

# “In search of the Elusive Discount Rate for Australian Property Investment”

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# Outline

- Review of discount rates
- Determination of discount rates
  - Valuers framework
  - Capital Asset Pricing Model (CAPM)
- Outlook
- Implications

# Review of discount rates

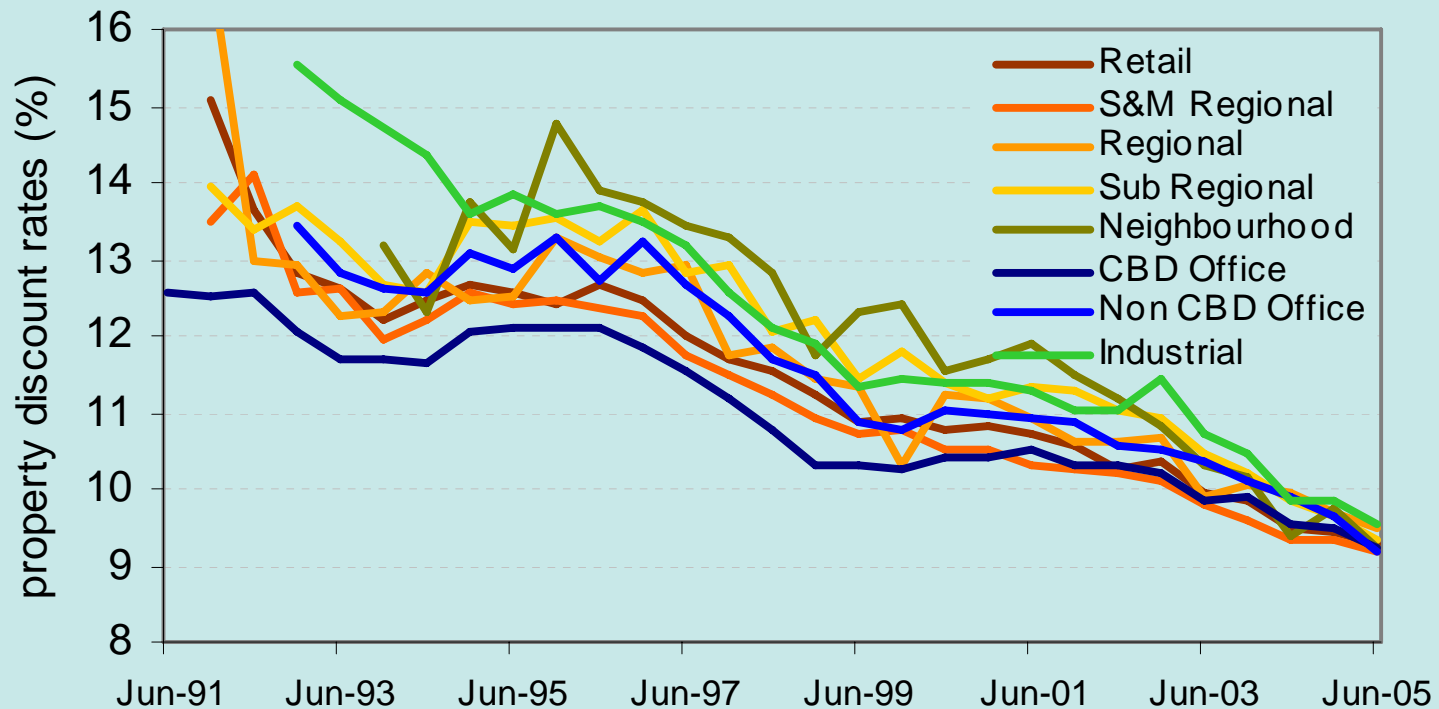
# Review of discount rates: what is the discount rate?

- A discount rate is the cost of capital which SHOULD be risk adjusted.
- The marginal investor's required rate of return on a given investment.
- The rate at which future income / value is discounted to achieve a present worth.

# Review of discount rates: trending down for over a decade

## Discount rates for selected property sectors

nominal w eighted averages on biannual rests



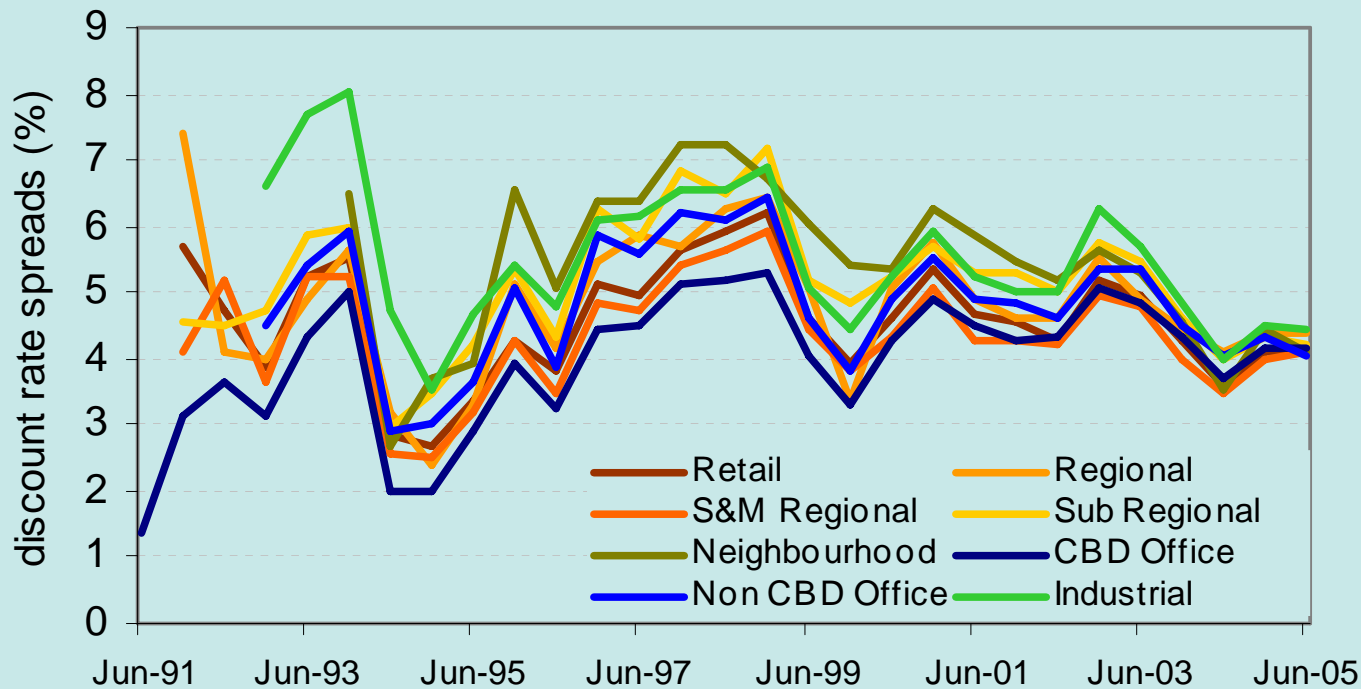
Source: PCA/IPD and CFS Research.

- Real discount rates relatively stable since 2000.

# Review of discount rates: real rates and spreads

## Discount rate spreads\* for selected sectors

w weighted averages on biannual rests



Source: RBA, PCA/IPD and CFS Research.

- Since 2000 discount rate spreads hover between 3.5% and 6.25%.

# Determination of discount rates

# Determination of discount rates: two separate approaches

- Valuers framework
- Capital Asset Pricing Model



# Determination of discount rates: valuation approach

# Determination of discount rates: valuation approach -the Gordon model

Next period's  
anticipated dividend.

Anticipated growth  
rate of dividends  
which is assumed  
constant.

$$P_0 = \frac{D_1}{(1+r_c)} + \frac{D_1(1+g)}{(1+r_c)^2} + \frac{D_1(1+g)^2}{(1+r_c)^3} + \dots = \sum_{t=1}^{\infty} \frac{D_1(1+g)^{t-1}}{(1+r_c)^t} = \frac{D_1}{(r_c - g)}$$

Note that the net present value at period zero ( $P_0$ ) is derived as the sum of all discounted future cash flows or current stock price.

Cost of capital - risk-adjusted discount rate (RADR).

This equality holds only if the absolute growth rate ( $g$ ) is less than the discount rate ( $r_c$ ).

# Valuation approach: Gordon's equality

$$r_c = \frac{D_1}{P_0} + g = \underbrace{\frac{D_0(1+g)}{P_0}}_{\text{income component}} + g$$

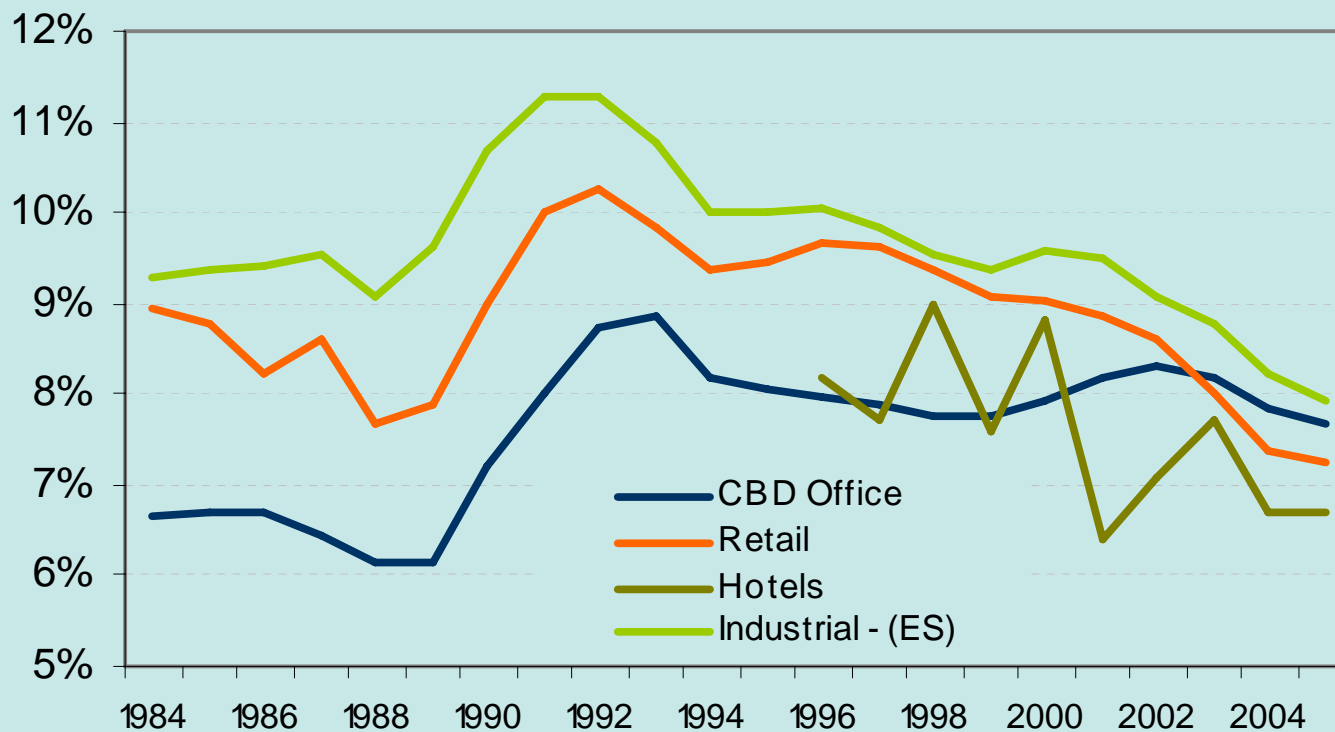
Cost of capital

income component  
Current yield

capital component  
Expected growth rate

# Valuation approach: movements in yields over time

**Property sector yields**  
as at year end, average across sub-sectors



Source: PCA/IPD and CFS Research.

# Valuation approach: drivers of yield and growth rates

## Yields

- Capital market variables
  - Real bond rates
  - Flow of capital funds
- Space market variables
  - Vacancy rates
  - Real rents

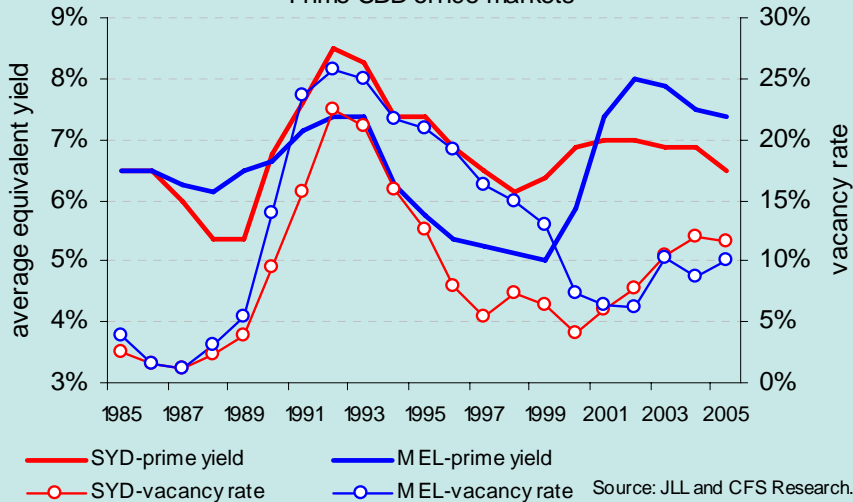
## Rental growth rates

- Highly variable across time and across sectors
- Space market variables
    - Supply
    - Demand

# Valuation approach: yield determination- yields & vacancies

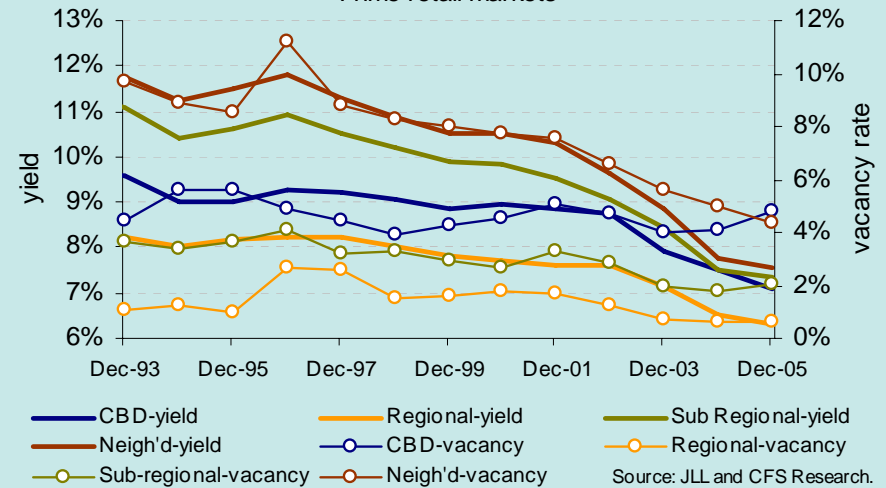
### Office yield versus vacancy rate

Prime CBD office markets



### Retail property yield versus vacancy rate

Prime retail markets

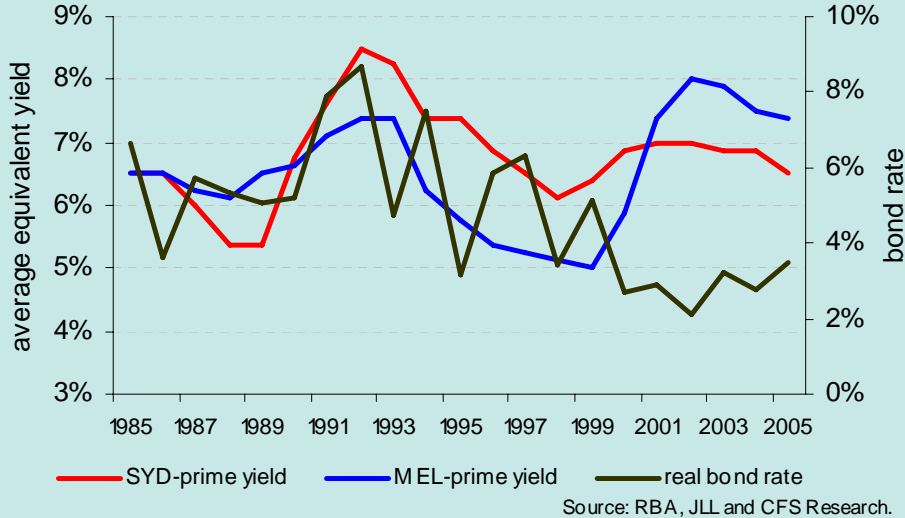


- Yields generally move positively with vacancy rates; i.e., rising vacancy rates is reflected in softening yields.

# Valuation approach: yield determination- yields & bonds

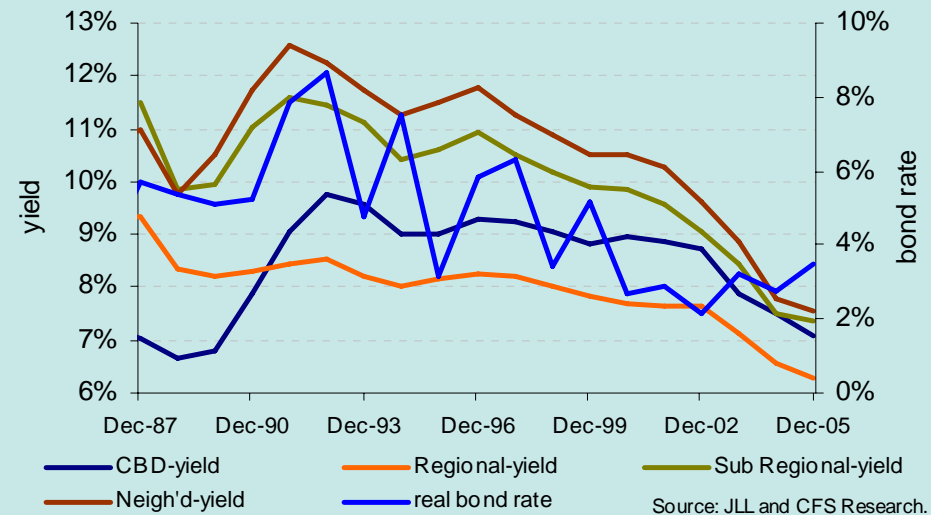
**Average equivalent yield vs bond rate**

Prime CBD office markets



**Retail property yield versus bond rate**

Prime retail Markets



- Yields generally move positively with the real bond rate; i.e., falling bond rate is reflected in yields firming.

# Determination of discount rates: CAPM



# CAPM approach: its basic elements

$$r_c = r_f + \beta [E(r_m) - r_f]$$

## Risk free rate (RFR)

It is the risk-free rate in the economy, commonly estimated as the yield on long-term Treasury bonds.

## Beta

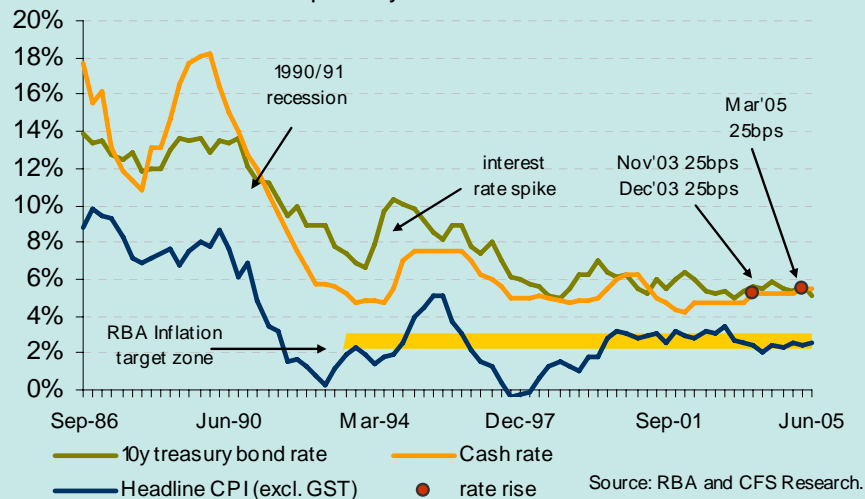
Measures systematic market risk. Estimated via regression analysis.

## Equity market risk premium (ERP)

Estimated as the historic average of the average return of a broad-based market portfolio less RFR.

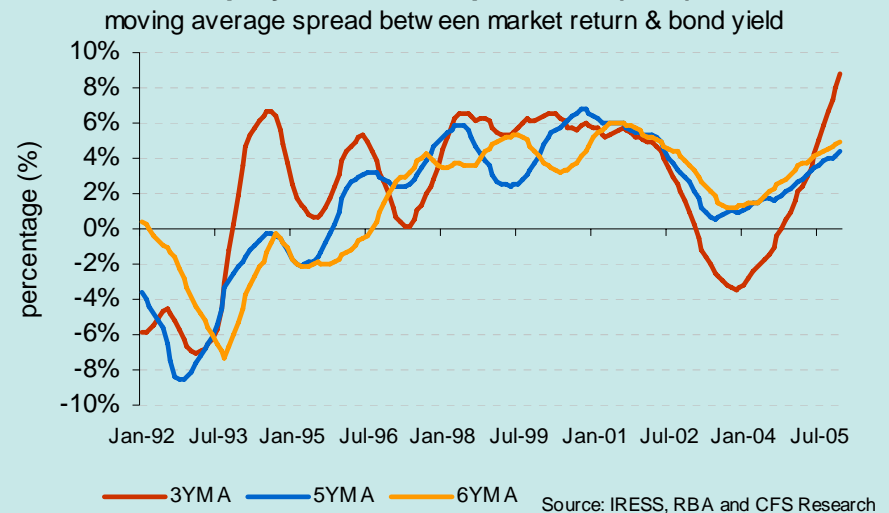
# CAPM approach: trends in RFR and ERP

**CPI inflation vs interest rates**  
quarterly observations



Risk-free rate has been trending down, in line with the inflation rate.

**Equity market risk premium (ERP)**

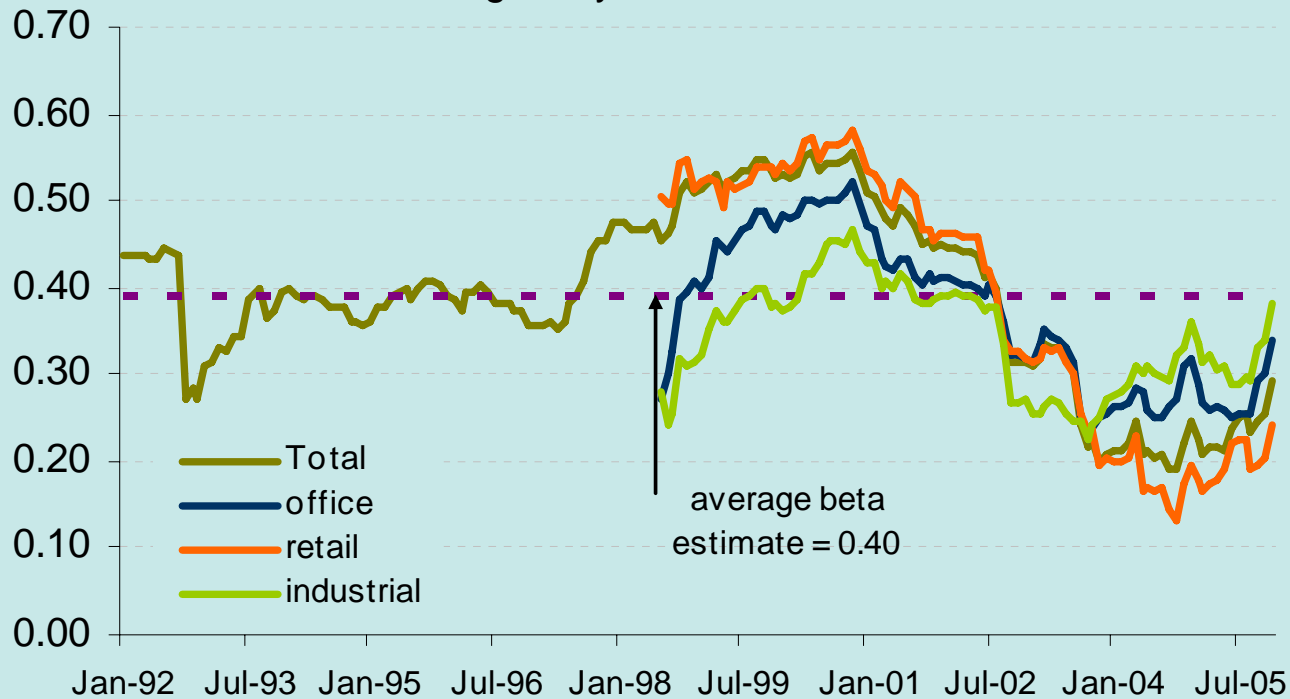


ERP is highly variable over time and sensitive to the sample period.

# CAPM approach: movements in portfolio betas

## Variability in systematic market risk for LPTs

Rolling five year beta estimates

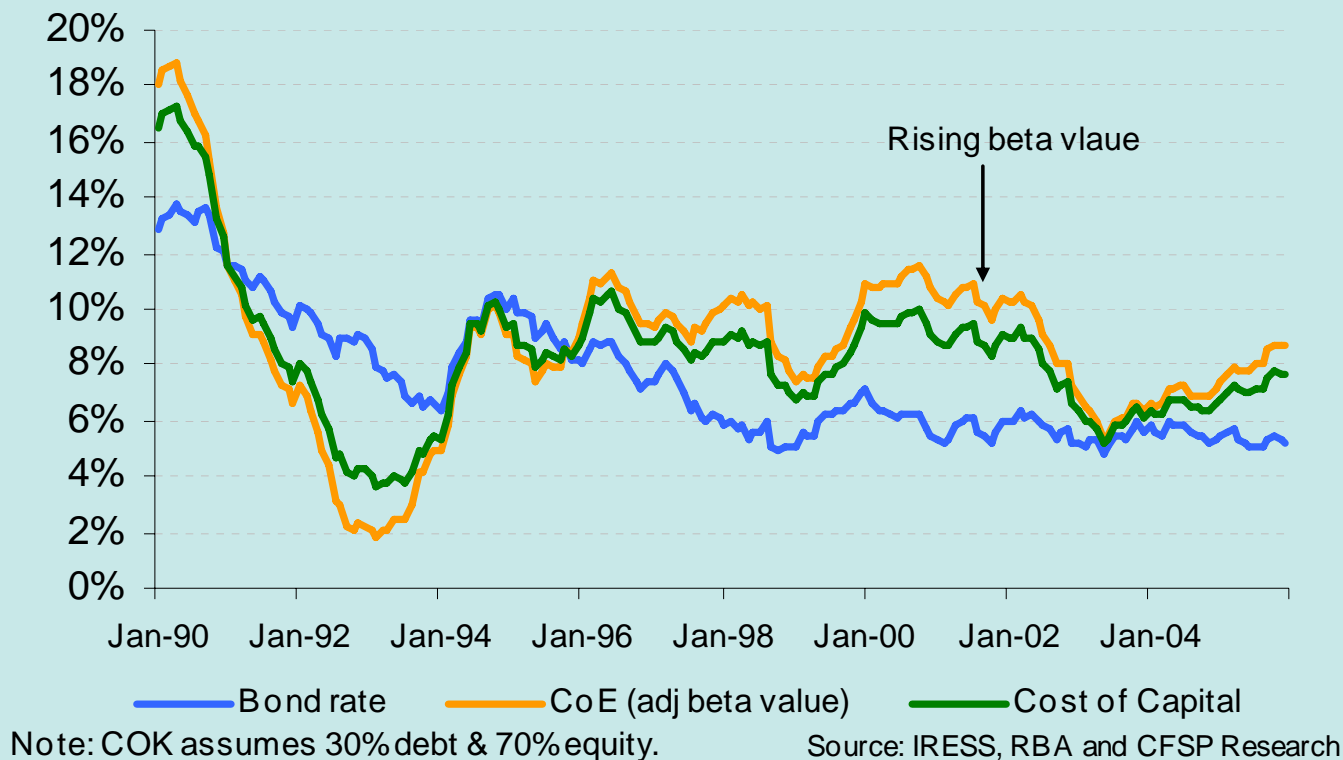


Source: IRESS, RBA and CFSP Research

# Outlook for discount rates: cost of capital estimated to be sub 8%

## Trends in cost of capital

Based on annualised monthly returns on monthly rests



# Outlook for discount rates

# Outlook for discount rates

- Discount rates are variable, being influenced by a combination of:
  - Space market fundamentals
  - Capital market forces
- Discount rates trending down and likely to continue this move in the short-term, although far more mildly. Relative stability due to benign interest rate and inflation outlook.
- Arbitrage opportunities limited due to limited downside movement

# Implications

# Pricing and business implication

## ■ Pricing

- Returns for the property sector are in the process of moderating towards a new equilibrium

## ■ Business

- Impact on acquisitions / divestments
- Performance strategies
- Benchmarking strategies – target or hurdle rates
- Incorporation into the house-view process



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