



# **Review of Regulatory Capital Structure and Asset / Equity Beta for Aurizon Network**

**Report to the Queensland Competition Authority**

# Agenda



- Executive summary
- First principles analysis
- SFG's econometric analysis
- Points of agreement
- Our estimate of Aurizon Network's asset / equity beta

# Executive Summary



- Disagree with Aurizon Network's (AN's) first principles analysis – AN not similar to US Class 1 rail - is close to regulated energy/water
- Agree with AN's proposed benchmark gearing of 55%
- Disagree with SFG Consulting's (SFG') use of transport firms and US railroads as comparators for AN
- SFG's econometric analysis over-states the beta of Australian energy networks
- Recommend an asset beta range of 0.35 to 0.49 (debt beta=0.12)
- Recommended asset/equity beta point estimate of 0.42/0.73

# First principles analysis



Key features determining AN's systematic risk are:

- *The regulatory framework* – which aligns revenue with cost at periodic intervals, minimising revenue risk during a regulatory period
- *Strong underlying economics* – that imply confidence of recovery of regulated revenues:
  - Surety of long term demand for the service
  - A high percentage of traffic under long term take-or-pay contracts
- AN proposed that it is subject to more regulatory risk than Class 1 railroads

# First principles analysis



- *Mix of demand / traffic* – US Class 1 railroads vs AN
- *Pricing flexibility* – AN does not need pricing flexibility
- *Duration of contracts* – US Class 1 railroad contracts 1-3 years vs 10-15 years for AN
- *Market power* – AN's market power plus regulation imply lower systematic risk
- *Growth options* – AN's growth is part of a regulatory process
- *Operating leverage* – Regulation dampens operating leverage

# First principles analysis



- **Conclusion:** AN's systematic risk similar to regulated energy and water businesses
- Grant Samuel also focused on regulation of DBCT in 2010 (rejecting general cargo port comparators)

# SFG's econometric analysis



- SFG: asset/equity beta of 0.55/1.0 is appropriate for AN
- We disagree that broad Aust. transport and US railroads should be used as comparators for AN – they deserve no weight
- No first principles analysis undertaken by SFG
- For Aust energy networks SFG's asset beta estimate rises from 0.35 (conventional method) to approx. 0.50 ('pooled' or 'fitted' method)
- For Aust industrial transportation and US railroads SFG's 'pooled' and 'fitted' methods gave the same beta that a simple average would have

# Points of agreement



- *Benchmark gearing* - We agree with AN's proposal to retain 55% benchmark gearing
- *Size of the energy sample* – SFG noted previous reliance on a small sample of Australian energy networks
- *Definition of a 'month'* – We agree that using one date for the end of a 'month' to estimate beta from price data is arbitrary.



# Estimate of AN's beta



Asset beta estimate	No. of firms	Conventional asset beta		SIM asset beta	
Observations (maximum months)		117	117	117	117
		Mean	<b>Median</b>	Mean	<b>Median</b>
Coal	10	1.20	<b>1.29</b>	1.26	<b>1.35</b>
Rail	7	0.89	<b>0.99</b>	0.93	<b>0.89</b>
Airport	6	0.70	<b>0.67</b>	0.65	<b>0.63</b>
Tollroad	7	0.47	<b>0.49</b>	0.49	<b>0.49</b>
Energy	70	0.36	<b>0.34</b>	0.41	<b>0.42</b>
Water	7	0.34	<b>0.35</b>	0.41	<b>0.40</b>

# Our estimate of AN's beta



Our asset beta range of 0.35 to 0.49 is based on:

- *Tollroads* – **0.49** upper bound, as tollroads not regulated with periodic reviews, and have more stranding risk than AN
- *Regulated energy and water* – **0.42** shares many of the systematic risk characteristics of AN
- *Grant Samuel estimate for DBCT* – **0.35** estimate (adjusted to debt beta of 0.12) as the lower bound estimate
- Our preferred point estimate of **0.42** translates to equity beta of:
  - **0.73** with 55% gearing
  - **0.80** with 60% gearing (i.e. equivalent to AER's beta for energy networks)