Issues Paper – Review of our WACC method

Public Hearing – Tuesday 15 August 2017
Masonic Centre, 66 Goulburn St, Sydney

Item	Time	Session
-	9.30am	**Registration/tea and coffee**
1	10:00am	**Welcome and overview (Chair)**
2	10:05am	**The cost of debt**
		Introduction, IPART Secretariat Discussion and questions from attendees
3	10:50am	**The cost of equity**
		Introduction, IPART Secretariat Discussion and questions from attendees
4	11:45am	**Morning tea** *(20 minutes – indicative timing)*
5	12:05pm	**Sampling, inflation and other issues** Introduction, IPART Secretariat Discussion and questions from attendees
6	12:50pm	**Closing and next steps (Chair)**

Addendum: Estimating the market risk premium

IPART
Independent Pricing and Regulatory Tribunal
New South Wales

WHAT

We are currently reviewing our standard method for determining the weighted average cost of capital (WACC). This is to ensure that it is functioning as intended and consider opportunities for incremental improvements.

In July 2017, we released an Issues Paper seeking feedback and stating our preliminary positions on a number of issues.

Subsequent to releasing our Issues Paper, we have considered some further improvements to our market risk premium (MRP) method.

HOW

We are considering:

- using the earnings yield less the risk-free rate as one indicator instead of the dividend yield and risk-free rate
- synchronising sampling dates of analyst earnings forecasts and equity prices
- using analyst share price targets instead of actual share prices, and
- estimating the current MRP as a weighted average of the market indicators MRP estimate and the median of all available dividend discount model (DDM) MRP estimates.

WHY

We consider that these proposed refinements could improve our estimate of the MRP by:

- reducing the impact of corporate regime changes and avoiding double-counting of common factors that affect both equity and bond returns
- making the MRP estimation process more robust and stable over time
- minimising inaccuracy from combining quarterly earnings forecasts with share prices sampled on the day under our current approach
- reducing the impact of analysts' bias in the market indicators approach, and
- giving more weight to the market indicators estimate.

WHEN

We will discuss these issues along with our preliminary positions and questions raised in our Issues Paper at our public hearing on 15 August 2017.

WHAT NEXT

After our public hearing, stakeholders will have until 18 August 2017 to make submissions on these and other issues raised in our Issues Paper.

We will consider all stakeholders views and conduct further analysis before releasing a Draft Report in October 2017. We will then call for further submissions before finalising our review in early 2018.

We are reviewing our standard WACC method

In July 2017 we released an Issues Paper seeking feedback and stating our preliminary positions, where we have them, in relation to our standard method for determining the WACC.

Our Issues Paper discussed, among other matters, how we estimate the market risk premium (MRP). Since releasing our Issues Paper, we have considered some further improvements that we did not specifically canvass in our paper. In order to facilitate a discussion at our public hearing on 15 August 2017, this information paper sets out our suggested improvements and underlying rationale.

We are considering four refinements to our MRP

We consider that there may be benefits to refining the following elements of our method for estimating the MRP:

1. In calculations of the MRP based upon market indicators, to use the earnings yield less the risk-free rate as one indicator instead of two other indicators – the dividend yield and the risk-free rate because:
   a) the earnings yield is a better indicator than the dividend yield of changes in the MRP over time because the earnings yield is less affected by corporate regime changes (eg, the dividend yield is affected by corporate policy on whether to issue dividends or repurchase shares and invest in real assets), and
   b) comparing the earnings yield to the risk-free rate, rather than using the risk-free rate as a separate indicator, avoids double counting the impact of common factors that affect both equity and bond returns (eg, lower inflation expectations would lead to lower earnings yields and government bond yields even if the MRP did not change).
2. In calculations of the MRP based upon the DDM, to synchronise sampling dates of analyst earnings forecasts and equity prices to minimise inaccuracy.
3. In calculations of the MRP based upon the DDM, to use analyst share price targets instead of actual share prices, so the same underlying analyst assumptions are used consistently in determining the MRP estimate.
4. In aggregating MRP estimates from the market indicators approach and the DDM approach, to use a weighted average of both approaches (ie, weight the average of the market indicators MRP estimate and the median of all available DDM MRP estimates).

Using earnings yield instead of dividend yield and subtracting the risk-free rate

The market indicator approach emphasises dividend yields, but these are susceptible to changes in company capital management policies (ie, whether the company pays dividends or issues share buybacks) and decisions of companies to invest in real assets or return cash to shareholders. These corporate decisions are, in turn, affected by tax considerations (ie,

weighing up the value of tax rates on dividends or capital gains, and the treatment of imputation credits). We consider that:

- moving from dividend yields to earnings yield would reduce the effect of change to capital management policies on our estimates of the MRP, and
- subtracting the risk-free rate from the earnings yield (or dividend yield) would make the MRP estimation process more robust and stable over time, because common factors that affect bond and equity returns would not be reflected in the calculation of the MRP.

Synchronising equity price and analyst earnings forecast dates

Analysts tend to update their earnings forecasts for individual equities only once per quarter or when material, new information becomes available. Combining quarterly earnings forecasts with share prices sampled on the day will introduce inaccuracy. We could minimise this source of error by sampling prices on the same day that the earnings forecasts are released.

Moving from share prices to analyst price targets

Analyst earnings forecasts can reflect the analyst's own biases – the analyst could be optimistic or pessimistic compared to the rest of the market. We could account for this bias by calculating an implied return on equity under a DDM that matches each analyst's share price targets and earnings forecasts. Optimism (or pessimism) biases affect both earnings forecasts and price targets, resulting in a more precise estimate of return on equity.

Weighting the DDM and market indicator approaches

We determine our current MRP as the midpoint of high and low estimates from a group of six estimates. Five of these six estimates are based on the DDM, and one on the market indicators approach. Our Issues Paper canvassed moving to a median of the six estimates, because the existing midpoint method could potentially be affected by outliers.[1] It also means that the relative weight given to different MRP estimates changes from one period to the next – an estimate that is at the upper or lower end has more influence than estimates in the middle. However, the median would give so much weight to the DDM methodology that the market indicator methodology would be unlikely to carry meaningful weight.

Under these suggested refinements we would calculate the median (or average) of all the DDM estimates, and then take a weighted average of the median DDM and the market indicator estimate. We would need to determine the weight given to each estimate. Depending on the weights given, this would make the market indicator method more influential.

1 IPART, *Review of our WACC Method*, July 2017, p 34.