

Weighted Average Cost of Capital

FTA Conference
18 November 2016

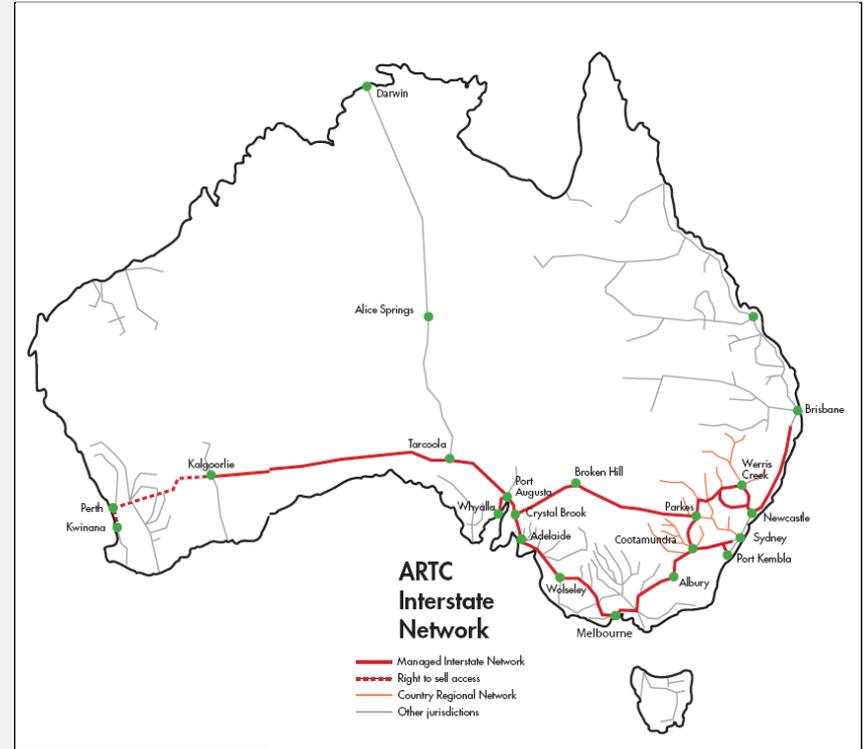
Jonathan Teubner

A long freight train of hopper cars is shown on a railway track, stretching into the distance. The scene is captured at sunset or sunrise, with the sky transitioning from a deep blue to a warm orange glow. The train consists of numerous hopper cars, each with a large, rounded, conical top. The tracks are made of steel rails on a bed of gravel, and the surrounding landscape is flat and open.

ARTC

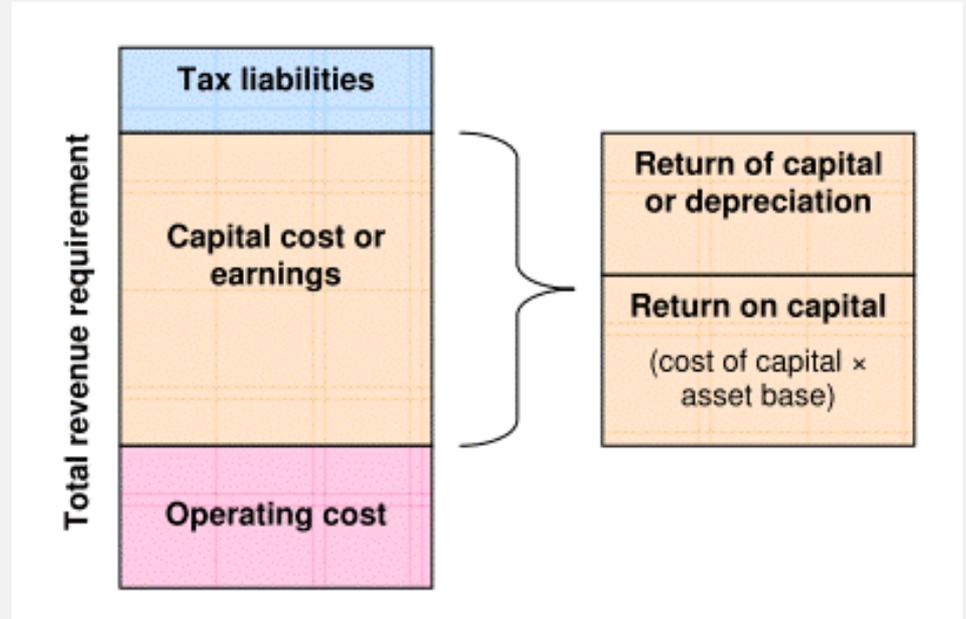
BRIEF INTRODUCTION TO ARTC

- ARTC manages:
 - the interstate freight network that covers the Queensland Border to Melbourne to Kalgoorlie
 - WA and Queensland are separate
 - the Hunter Valley Coal Network
- A key reason for the formation of ARTC was to provide a one stop shop for access regulated through the ACCC
- ARTC has 2 separate undertakings with the ACCC:
 - The Hunter Valley Access Undertaking
 - The Interstate Access Undertaking



ACCESS REGULATION

- Both ARTC's access undertakings are underpinned by the Building Block Model
- Key aspect of the building block model is a floor and ceiling test
- Floor covers direct costs of operating the network
- Ceiling, representing maximum allowable revenue covers the full economic cost
- Full economic cost requires return on and of capital
- WACC is the defining feature of return on capital



COST OF CAPITAL = WACC

- Risk free rate and debt rates are based on market assessments
- Market Risk Premium can be determined in a number of ways – either backward looking or forward looking
 - ACCC – Telstra = 6.0%
 - AER typically 6.5%
 - Does this change with new low interest rates?
 - WACC impact = $\Delta \text{MRP} * \text{Gearing}$
- Gamma is the value of dividend imputation and has been the subject of significant debate ranging between 0.25 and 0.40
 - Worth c 0.3% WACC
 - Decision invariably is appealed to the ACT and one is now going to the Federal Court
- Inflation is the forecast to apply for the regulatory period ... has been non controversial in the past, but no longer
 - 1% Inflation is c 1% WACC

Table 1 Determination on 2016 WACC values

| Determination | Public Transport Authority | Brookfield Rail | Pilbara railways |
|---------------------------------------|----------------------------|-----------------|------------------|
| Nominal Risk Free Rate (10 year term) | 2.22% | 2.22% | 2.22% |
| Real Risk Free Rate | 0.47% | 0.47% | 0.47% |
| Inflation Rate ⁹ | 1.74% | 1.74% | 1.74% |
| Gearing | 50% | 25% | 20% |
| Debt Risk Premium | 2.111% | 2.450% | 3.578% |
| Debt Issuing Cost | 0.125% | 0.125% | 0.125% |
| Australian Market Risk Premium | 7.40% | 7.40% | 7.40% |
| Equity Beta | 0.6 | 0.9 | 1.3 |
| Asset Beta | 0.30 | 0.70 | 1.05 |
| Corporate Tax Rate | 30% | 30% | 30% |
| Franking Credit | 40% | 40% | 40% |
| Nominal Cost of Debt | 4.456% | 4.795% | 5.923% |
| Real Cost of Debt | 2.670% | 3.003% | 4.111% |
| Real After Tax Cost of Equity | 4.84% | 7.26% | 10.02% |
| Nominal Pre Tax Cost of Equity | 8.12% | 11.13% | 14.55% |
| Real Pre Tax Cost of Equity | 6.27% | 9.23% | 12.59% |
| | | | |
| Nominal Pre Tax WACC | 6.29% | 9.55% | 12.83% |
| Real Pre Tax WACC | 4.47% | 7.67% | 10.90% |
| | | | |
| Nominal After Tax WACC | 5.56% | 8.04% | 10.73% |
| Real After Tax WACC | 3.75% | 6.20% | 8.84% |

Source: Economic Regulation Authority analysis

LOW RATES, LOW INFLATION – A NEW ORDER

- Bond Yields are at historical lows
- Inflation is at historical lows
- Inflation well outside the RBA target – despite historical low rates
- Market has been accurate at estimating inflation
- Major queries on what is the correct method for estimating parameters in the current environment
 - Inflation
 - MRP
- Let alone gamma ... how do you explain to a Board that the WACC can change 0.3% based on different theoretical assessments of dividend imputation value?

