

What is a toll road worth?



Summary points

- > Investing in toll roads offers exposure to long term, inflation-linked revenue streams protected by government regulations and concession terms.
- > Applying uniform valuation methods can provide misleading results.
- > Interpretation of a toll road's value relies upon appropriate forecasts and modelling of long term cash flows.

We often observe generalist market commentators suggesting that the share prices for toll roads and infrastructure stocks are stretched. Analysis of these conclusions suggest that they are underpinned by crude valuation measures that fail to account for the unique characteristics of these assets. In this note, we talk about our approach to valuing toll roads and how it differs from approaches that are often applied to valuing other publicly listed companies.

Introduction

Toll roads are a key segment of the global infrastructure market which have grown over time as governments in many countries have followed the trend to move away from publicly funded construction and management of toll roads towards combined approaches that involve the knowledge and expertise of private enterprise. Opportunities to invest in toll road companies have expanded in line with this trend. For professional investors, assessments on the value of toll road assets need to reflect some rather unique characteristics that distinguish toll roads from industrial shares.

Key characteristics that have an impact on valuing toll roads

The key characteristics to consider when valuing a toll road are outlined below:

- Toll roads operate under a concession agreement (or contract) with a government that, among other things, sets out two critical factors:
 - The date at which the concession agreement terminates; and
 - The basis on which tolls will increase.
- When the concession actually terminates, the asset is handed back to the government, i.e. unlike most other enterprises, there is no 'terminal value'.
- Toll roads operate on relatively high EBITDA margins (EBITDA being revenue minus expenses before depreciation, interest and tax – a measure of the company's operating profitability as a percentage of the revenues it generates), typically around 80%-90% for urban toll roads and 70% for inter-urban roads. This means that for a typical urban toll road, only 10%-20% of revenue is used to operate and maintain the toll road.
- Toll roads involve significant upfront build costs and the standard accounting treatment applied to toll roads is to amortise the capital costs of construction over the life of the concession to reflect expected maintenance or replacement expenditure. However, in the case of a road, maintenance is a relatively small proportion of revenue (say 2% p.a.), and is generally expensed rather than capitalised. This means that the depreciation entry for accounting purposes significantly overstates the actual expenditure needed to maintain the road.

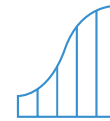
An example of this is Australian toll road company, Transurban, which incurred an accounting depreciation expense of A\$550 million but had a cash maintenance cost of only A\$55 million as per its annual report.

This essentially means that the use of what we term shorthand valuation approaches such as price-earnings (P/E) ratios and enterprise valuation models that are widely used to value the equity of listed companies can actually generate misleading outcomes when it comes to valuing toll roads.

We believe that P/E ratios are meaningless when analysing toll roads. Not only is the cash revenue generated by the business almost always higher than the published accounting earnings, but the ratio also ignores the fundamental nature of toll roads – that they are limited life assets.

- For most normal industrial companies, depreciation is a good proxy for the maintenance costs needed to keep a business operating competitively. However, for toll roads, given the disparity between accounting depreciation and the real cost of maintaining toll roads, accounting earnings can significantly understate the underlying position of the business and the cash it generates after taking into account its capital expenditures.

- This disparity has another indirect benefit to the underlying value of the business. Accounting earnings are lower and hence so is the tax that the business will have to pay, thus actual post-tax cashflow is higher.
- P/E is a proxy for the net present value of the cashflow from the earnings of a business, however for toll roads, the valuation needs to be based on the underlying cash generated net of capital expenditures.



Toll roads operate on relatively high EBITDA margins



Toll roads operate under a concession agreement (or contract)



Maintenance is a relatively small proportion of revenue



Toll roads are a key segment of the global infrastructure market.



The Transurban-owned AirportLinkM7 represents a 6.7km twin tunnel in the northern suburbs of Brisbane providing a key arterial connection to the Brisbane Airport and the Australia TradeCoast precinct.

Is an Enterprise Value multiple a good measure for valuing toll roads?

Another short hand measure often used when valuing normal industrial companies is the Enterprise Value (EV) to EBITDA ratio. In the examples that follow, each case uses a discounted cashflow methodology to value the toll road by forecasting cash flows under the assumptions set out below.¹

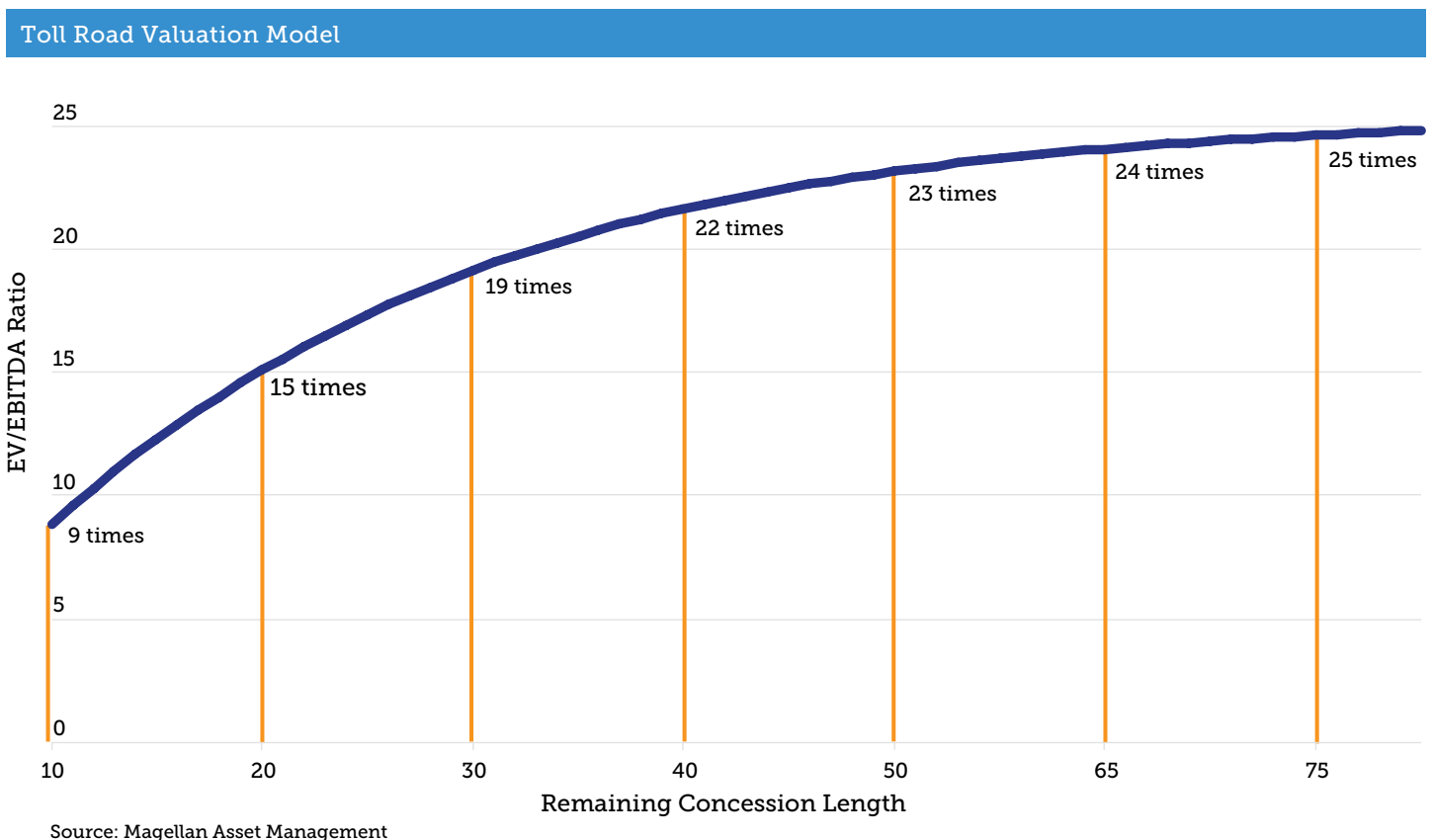
The following graph is based on a standard toll road model where the key assumptions are as follows:

- Traffic in Year 1 grows at 2% with the growth rate reducing by 0.1% per annum.
- The EBITDA margin is 75% in year 1, growing each year by 0.5% to a maximum 90%.
- Tolls increase with inflation of 2% p.a.

As the graph highlights, under this scenario the EV/EBITDA ratio appropriate to the valuation of this hypothetical toll road increases with the concession length, so a rational investor would value the toll road at 15 times current year EBITDA if there were only 20 years remaining on the concession but would be prepared to pay 22 times if there were 40 years remaining and almost 25 times if there were 70 years remaining.

But concession length isn't the only important variable in valuing a toll road. Given that toll roads have a largely fixed cost base, the rate of growth of revenues can clearly be a critical factor in a toll road's value. The following graph shows the shape of the curve under two additional scenarios:

- Scenario 2: As per the standard model shown above but with tolls increasing by 1% in real terms instead of in line with inflation; and
- Scenario 3: As per scenario 2 but with traffic growth starting at 4% growth instead of 2% in year 1 (and also fading at 0.1% p.a).



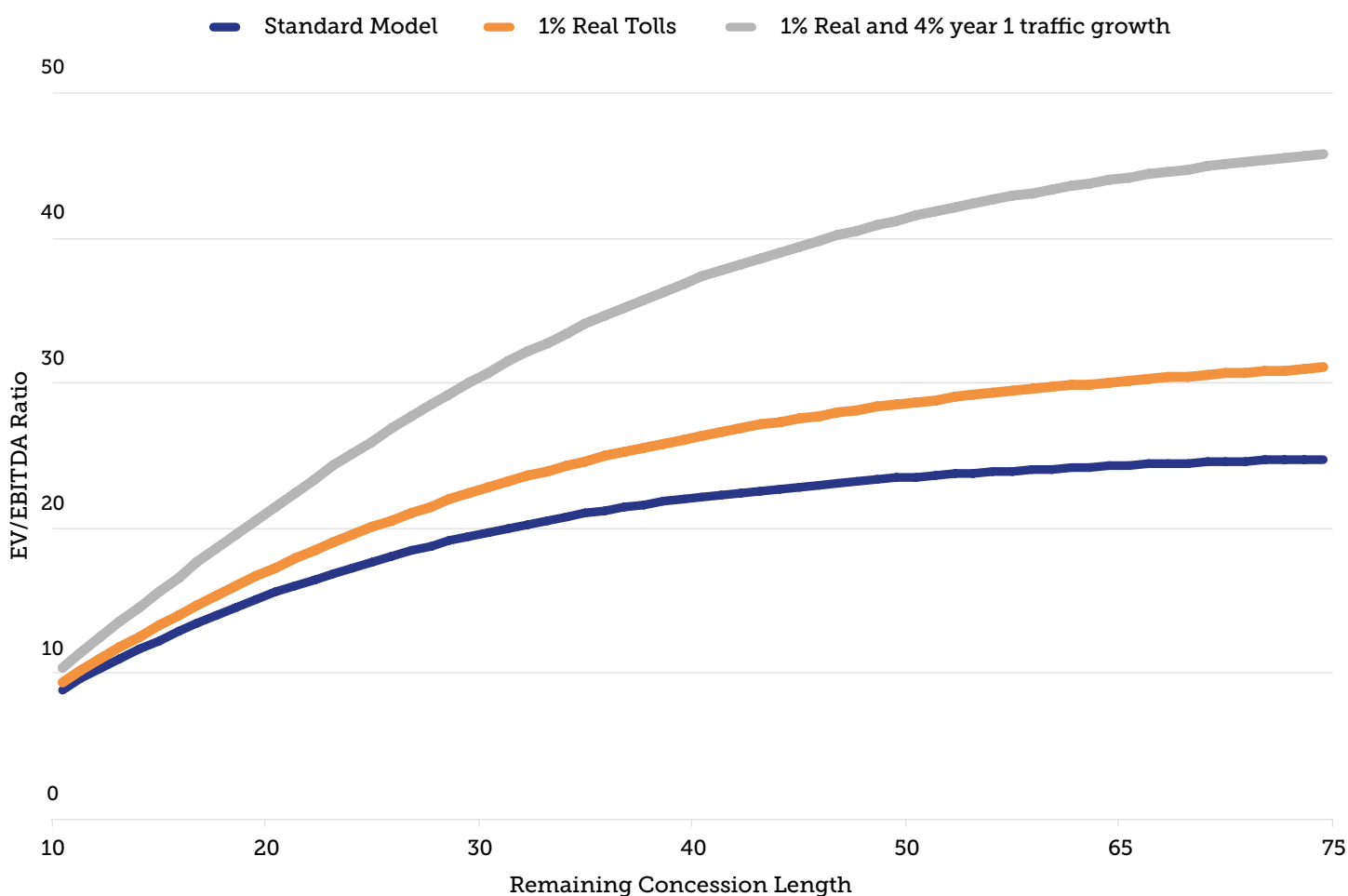
1. Valuing the future cash flows of the road using a Weighted Average Cost of Capital of 6.8% based on a nominal cost of equity of 7.0%, a nominal cost of debt of 6.0% and assuming 40% gearing. For simplicity the hypothetical toll road enterprise value is determined pre-tax and interest costs

As this graph highlights, a rational investor would be prepared to pay a share price value that equates to approximately 15 times EBITDA for a standard toll road with 20 years remaining in the concession period but as high as 45 times Year 1 EBITDA if it was a scenario 3 toll road with 70 years remaining on the concession.

Every aspect of the toll road's earnings in the three scenarios in Year 1 is identical, i.e. they all have the same revenue, EBITDA and earnings. Yet the actual Net Present Value of each asset's future cash flows varies enormously.

Thus the enterprise value approach is also not useful for valuing and comparing toll roads as a fair multiple will be determined by the length of the concession, expected traffic and price growth - none of which are reflected in the current EBITDA of the toll road under analysis.

Toll Road Valuation Model



Source: Magellan Asset Management

Concluding comments

Any use of current year financial results such as P/E or EV/EBITDA ratios as a means to determine the value of a toll road is problematic at best and most likely misleading. We argue that there is only one way to effectively value a toll road business – value each asset over its entire concession period and aggregate the sum of those assets. On that basis, our analysis suggests that a number of the world's highest quality toll roads remain attractively priced.

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