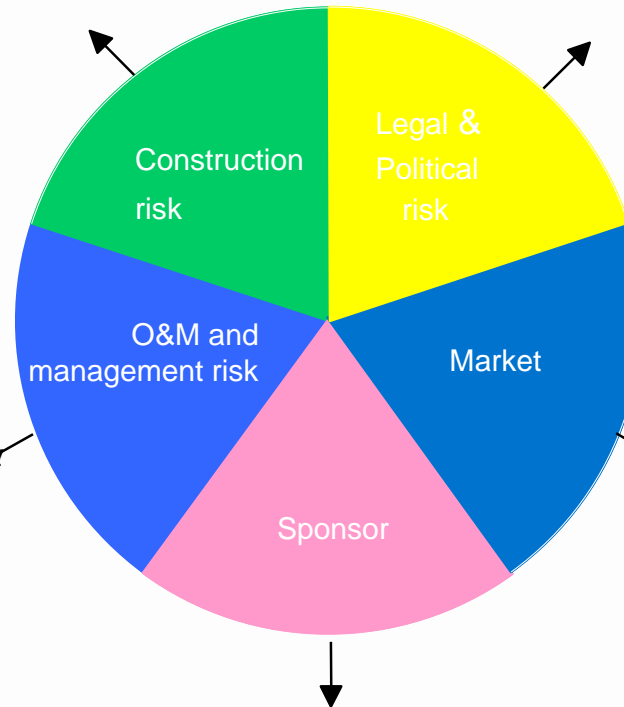


# Debt Financier's Project Risk Assessment

On time and on budget

Certainty of PPP  
mandate

Impact of adverse  
regulatory outcomes



Industry/business  
analysis

Competition from  
alternate assets or  
service providers

Ramp up period

Downside volume and  
usage risk

Longevity of the key  
contracts,  
subcontracts of key  
responsibilities and  
obligations

Risk profiles of the  
sponsors, credit rating



# Equity funding

- Securing equity is one of the most difficult tasks for infrastructure projects
- Equity receives returns over full concession term, so incentivised to:
  - Take whole-of-life view (cost optimisation)
  - Ensure project operates successfully (including effective management of sub-contractors)
- Issues for equity investors
  - Upfront or deferred contributions
  - Returns
  - Tax treatment
  - Liquidity/exit strategies

**Equity is driven by scope for higher returns → focus on upside potential**



# Sources of Equity

## Sponsors/Trade Investors

- Companies involved in development or operation of project  
e.g. construction, engineering, operation and maintenance companies
- Generally more interested in securing roles in their core competencies
- May accept a lower IRR than institutional investors to secure other roles in project added familiarity and comfort with project

## Superannuation and specialised Infrastructure funds

- Matches liability profile: long term, predictable/stable returns
- Can usually invest around 10 – 20% of project value
- Generally require a post-tax IRR of 10 – 25% depending on characteristics of project



## Sources of Equity (cont...)

### Foreign direct investment

- Emergence of sovereign wealth funds and other international/regional development funds
- Can have strategic objectives for investing
- May have trade/aid objectives

### Listed Equity

- See next page

**Equity markets broader and deeper than debt, but many projects competing for equity funds**



## Unlisted vs listed Equity

Unlisted	Listed
Lower volatility	Higher short term volatility – linked to underlying market conditions
Predictable yields	Less predicable – subject to market conditions
Greater management control	Less direct control
Greater flexibility in reporting	Subject to listing requirements
Less liquidity	Greater liquidity
Low correlation to bond yields/equities	Greater correlation to bond yields/equities



# Recent trends in financial markets

## Re-pricing of risks

### Debt

- Margins increasing
- Tenor reducing
- Availability limited (credit crunch)
- More restrictive covenants
- Focus on downside (“bank”) case/risks

### Equity

- Appetite for infrastructure investments
- Higher equity risk premium
- Base case assumptions more conservative

**GOOD PROJECTS WILL STILL ATTRACT FUNDING**



## Evolution of funding mechanisms for toll roads in Australia

Project	Year	Funding Mechanism
Sydney Harbour Tunnel	1986	Government Guarantee
M4 Motorway Upgrade	1990	Bank Debt / Existing Motorway
M5 Motorway	1992	Bank Debt, Government, Contractor
M2 Motorway	1994	Listed Equity, CPI Bonds, Bank Debt
Melbourne City Link	1995	Listed Equity, CPI Bonds, Bank Debt, Infrastructure Bonds
Eastern Distributor	1997	CPI Bonds, Bank Debt, Infrastructure Bonds, Subordinated Debt
Cross City Tunnel	2002	Private Equity, Bank Debt – bullet facilities
Western Sydney Orbital	2003	Private Equity, Bank Debt, Equity Bridge Facility, Construction Loan Notes
Lane Cove	2003	Private Equity, Credit wrapped bonds
Mitcham Frankston Freeway	2004	IPO, Private Equity, Bank Debt
NSBT	2006	IPO, Private Equity, Bank Debt
Airport Link	2008	IPO, Private equity, Bank debt



## Cost of capital

Why use private funding, when government's borrowing cost is lower?

- All projects have risks – whether delivered by public or private sector
- Government's risk-free borrowing is a misleading benchmark
- Need to make "like-with-like" comparison of risks and costs
- Public sector risk on projects often "lost" in government balance sheet
- Government's risk-adjusted cost of capital not necessarily lower

**Cost of not properly accounting for risk is borne by taxpayers rather than investors**



## Benefits for Government/taxpayers

Ownership can remain in public hands

Enhanced infrastructure provision

Government focus on long term strategic decision making

Innovation in D&C, O&M, financing

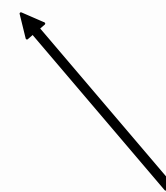
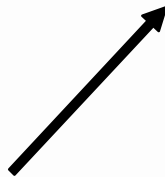
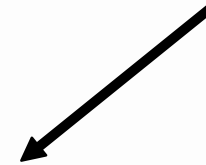
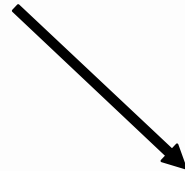
**Value for Money**

Risk transfer to private sector

Whole-of-life D&C and operating cost savings

Better Asset Management

Increased opportunity to develop other infrastructure projects



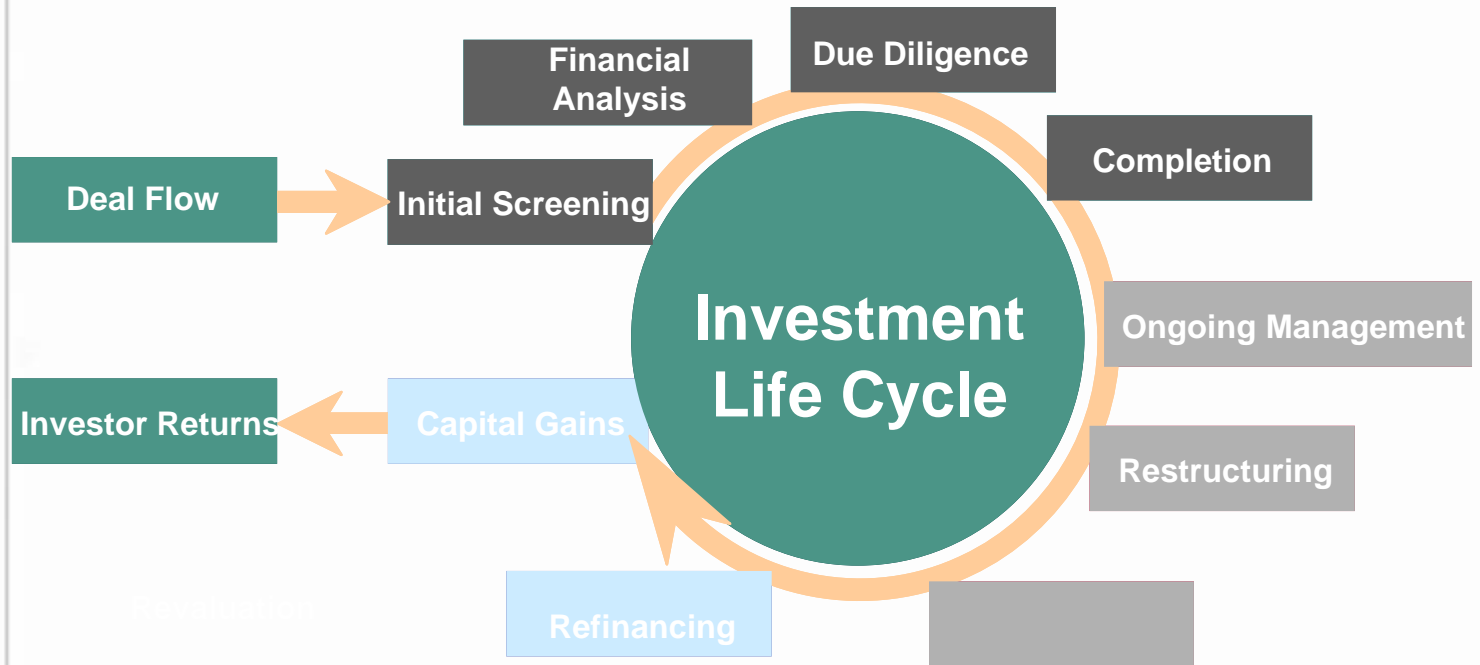


# Valuing infrastructure

- Very different from usual company valuation.
- Industrial companies valued on yield and accounting earnings growth.
- Infrastructure assets best valued on:
  - Internal rate of return (IRR) or. net present value (NPV) basis.
- WHY?
  - infrastructure assets have very high growth in dividends.
  - over time, a reduction in the level of risk in the project.
  - accounting results do not allow for time value of money.
- Difficult to capture the value of these two points in yield valuation.
- IRR/NPV valuation takes into account the value of future cashflows

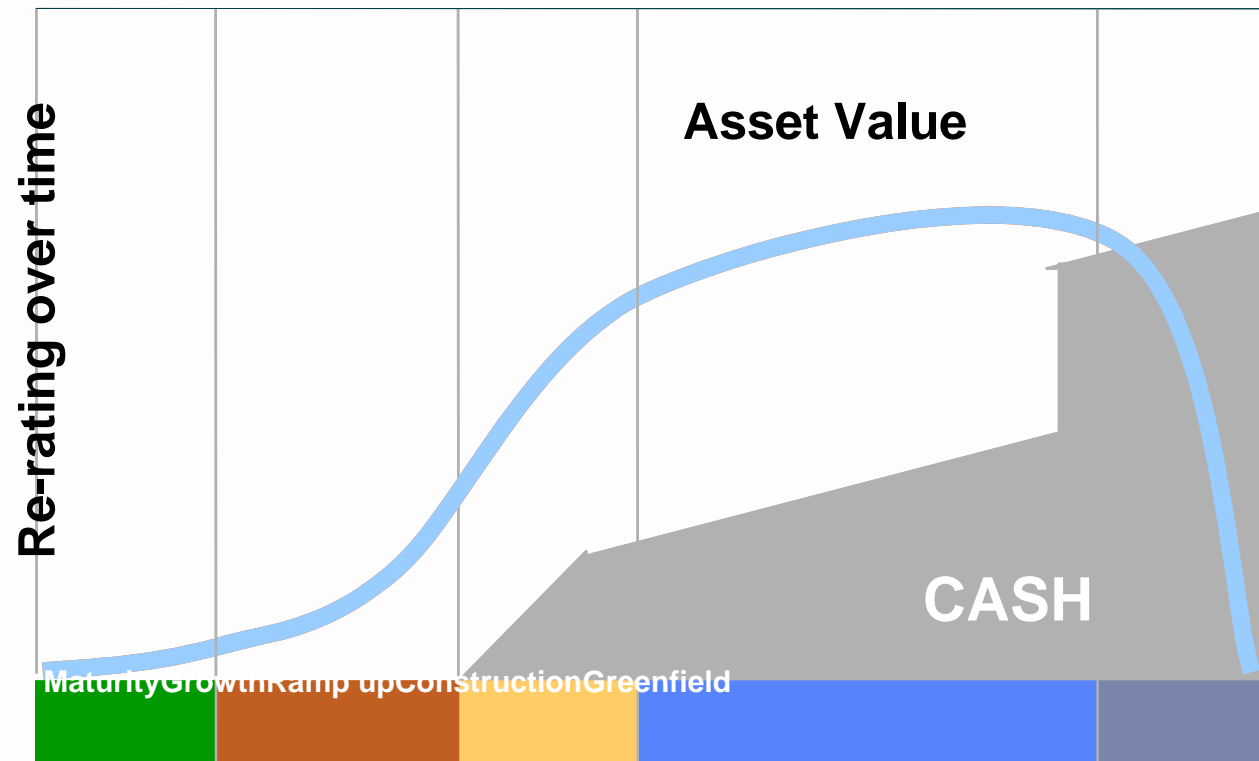


# Value changes as assets become more established...





## ...and more cash is available for distribution

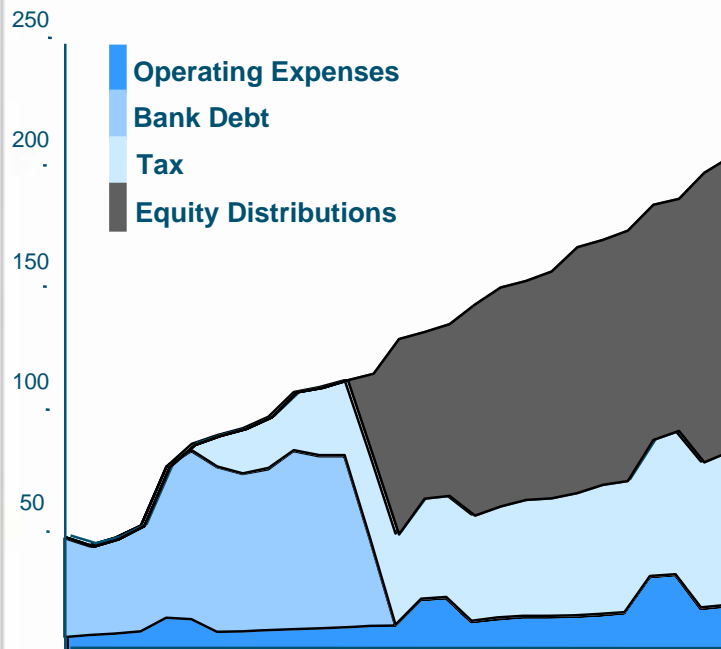




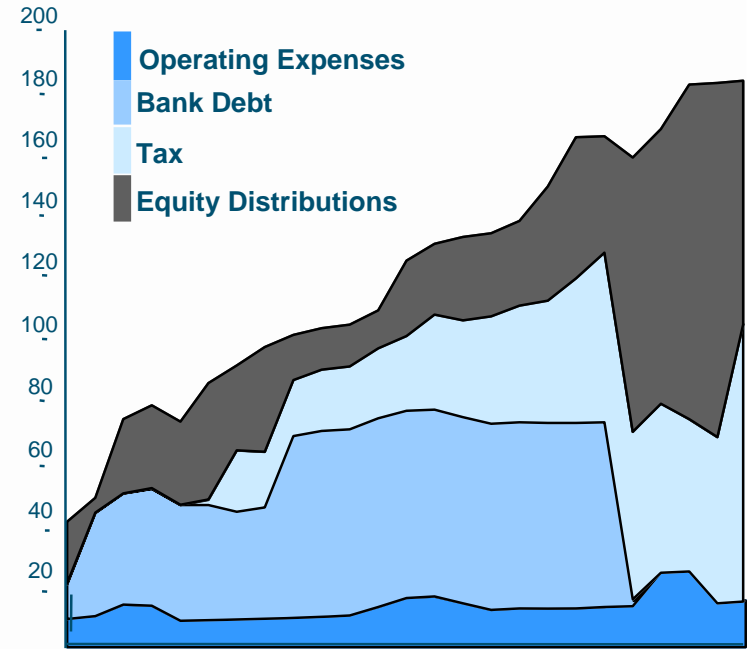
# Changes in the value proposition

- Refinancing can add substantial value to equity investors.
- Interlink Roads (M5, Sydney) refinancing

## Before



## After





## Changing risk profile – roads

### Construction

#### Risks

Construction Time  
Construction Costs  
Initial Traffic  
Ramp Up Rate  
Natural Traffic Level

#### Risk Premium

6 – 8%

### Ramp Up

#### Risks

Ramp Up Rate  
Natural Traffic  
Level

#### Risk Premium

3 – 5%

### Full Operations

#### Risks

Impacts on  
Traffic

#### Risk Premium

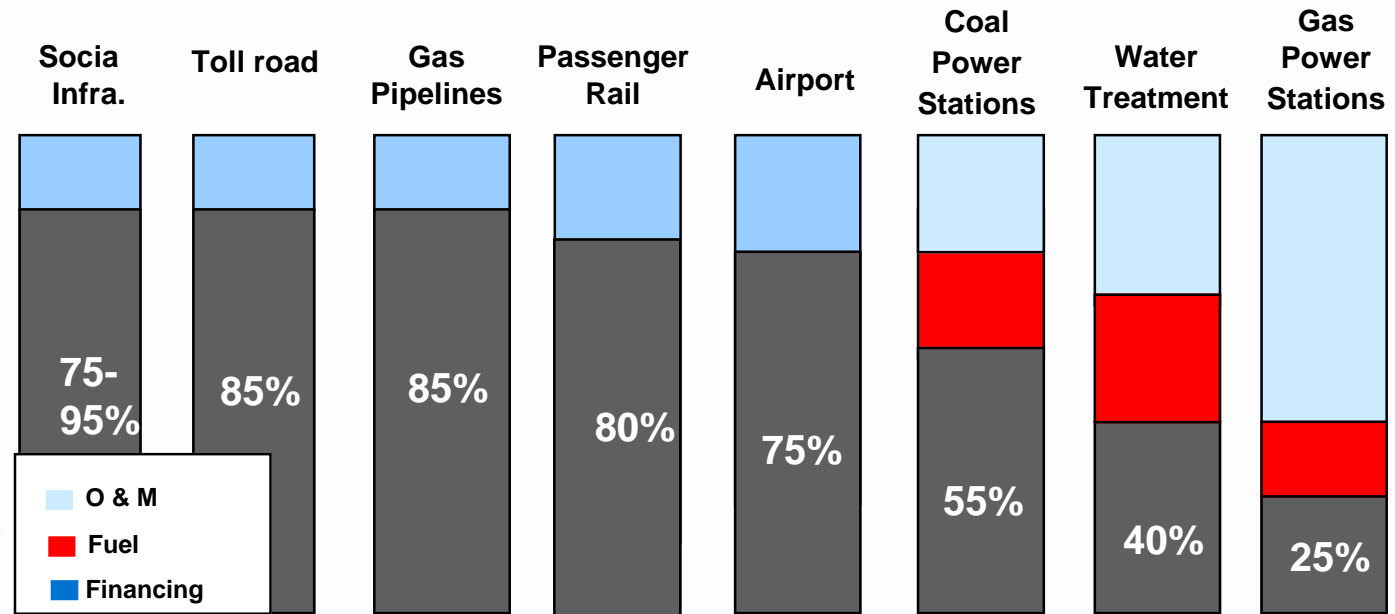
1 - 2%



**Assets increase in value as they mature**



# Importance of Financing



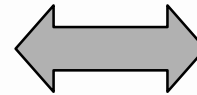
- On PPP transactions:
  - Capital component tends to be the largest cost component
  - Financiers have most funds at risk
- Significant impact on value proposition to government
- Financial optimisation can add substantial value to equity investors



# Conclusions

- Private financing offers an alternative/additional source of capital
  - Government funding always under pressure
  - Expansion of infrastructure delivery
- Private financing drives different behaviours

• **Financier discipline**  
• **Investor scrutiny**



• **Cost /Time savings**  
• **Risk Management**  
• **Innovation**  
• **Efficiency in ownership/management**

- Current market conditions have changed dynamics
  - Higher funding costs
  - Re-pricing of risk
  - Availability of funds more limited
  - Closer scrutiny of project viability