



## Maximum Reserve Capacity Price Stakeholder Workshop: Weighted Average Cost of Capital (WACC)

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# Agenda

- Role of WACC in the MRCP
- Scope of the Annual Review
- WACC estimation method and parameters
- The WACC outcome
- Question & Answer

## Role of the WACC in the MRCP

- Compensate investor for financing costs incurred prior to the commencement of facility operation
- WACC methodology and parameters based on accepted regulatory practice
- Applied to all capital costs

$$\text{CAPCOST} = ((\text{PC} \times (1+\text{M}) + \text{TC}) \times \text{CC} + \text{FFC} + \text{LC}) \times (1+\text{WACC})^{1/2}$$

- Used in annualisation of capital cost

## 5-Yearly Review (MRCP Working Group)

- PricewaterhouseCoopers (PwC) appointed to assist 5-Yearly review of WACC for MRCP Working Group (MRCPWG)
- Included review of 5-Yearly parameters:
  - Market risk premium
  - Credit rating
  - Gearing ratio
  - Beta
  - Debt issuance costs
  - Franking credit value
- Values for these parameters prescribed in the Market Procedure (IMO discretion to review values if, in the opinion of the IMO, a significant economic event has occurred since the last 5-yearly review)

## Scope of Annual Review

- PricewaterhouseCoopers (PwC) appointed to undertake review of Annual WACC parameters:
  - Risk free rate
  - Inflation
  - Debt risk premium
  - Corporate tax rate
- Methodology for calculating these parameters prescribed in Market Procedure (except debt risk premium)
- Values for these parameters are to be recomputed before the final revised MRCP is submitted to the ERA

## The WACC Estimation Method

- Weighted average of estimates of the costs of equity and debt

$$WACC = \frac{E}{V}R_e + \frac{D}{V}R_d$$

- Cost of Equity estimated by the CAPM

$$R_e = R_f + (\beta_e \times MRP)$$

- Cost of Debt observed from capital markets
  - Estimates of fair-value yields of traded corporate bonds

## The WACC Parameters

Parameter	Notation	2012 value	2011 value
Nominal risk free rate (%)	$R_f$	4.25	5.59
Expected inflation (%)	$i$	2.67	2.90
Real risk free rate (%)	$R_{fr}$	1.53	2.65
Market risk premium (%)	$MRP$	6	6
Asset beta	$\beta_a$	0.5	0.5
Equity beta	$\beta_e$	0.83	0.83
Debt risk premium (%)	$DRP$	4.26	5.25
Debt issuance costs (%)	$d$	0.125	0.125
Corporate tax rate (%)	$t$	30	30
Franking credit value	$\gamma$	0.5	0.5
Debt to assets ratio (%)	$D/V$	40	40
Equity to assets ratio (%)	$E/V$	60	60

Source : IMO Draft Report

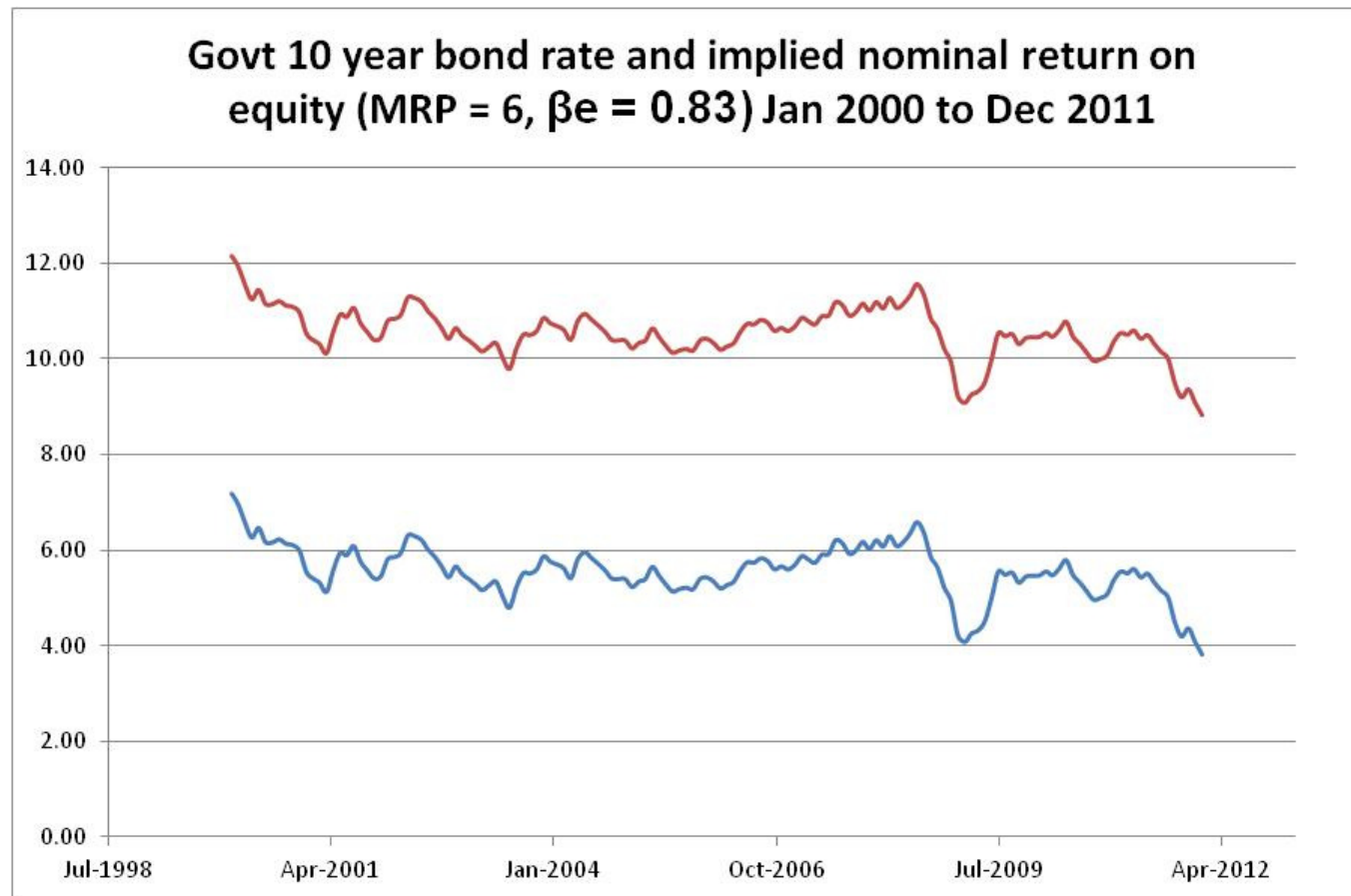
## The WACC Outcome

- Real, pre-tax WACC
  - 2012: 7.11%
  - cf 2011: 8.65%
- Decline of 1.54 percentage points is due to
  - lower value of the nominal risk free rate (by 1.34 percentage points)
  - lower debt risk margin (by 0.99 percentage points)partly offset by
  - lower forecast inflation (by 0.23 percentage points)
- These changes in parameter values give rise to lower estimates of the costs of debt and equity
  - Nominal cost of equity of 9.23% (cf 10.57% in 2011)
  - Nominal (headline) cost of debt of 8.51% (cf 10.84% in 2011)



## The WACC Outcome (cont.)

- Main driver is the change in the nominal risk free rate



# Questions & Answers