

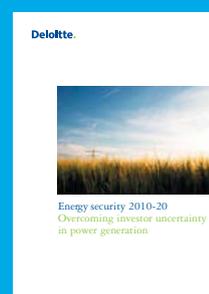
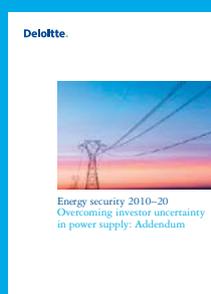
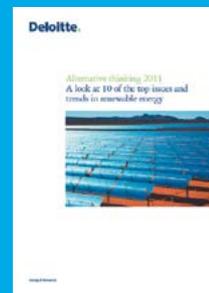
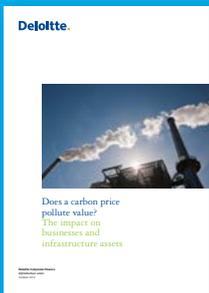
# Franking credits

## *Who is right?*



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# Introduction

The valuation of franking credits for infrastructure investors is a divisive topic in the business valuation community. The tangible economic benefits of franking credits are evident, so there should be no doubt about their contribution to value. However, individual investor perspectives and uncertainty over the most appropriate approach to valuing the benefits of franking credits has created significant debate, and variation in practice.

In this paper we consider the value of franking credits from a range of perspectives:

## The theory

We cover the theory behind the valuation of franking credits to infrastructure investors and provide some empirical evidence of valuation metrics applicable to assess franking credit value.

## Franking credits and infrastructure assets

We summarise the outcomes of a Deloitte study interviewing sophisticated investors holding interests in infrastructure assets.

## Key Takeaways

We set out the key takeaways from our research.

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Section 1

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# The theory

# Background

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## Australia has a dividend imputation system of taxation rather than a 'classical tax system'.

Under a classical system, a corporation pays tax on its profits. When it distributes profits to its shareholders, this shareholder income is then taxed a second time in the hands of the shareholder at their marginal tax rate.

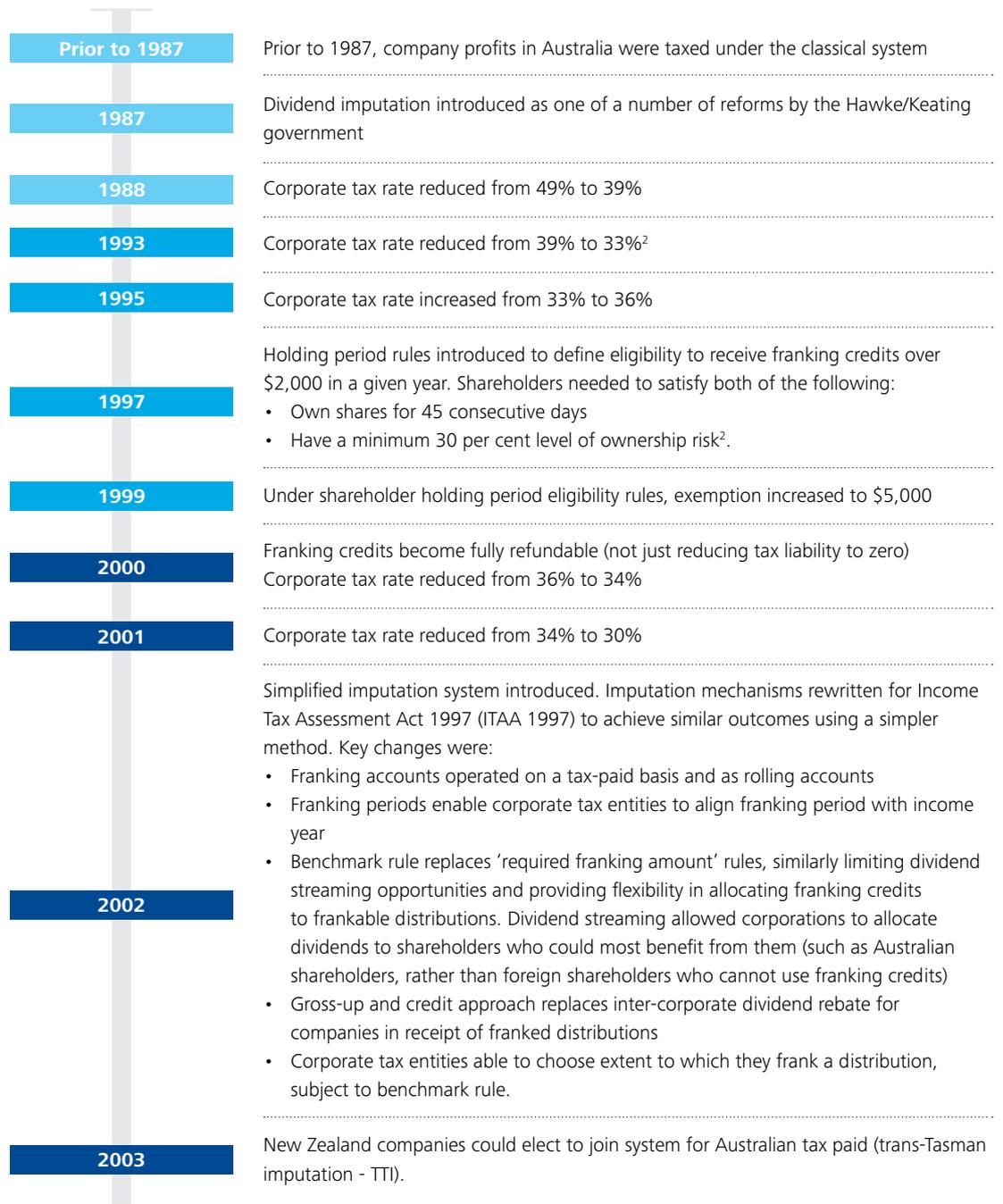
A dividend imputation tax system aims to avoid the double taxation that is otherwise applicable under a classical system by, giving a credit for income tax paid at the corporate level to tax-resident shareholders which they can then use to either offset their own income tax liability or obtain a refund (under certain circumstances) of the income tax paid by the company. On a theoretical level, imputation credits effectively treat company tax payments as a prepayment of shareholder taxation. A tax-resident shareholder is subject to tax on the cash dividend, plus a gross up for the associated franking credits (effectively representing the pre-tax profits of the company). After allowing for the franking offset / franking refund, the shareholder's share of the pre-tax profits of the company is effectively taxed only at the shareholder's tax rate. Imputation credits result in the tax-resident shareholder receiving a higher after tax cash flow than would otherwise be the case under the classical taxation system (for a given rate of company tax and shareholder tax).

Australia's dividend imputation system was introduced in 1987 as part of a broad range of income tax reforms that were also rewritten and simplified in 2002<sup>1</sup>.

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1. The key legislation concerning the 2002 simplified imputation system included the New Business Tax System (Imputation Act) Act 2002, New Business Tax System (Over-franking Tax) Act 2002 and the New Business Tax System (Franking Deficit Tax) Act 2002. The new rules are contained in Part 3-6 of the ITAA 1997 and replace the former imputation provisions contained in Part IIIAA of ITAA 1936 which ceased to apply after 1 July 2002.

## Australian dividend imputation system timeline



2. Even if the shares are held for 45 days, the franking credit is denied if the resident taxpayer has eliminated 70 per cent or more of the ownership risk through other financial transactions (for example, derivatives) during that period.

Under the Australian dividend imputation framework, dividends paid by Australian corporations may be fully franked, unfranked, or partly franked. A fully franked dividend is one that is paid out of company profits which have fully borne tax at the company rate, currently 30%. Where the shareholder is an Australian resident, they will generally be entitled to a tax credit (an imputation credit). If the recipient of the dividend is another company, the dividend will also give rise to a credit in that company's franking account, thereby increasing the potential for it to pay a franked dividend at a later stage.

Generally, foreign investors cannot use franking credits, although they do impact the Australian dividend withholding tax (DWHT) payable by the investor. A fully

franked dividend paid to a foreign investor will not be subject to Australian DWHT, whereas an unfranked dividend will be subject to 30% Australian DWHT, subject to any reduction applicable under double tax treaties.

Franking credits are limited to the lesser of:

- the actual Australian corporate tax paid (this will determine the franked and unfranked component of dividends payable)
- $t^3/(1 - t) \times \text{cash dividend paid}$ .

As can be seen from the table below, the lower the marginal tax rate of the relevant (Australian tax resident) shareholder, the higher the economic benefit associated with the franked dividend.

#### Net cash proceeds after franking credits - example<sup>4</sup>

Company	Dividend	Franking	Imputation credits	Taxable income	Shareholder marginal tax rate	Net proceeds to shareholder
A	\$100	Franked: \$30	\$12.9	\$42.9	49.0%	\$57.6
		Unfranked: \$70	-	\$70		
B	\$100	Franked: \$100	\$42.9	\$142.9	49.0%	\$72.9
C	\$100	Franked: \$100	\$42.9	\$142.9	15%	\$121.5

For companies B and C, a franking credit of \$42.9 is worth \$21.9<sup>5</sup> and \$36.5<sup>6</sup> (difference in net cash proceeds with and without the franking credit) respectively to relevant shareholders. The difference in the cash proceeds suggests that the shareholder in company C with a marginal tax rate of 15% would arguably be willing to pay more than the 49.0%<sup>7</sup> taxpayer in company B for the same amount of franking credits.

On the other hand, we note that other Australian tax rules may make the distribution of franking credits a suboptimal solution to release a company's value to high marginal tax payers. In fact, discounts available on Australian capital gains tax (for assets held longer than 12 months) can result in the tax payable by high marginal tax payers on franked dividends being higher than (or similar to) that otherwise payable pursuant to a realised capital gain of an equivalent amount.

3. Corporate tax rate.

4. This example as well as the rest of this paper has regard to the corporate and individual tax rates in place in Australia during the income tax year which commenced on 1 July 2014. We note that the Australian corporate tax rate could reduce from 30.0% to 28.5% for income years beginning on or after 1 July 2015. If implemented, such reduction in the corporate tax rate would likely diminish the attractiveness of franking credits.

5.  $\$42.9 \times (1 - 49\%)$

6.  $\$42.9 \times (1 - 15\%)$

7. Equivalent to the highest individual marginal tax rate in Australia (45%) plus 2.0% Medicare levy and 2.0% 'Temporary Budget Repair Levy'. The latter applies for a period of 3 years pursuant to the Federal Budget 2014/15.

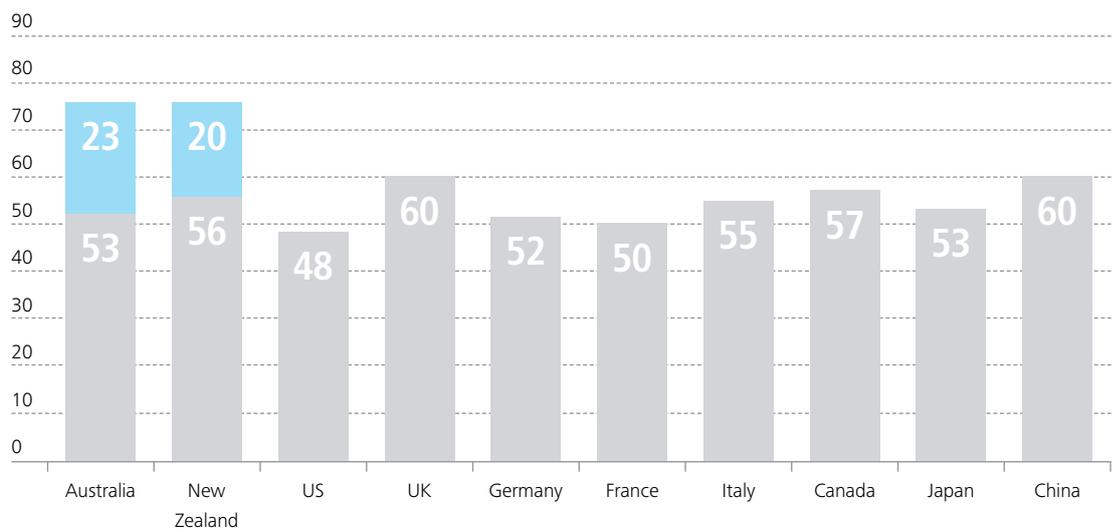
# Is Australia really special?

Very few countries other than Australia have a dividend imputation system. To the extent that other countries have different tax systems that result in a similar outcome to the imputation tax system, it could be argued that the Australian system does not provide investors with 'special' value. Investors in other tax jurisdictions may be able to access a similar benefit through a range of alternative mechanisms.

To test whether Australia could be considered a special tax jurisdiction, we reviewed the tax system in a number of relevant markets to estimate an indicative quantum of tax burden ultimately borne by individual investors.

In the graph below, we've set out the average of the minimum and maximum net cash proceeds expected to be received by tax resident investors on \$100 profit before tax generated by a local company<sup>8</sup>. This highly indicative analysis takes into account different tax legislation applicable to the relevant countries selected.

**Percentage of profit before tax received by individual investors**



The graph shows that Australia (as well as New Zealand) appears to provide tax resident investors with a higher proportion of pre-tax profits compared with other jurisdictions<sup>9</sup>.

The fact that Australia provides tax resident investors with such a favourable treatment suggests that the adoption of a valuation methodology specifically tailored to capture the value of franking credits is supportable.

■ Pre-franking credits  
■ Cum-franking credits

8. For the purpose of our analysis, we've assumed a 100% pay-out ratio. The analysis takes into account corporate tax and individual taxes applicable in 2014 (except for Australia where the tax rates applicable in the 2015 tax year have been used). In a number of countries, and unlike in Australia, dividends are not taxed at the marginal tax rate of the recipient, but rather at a fixed rate. The bars set out in the figure reflect the average impact of the highest and lowest individual marginal tax rates applying in each country.

9. We note, however, that it is not uncommon for companies residing in other jurisdictions to return value to investors via capital appreciation rather than income as it is more favourably taxed.

# Should infrastructure investors value franking credits?

The question of whether franking credits should or should not contribute to a valuation assessment of an investment is a highly debated topic by infrastructure investor in Australia.

Those in favour of valuing franking credits argue that:

- Since the availability of franking credits increases the post-tax (individual) return for investors resident in Australia, franking credits lower the cost of capital of businesses. All things being the same, a lower cost of capital results in a higher value attributable to the business. The capital asset pricing model (CAPM), a widely used approach to estimating the cost of capital of businesses, was developed in the 1960s. Based on a classical tax system, the model derives a required rate of return for a business having regard to after corporate tax but prior to individual tax liabilities. As CAPM does not specifically recognise the value of individual tax benefits associated with franking credits, an adjustment to estimate that value is required.
- Franking credits represent a tangible cash benefit to Australian resident investors and, accordingly, they should be incorporated into a valuation.

Those against argue that:

- Franking credits are beneficial only to Australian resident investors<sup>10</sup>. Since a substantial portion of investors in the Australian market are foreign (approximately 40% according to Reserve Bank of Australia (RBA) research<sup>11</sup>), it is argued that they are the marginal buyer of Australian assets. As foreign investors are the marginal price setters, there should be no value attributable to franking credits.
- The economic benefit attributable to franking credits varies amongst Australian individuals and entities depending on their tax profile.
- There is a lack of consensus over the method of valuation to apply.

In order to address this issue, we're of the view that a definition of value is fundamental. The concept of value typically referred to in business valuation is 'fair value'. According to the Australian Accounting Standard 13 (AASB 13) Fair Value Measurement:

**"Fair value is a market-based measurement, not an entity-specific measurement."**

and is equivalent to:

**"...the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions..."**

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10. As discussed above, franking credits also result in a financial benefit to foreign investors (via reduced withholding taxes). However, foreign investors are still subject to the risk of 'double-taxation' on the Australian's investment distribution.

11. "Ownership of Australian Equities and Corporate Bonds", Susan Black and Joshua Kirkwood, RBA Bulletin | September Quarter 2010.



As the economic benefits resulting from franking credits differ depending on tax residency and on the marginal tax rate of the investor, the identification of market participants is critical to determining whether franking credits should or should not contribute to the valuation of an investment.

As set out in the figure above, there is a broad range of market participants with very different perspectives on franking credits. For example, Australian superannuation funds have a strong appetite for franking credits due to their low tax rate. In contrast, it is arguable that since foreign retail investors can, generally at best, reduce withholding taxes through the receipt of franked dividends, they have a lower interest in franking credits<sup>12</sup>.

12. As a base case, non-residents of Australia are subject to a 30% withholding tax on unfranked dividends, but this is usually reduced to 15% if the taxpayer is in a treaty country (and sometimes down to 0% on franked dividends depending on the profile of the investor). As such, if the investor doesn't obtain a foreign tax credit in their home jurisdiction they would indirectly derive benefits from franking credits.

# Infrastructure valuation matters

Franking credits have value to an individual infrastructure investor when two conditions are satisfied:

1. They are released through distributions out of accounting profits (franking credits can only be released if attached to distributions declared out of accounting profits)
2. They result in an economic benefit to the relevant user (as discussed above).

These conditions are typically referred to as the 'distribution factor' and the 'theta factor' (or 'utilisation rate'). In combination, these two factors are typically referred to as the 'gamma factor'. Gamma and theta factors are expressed as a percentage ranging between zero and 100%.

The distribution factor (the value of imputation credits distributed by a company as a proportion of the value of imputation credits generated by it in the period) is a function of time. While not all franking credits generated will be distributed at the same time, and distribution of franking credits may be deferred to the future, the historical dividend pay-out ratio is typically taken as a proxy for the distribution factor. As a result, the analysis of a company's dividend pay-out ratio can be used as a first test to assess investors' ability to be released franking credits in that company.

The theta factor is more difficult to observe. The economic benefit of franking credits should stem from the combination of investors' ability to use them (i.e. utilisation rate) and their tax status.

Foreign investors would not be able to directly use franking credits. While Australian tax residents would all presumably use franking credits, those with a low marginal tax rate would derive a greater economic benefit from them (refer to the example above).

There are three main methods for assessing the value of theta and gamma factors:

- **Dividend drop-off approach:** Measures share price changes on ex-dividend trading days – the amount by which share prices change is assumed to reflect the value of the dividend and imputation credit
- **Tax statistics approach:** Measures the imputation credits used by shareholders based on a weighted average utilisation across investors according to the fraction of total imputation credits in the market that they receive
- **Share futures approach:** Estimates the value of imputation credits by inferring the value of cash dividends and tax credits from the relative prices of share futures and the individual shares on which those shares are written.

Studies on gamma have in the past indicated an applicable factor in the region of 50%, however more recent studies have supported lower gamma factors – as low as 25%.

## Theta and gamma factors – Studies

Researcher	Year of study	Theta	Gamma	Type of study
The Strategic Finance Group	2011	35%	25%	Dividend drop-off
Handley and Maheswaran	2008	74%	67%	Tax statistics
Beggs and Skeels	2008	57%	n/a	Dividend drop-off
Hathaway and Officer	2004	40%-50%	40%	Dividend drop-off
Twite and Wood	2002	n/a	45%	Share futures
Hathaway and Officer	1996	44%	n/a	Dividend drop-off
McKinsey & Company	1994	68%	n/a	Dividend drop-off
Bruckner, Dews and White	1994	71%	69%	Dividend drop-off
Brown & Clarke	1993	72%	n/a	Dividend drop-off

Source: Various research publications, Deloitte analysis

The main issue with these studies is that they are all backward-looking. Since they all focus on the impact of a sole and historical dividend payment they fail to provide information on the value attributed by the market to future dividend payments.

While they provide a reasonable basis on which to assess the value of franking credits paid, their application for the purpose of assessing the value of franking credits to be released in the future is more questionable.

Based on the likely timing over which franking credits will be released, three categories can be identified and valued:

- **Immediate franking credits** – franking credits attached to a dividend immediately payable
- **Stockpiled franking credits** – franking credits stockpiled, the release of which can be reasonably planned/structured i.e. special dividend, share buy-back
- **Future franking credits** – franking credits that do not exist today but will be generated in the future via future tax payments.

The approach to assessing the value of franking credits can vary depending on their category.

#### Immediate franking credits

The impact on value of immediate franking credits can be observed on stock markets. 'Dividend drop-off' studies investigate the change in the trading price of listed stocks around the ex-dividend trading dates. The studies observe that the drop in price observed on the first day in which stocks trade ex-dividend is generally greater than the quantum of the dividend. The proposed explanation for this dynamic is that the 'extra drop' in the security price is due to the value attributed by the market to franking credits attached to dividends.

The studies suggest that a value of between 35% and 74% of the franking credit (theta) is valued in the stock by the market.

#### Stockpiled franking credits

In contrast to immediate franking credits, the timing of the release of stockpiled franking credits is uncertain.

There are two principal ways to release stockpiled franking credits to investors – special dividend, and off-market share buy-back. The latter was widely used during the recent global financial crisis, most likely due to depressed share prices and very favourable tax implications for investors (especially those with low marginal tax rates).

An off-market share buy-back allows a company to return capital to investors in the form of both capital and dividend, with the dividend component typically significantly outweighing the capital component. This structure allows companies with large amounts of franking credits to attach them to the dividend component of a share buy-back. In addition, a low capital component allows investors to realise a tax deductible capital loss, further boosting the net cash proceeds of the share buy-back<sup>13</sup>.

The fact that most off-market share buy-backs occur at a discount to the trading price of the underlying securities suggests investors are realising (compensating) value through franking credits and capital losses resulting from the sale of shares. Market evidence suggests that the value attributed to released stockpiled franking credits is significant. However, since capital losses are of value only to the extent that an investor can offset them against capital gains, the attractiveness of the capital loss component would seem inferior to that of the dividend component.

The table below set out a number of off-market share buy-backs with the value of franking credits expressed as a percentage corresponding to the discount of the buy-back price to the trading price divided by the face value of the franking credits released through the dividend component of the share buy-back.

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13. Proposed legislation is considering the removal of some of the favourable tax features of the capital component of a share buy-back.

### Sample of off-market share buy-backs involving a release of franking credits

Date	Woolworths Oct '10	BHP Billiton Apr '11	JB HiFi May '11	Perpetual Oct '11	Woolside (aborted) <sup>a</sup> June '14	Telstra Oct '14
Market price	29.80	47.50	18.60	23.22	42.43	5.34
Buy-back price	25.62	40.85	16.00	20.90	36.49	4.60
<b>Premium to buy-back price</b>	4.18	6.65	2.60	2.32	5.94	0.74
Buy-back components:						
Capital components	3.08	0.28	0.58	9.22	7.95	2.33
Dividend components	22.54	40.57	15.42	11.68	28.54	2.27
Attached franking credits	9.66	17.39	6.61	5.01	12.23	0.97
<b>Value of franking credits</b>	43.2%	38.2%	39.3%	46.3%	48.6%	76.1%

Note: a figures expressed in US dollars

Source: Companies' announcements, Deloitte analysis

The value arguably attributable to franking credits released through the above share buy-back transactions is between 38% and 49% of the face value of franking credits with the data implied by the Telstra share buy-back being an outlier (76%). However, the Telstra share buy-back may actually suggest a 're-rating' of the value of franking credits and an increasing appetite for franking credits ahead of the reduction in the Australian corporate tax rate planned to occur from 1 July 2015 (refer to note [4] set out above).

Furthermore, we note that the above analysis may underestimate the value attributable to franking credits. Based on the legislation in place and on ATO practice when the transactions occurred, the buy-back price could only imply a discount as high as 14% on the trading security price, thus placing a cap on the market's ability to price franking credits. It is possible that without the '14% discount cap', companies would buy-back shares at even greater discount, implying that a greater value is ascribed by shareholders to the associated tax benefits (e.g. franking credits).

On the other hand, we note that the outcome of this analysis may be distorted by the fact that only a selected portion of shareholders would typically sell their shares on a share buy-back (arguably, those that can extract the greater value from them) as opposed to 'shareholders as a whole'. As alternative analysis to assess the market value of stockpiled franking credits from share buy-back transactions would be to analyse the increase in the share trading price on the ex-buy-back date.

#### Future franking credits

Future franking credits are the most uncertain form of franking credits to value as they do not exist at the time of the valuation. However, this is no different to a company's future cash flow projections.

We are not aware of any publicly available studies specifically investigating the value of future franking credits. Most of the research in this field has been undertaken for regulatory purposes. Australian regulators of certain infrastructure assets set an appropriate return of capital for the owner of the regulated asset, also having regard to the impact of franking credits on the required rate of return.

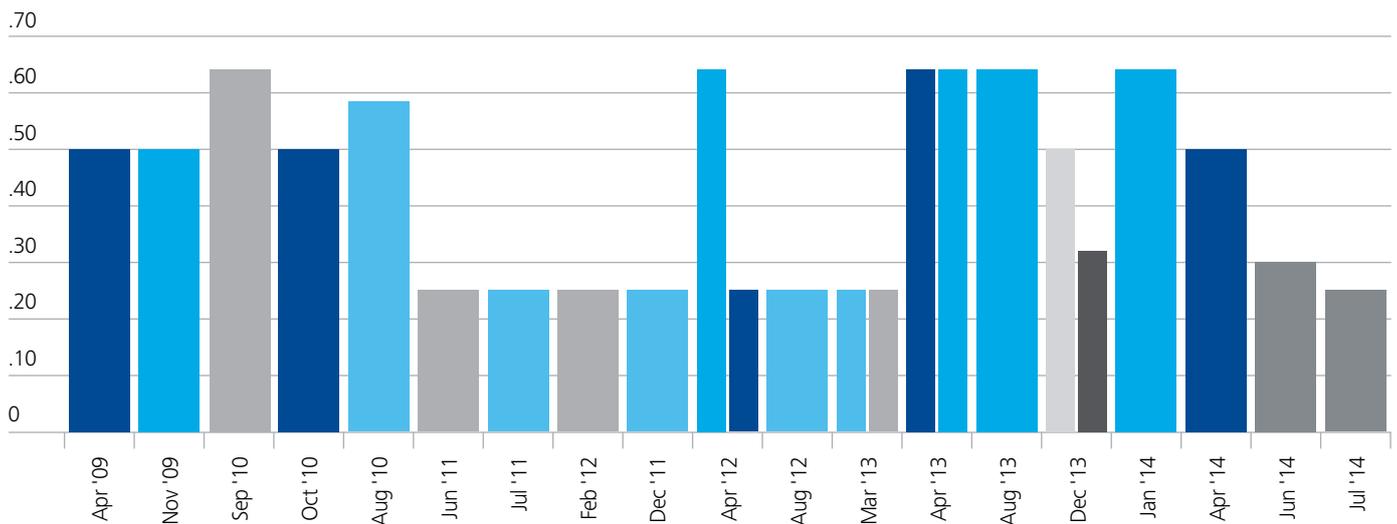
The impact of franking credits is captured in the gamma factor. The cost of capital (or rate of return) is adjusted for the gamma factor according to the following formula<sup>14</sup>:

$$r_i = k_E \frac{1-T}{1-T(1-\gamma)} \frac{E}{V} + k_D(1-T) \frac{D}{V}$$

A gamma factor greater than nil reduces the assessed cost of capital. The thesis here is that if the Federal Government is subsidising part of the taxes that in a classical tax system would otherwise be borne by the company and its investors, investors' required rate of return (which is typically

calculated based on a classical tax system) is reduced. Thus, regulated assets should not be entitled to derive a return on capital that compensates for a full tax payment.

Studies on gamma have generally indicated an applicable gamma factor in the region of 50%. However, we note that the Australian Competition Tribunal directed that a gamma factor of 25% should apply in respect of a cost for capital determination set in 2010<sup>16</sup>. Since that decision, gamma has been established at 25% in a number of regulatory decisions although we note this trend more recently reverting to a longer term average of 50%.



- Elec. Dist.
- Elec. Trans.
- Gas. Dist.
- Gas. Trans.
- National Gas Rules
- Railway Networks
- AER - Rate of return guidelines

Regulated infrastructure assets in Australia typically set tariffs in accordance with a required return on capital set by the regulator for periods of five years. The established return on capital is then applied to the asset base that reflects annual growth, due to both inflation and real growth.

Because of the extensive use of gamma for the purpose of setting regulated revenues, gamma-adjusted cost of capital is often also used when adopting a discounted cash flow methodology to derive the value of a business.

Under this methodology, future franking credits associated with future cash flow projections are valued through the use of a gamma-adjusted discount rate.

However, this approach generally leads to an overestimate of the value of a business. This is due to distortions caused by inflation (as well as real growth) and its impact on future tax payments.

Source: Deloitte analysis

14. This formula is used to build a weighted average cost of capital where  $K_E$  represents the cost of equity component. The cost of equity is adjusted to reflect the impact of franking credits through the gamma factor ( $\gamma$ ). In the formula,  $T$  represents the corporate tax rate,  $E/V$  and  $D/V$  represent the equity to enterprise value funding ratio and the debt to enterprise value funding ratio respectively,  $K_D$  represents the cost of debt.  $K_E$  is calculated having regard to the CAPM.

15. Application by Energex Limited (No 2) [2010] ACompT 7 (13 October 2010).

### Testing the use of gamma to determine discount rates

We have tested potential inaccuracy of the use of gamma-adjusted discount rates for valuation purposes by preparing a simplified discounted cash flow model under two approaches:

- Cash flows inclusive of franking credits discounted at a post-tax discount rate ('cash flow-adjusted valuation')
- Cash flows exclusive of franking credits discounted at the gamma-adjusted discount rate ('gamma-adjusted valuation').

The assumptions adopted are:

- Nominal growth – 4% (infrastructure assets cash flows tend to grow based on inflation as well as on capital expansions) and, to test our theory, 0%
- Corporate tax rate – 30%
- Dividend pay-out ratio – 100%
- Value attributed to franking credits (i.e. utilisation rate) – 100% (this implies a gamma factor of 100%).

In this example, the value resulting from the use of a gamma-adjusted valuation is higher by approximately 31% (refer to the 'Delta' in the table below) than the value derived by adjusting the underlying cash flows and applying an 'unadjusted' cost of capital.

### Simulation

Assumptions			
Growth	0.0%	Risk free	5.0%
Corporate tax rate	30%	EMRP	6.0%
Pay-out ratio	100%	Beta	1.00
% of dividends franked	100%	Ke	11.0%
% of franking credits utilised	100%	Gamma	100%
		FC adjustment	0.700
		Adjusted Ke	7.7%

Year	1	2	3	4	5	6	7	...
Profit before tax	143	143	143	143	143	143	143	143
Corporate tax	(43)	(43)	(43)	(43)	(43)	(43)	(43)	(43)
Net profit	100	100	100	100	100	100	100	100
<b>Dividend</b>	<b>100</b>							
Franked dividend	100	100	100	100	100	100	100	100
Unfranked dividend	0	0	0	0	0	0	0	0
Franking credits	43	43	43	43	43	43	43	43
Franking credits utilised	43	43	43	43	43	43	43	43
<b>Individual investor cash flow (pre-individual tax)</b>	<b>143</b>							
Discount factor	0.90	0.81	0.73	0.66	0.59	0.53	0.48	0.00
Discount factor (gamma-adjusted)	0.93	0.86	0.80	0.74	0.69	0.64	0.59	0.00

	@ 0% growth	@ 4% growth
Net present value (NPV) @ unadjusted cost of capital	1,298	2,040
NPV @ gamma-adjusted cost of capital	1,298	2,672
Delta	0%	31%

Source: Deloitte analysis

Our example set out in the previous page indicates that the use of gamma-adjusted discount rates for valuation purposes (rather than for establishing annual return on capital) is inaccurate. A 100% gamma factor would in fact imply a value attributed to franking credits that is greater than their face value.

The table below sets out the implied utilisation rate matching various gamma parameters at different assumed growth rates. It shows that the higher the growth,

the greater the difference required between these two parameters in order to satisfy an equivalent result from both methods (i.e. 'gamma-adjusted valuation' and 'cash-flow valuation'). In practice, when setting a gamma factor equal to 50%, it should be highlighted that a 4% growth rate the equivalent assumed utilisation rate (89%) is close to its natural maximum (100%).

#### Utilisation rate matching with relevant gamma and growth factors

		◀ Gamma ▶				
		0%	25%	50%	75%	100%
◀ Growth ▶	0%	0%	25%	50%	75%	100%
	1%	0%	28%	56%	85%	>100%
	2%	0%	31%	64%	98%	>100%
	3%	0%	36%	74%	>100%	>100%
	4%	0%	42%	89%	>100%	>100%
	5%	0%	50%	>100%	>100%	>100%
	6%	0%	61%	>100%	>100%	>100%
	7%	0%	78%	>100%	>100%	>100%

Given the likely distortions caused by applying adjustments to the discount rate used in order to capture the value of franking credits (i.e. gamma), we recommend the use of adjusted cash flows incorporating the portion of franking credits expected to be 'utilised' and present-value them in accordance with a discount rate calculated based on conventional approaches (i.e. CAPM). The 'utilisation rate' depends on the likely tax profile of the investor in the relevant business being valued. In general, businesses with highly predictable cash flows enable investors to better forecast dividend distributions and release of future franking credits. As a result, such businesses are more likely to attract investors who more highly value franking credits with a resulting high 'utilisation rate'.

#### Conclusion

We're of the view that immediate franking credits and stockpiled franking credits can be valued using market-based methods referring to value ascribed to franking credits based on empirical observations (i.e. dividend drop-off studies and share buy-back discounts). Research in this field suggests that:

- Immediate franking credits are valued between 35% and 74% of their face value
- Stockpiled franking credits are valued in the region of 40% to 50% of their face value although the latest evidence (refer to the Telstra share buy-back completed in October 2014) indicates that a value in line with the high end of the range observed for immediate franking credits (circa 75%) is supportable.

Future franking credits can be best valued via the use of the discounted cash flow method and an adjustment to cash flow projections to reflect the quantum of franking credits that are expected to be utilised by the assumed market participant. Further analysis on the 'utilisation rate' is set out in the following section of this paper and it is supportive of utilisation rates in the region of 70% to 80%.

Section 2

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# Franking credits and infrastructure assets

# Overview

To the extent that foreign investors are considered to be marginal investors in Australian assets, theory suggests that no value should be attributed to franking credits when determining the fair market value of an asset.

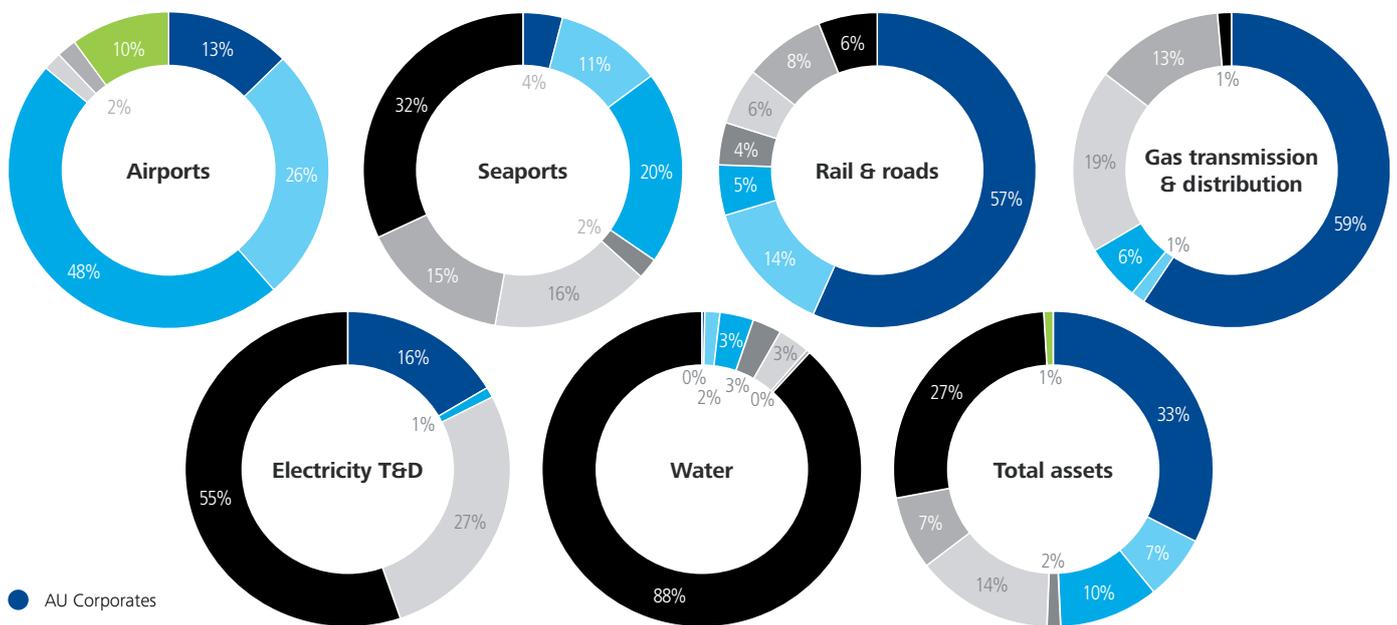
Some guidance on the level of foreign investment in the Australian market is provided by the RBA, which indicates that foreign investors own approximately 40% of Australian companies' equity<sup>16</sup>. This reasonably high portion of ownership may support the hypothesis that the marginal price setter in the Australian market is the foreign investor.

This would be true if the proportion of foreign investors was comparably high across all sectors. To the extent that certain sectors have a lower portion of foreign investors, it could be argued that Australian investors are the price setters. Intuitively, it would be expected that entities

paying fully franked dividends on high yielding investments would be more attractive to Australian resident investors than to foreign investors.

Infrastructure assets are typically high-yielding investments. However, it should be noted that for many infrastructure assets, the tax shield on depreciation and interest expenses may significantly lower tax paid, and therefore franking credits generated, over the initial life of the asset or post-acquisition. Furthermore, we note that infrastructure assets may be held via trust structures or stapled entities structures so that the portion of income distributed via franked dividend is low or marginal.

In order to verify the 'marginal investor' thesis, we've investigated the ownership structure of various classes of infrastructure assets<sup>17</sup> (see figures below).



- AU Corporates
- AU Fund Manager
- AU Superannuation Funds
- Foreign Corporates
- Foreign Fund Manager
- Foreign Pension Funds
- Government
- Other

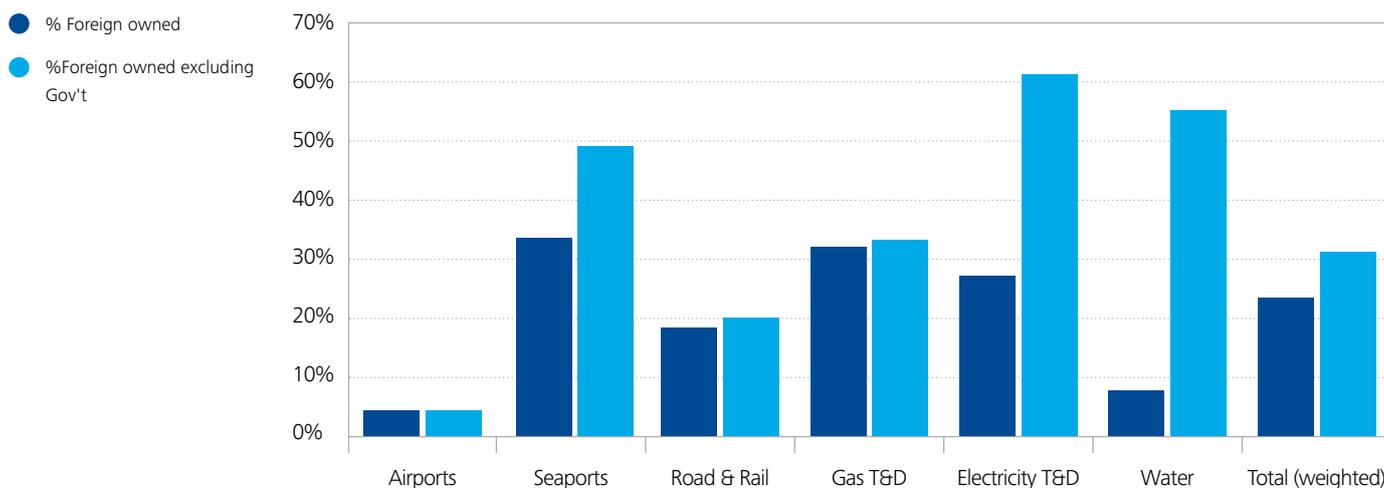
16. "Ownership of Australian Equities and Corporate Bonds", Susan Black and Joshua Kirkwood, September 2010.

17. We have reviewed the shareholding structure of 112 companies based in Australia operating airports, seaports, rail & roads, gas and electricity transmission and distribution, and water assets.

As can be seen from the figures in the previous page, the proportion of Australian investors in infrastructure assets is greater than that suggested by the Australian listed equities. However, it is not homogeneous across the individual sub-sectors reviewed. In particular, we note:

- A very low proportion of foreign investors in Australian airports, which are primarily owned by Australian Superannuation Funds and fund managers
- Approximately 25% of the equity of 'roads and rail' and 'gas transmission and distribution' assets is owned by foreign investors
- A higher proportion of foreign ownership in seaports and electricity transmission and distribution assets, especially if Government ownership is excluded from the analysis
- A very high level of government ownership of water assets (89%), so that an analysis on the level of foreign ownership in this sub-sector is more difficult to interpret.

#### Foreign ownership of Australian infrastructure assets



In general, the level of foreign ownership of Australian infrastructure assets appears to be lower than that of other Australian businesses (as set out above, an RBA study suggests that approximately 40% of the equity of Australian companies is owned by foreign investors). However, we note a trend where foreign ownership is increasing. A number of recent privatisations of Australian infrastructure assets have involved foreign investors as either the successful bidders (or part of the successful bidding consortium)<sup>18</sup> or as unsuccessful bidders.

While such a trend would suggest that foreign investors are the marginal price setters for Australian infrastructure assets, and therefore that no value should be ascribed to franking credits, sophisticated foreign institutional investors (such as those that have been recently acquiring Australian infrastructure assets) may be able to set up investment structures that enable them to achieve tax profiles similar to those of Australian institutional investors (i.e. Australian superannuation funds), for example, through the use of trusts. The fact that the ultimate economic benefit they may be able to achieve is comparable to that resulting from the use of franking credits suggests that a valuation methodology reflecting value attributable to franking credits is pertinent.

18. Port of Newcastle, Port of Brisbane, Queensland Motorways.

19. This analysis does not take into account foreign retail and institutional shareholdings in the listed Sydney Airport or foreign beneficial owners of funds owning interests in Australian airports managed by an Australian-based fund managers.

# Deloitte survey

To better understand whether investors in infrastructure assets have a specific view on franking credits and their contribution to value, we interviewed 14 investors with interests in infrastructure assets, including Australian and foreign funds managers, superannuation funds and asset owners. Unsurprisingly, foreign investors declined to participate in our survey as little interest is placed on franking credits other than to simulate competitors' behaviour.

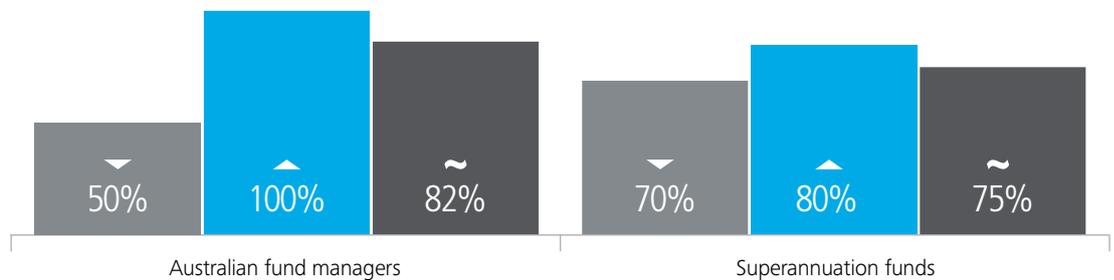
Key takeaways from our research include:

- All but two investors value franking credits (either directly or indirectly, through their independent valuers). The key reason for this approach is that franking credits are valuable to their underlying investors. The two investors not directly valuing them are corporates
- A substantial portion of investors (8 out of 12) have a formal policy dictating the inclusion of the value of franking credits in their valuations

- Franking credits valued include those in existence as well as future franking credits
- 100% of those valuing franking credits value them by grossing up cash flows by the expected utilisation rate (cash-flow adjusted valuation). None of the investors adjust the discount rate by the gamma factor except for (in some instances) the use of cross-checks
- The assumed utilisation rate ranges between 50% and 100% and is normally in a range of 70% to 80% (refer to the figure below).

Foreign investors do not value franking credits. In some instances, foreign investors may attempt to value franking credits to assess potential bids from Australian competitors, but ultimately no specific value is placed on them by these investors.

## Utilisation rate adopted by selected investors in infrastructure assets



In addition, we note the following key trends resulting from our survey:

- Utilisation rates adopted have been gradually increasing over the past years
- Investors are increasingly exploring avenues to unlock value of 'trapped franking credits'
- Foreign investment in Australian infrastructure assets is increasing. Canadian pension funds<sup>20</sup> and Asian investors are increasingly attracted to Australian assets, although for different reasons
- Some investors are worried about possible risk of future restrictions on the use or refund of franking credits
- Numerous corporates investing in Australian infrastructure assets have been reluctant to focus on franking credits given their substantial tax loss position. As an increasing number of corporates move to tax-paying status, there will be a greater focus on franking credits.

20. Refer to 'Australian Toll Roads – An opportunity for Canadian Pension Funds?', Deloitte Corporate Finance – December 2010.

Section 3

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# Key takeaways

It's not surprising that the topic has been the subject of numerous studies and considerable debate, yet it also continues to divide the business valuation community.

Throughout this paper, we've explored the theory behind the valuation of franking credits and presented empirical evidence suggesting valuation metrics applicable to assess their value.

While we agree that 'theory' should be considered to understand market participant behaviour, our view is that market activity and actual investor activity observed in bidding for or divesting assets should be the primary focus for assessing market value-related parameters.

Furthermore, most of the studies in this area focus on indirect analysis – on interpreting factors such as dividend drop-off or derivative instruments movements in order to determine a method and inputs for valuation purposes. However, we believe there is sufficient evidence in the market on how investors are effectively behaving. Franking credit utilisation rates assumed by market participants are directly observable through surveys such as the one covered in this paper.

Based on our research, we provide the following key takeaways:

- Infrastructure assets with high yields, relatively high predictability of cash flows, long term sales agreements, inflation-linked income growth and relatively low demand-risk present features that make their distribution of franked dividends, if any, more valuable
- The majority of investors consider franking credits to be valuable to their underlying security holders and therefore value franking credits (both current and future). Furthermore, a substantial portion of investors have a formal policy of including the value of franking credits in their valuations
- All investors who value franking credits incorporate their value by adjusting cash flow projections, thereby capturing timing and utilisation rates associated with the franking credits
- Utilisation rates adopted ranged from 50%-100%, and have been increasing in recent years – typically falling in the 70%-80% range. This range (70% to 80%) is consistent with recent market evidence on corporate transactions (i.e. Telstra share buy-back) and with the high end of theta ranges observed in a number of studies (refer to part I of this paper)

- There is sufficient evidence to support higher or lower utilisation rates depending on the sub-sector considered. For example, airport assets could justify a utilisation rate as high as 100%. In contrast, electricity transmission and distribution assets, which are subject to extensive regulatory frameworks, and also taking into account franking credits, could be assessed having regard to a lower utilisation rate (i.e. in the order of 50%)
- Investors are increasingly focussed on dealing with 'trapped franking credits' and are exploring avenues to unlock value associated with this asset
- As with all tax considerations, there is possible risk of future restrictions on the use or refund of franking credits, or the value attributed to franking credits (i.e. in the light of potential changes to the Australian corporate tax rate).

In summary, our view is that tangible economic benefits of franking credits are evident, and there is strong evidence to suggest that investors value franking credits. Consequently, there should be no doubt about their contribution to, and inclusion in, the valuation of infrastructure assets.

As more infrastructure assets are privatised and transacted, there will be an increasing volume of evidence regarding the valuation of franking credits. No doubt this will evolve, and possibly rapidly, in the future.

Furthermore, we draw attention to recent infrastructure transaction activity where foreign bidders have out-bid domestic players or have partnered with local bidders. Whilst offshore investors are unlikely to value franking credits, we note that they typically use investment structures where franking credits are less relevant as they tend to use trusts rather than companies as their preferred investment vehicles. As foreign ownership in Australian infrastructure assets increases, we'll continue to watch, and report on, this space with interest.

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