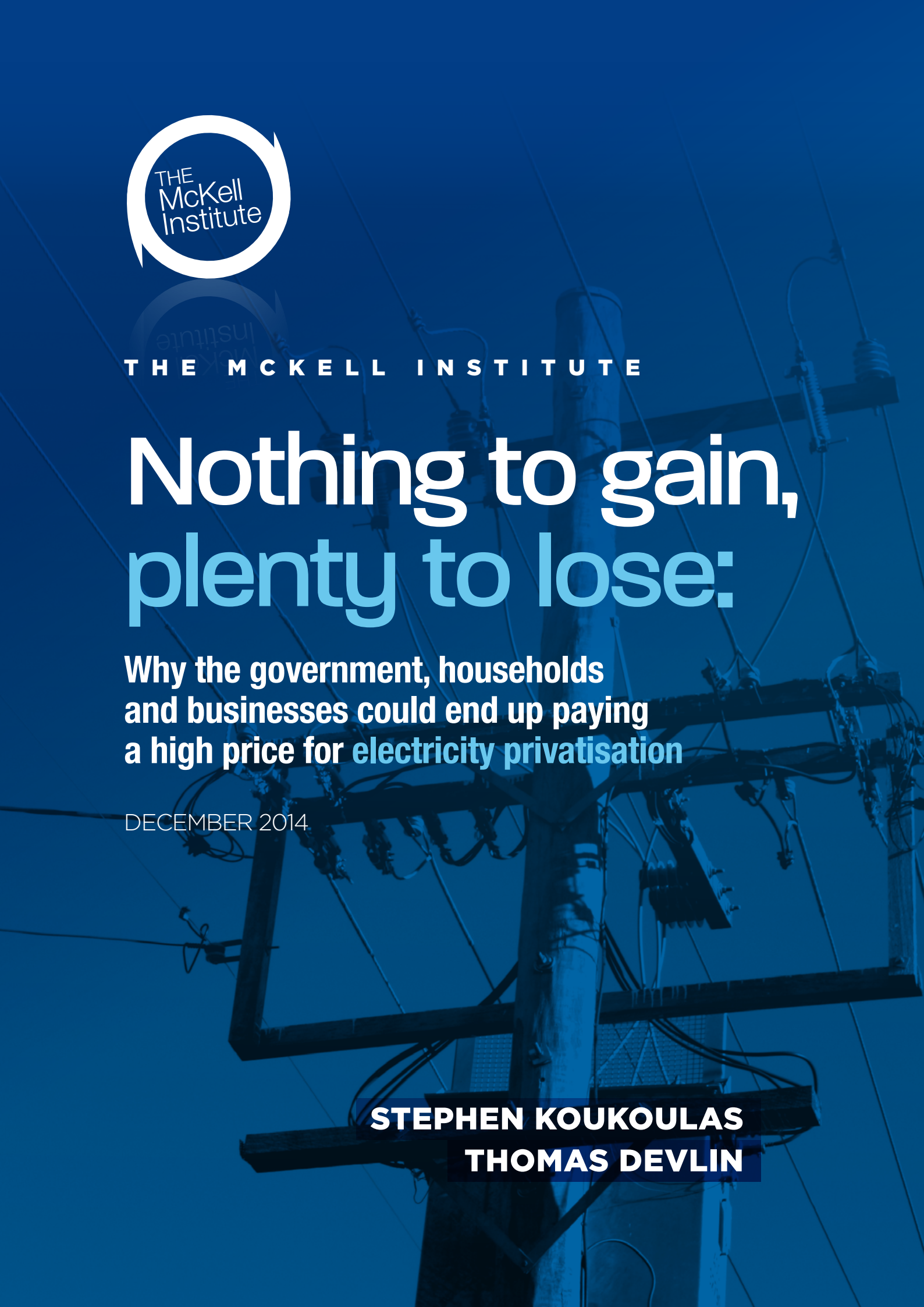

THE McKELL INSTITUTE

Nothing to gain, plenty to lose:

Why the government, households and businesses could end up paying a high price for electricity privatisation

DECEMBER 2014

STEPHEN KOUKOULAS
THOMAS DEVLIN

Background

The authors of this paper have utilised a range of publicly available information and our own analysis in compiling this paper, along with information provided from various industry participants.

About the McKell Institute

The McKell Institute is an independent, not-for-profit, public policy institute dedicated to developing practical policy ideas and contributing to public debate. The McKell Institute takes its name from New South Wales' wartime Premier and Governor–General of Australia, William McKell.

William McKell made a powerful contribution to both New South Wales and Australian society through significant social, economic and environmental reforms

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THOMAS DEVLIN

About the authors

STEPHEN KOUKOULAS

Stephen Koukoulas is Managing Director of Market Economics, a firm he established in January 2012 in response to the need for independent and tailored macroeconomic analysis.

Stephen has a rare professional experience over more than 25 years as an economist in government, banking, financial markets and policy formulation. Stephen was Senior Economic Advisor to the former Prime Minister, Julia Gillard, worked in the Commonwealth Treasury and before that he was the global head of economic research and strategy for TD Securities in London.

Stephen also spent 5 years at Citibank Australia, including as Chief Economist.

Stephen started his career as an economist in the Commonwealth Treasury in the mid-1980s and hold a Bachelor's Degree in Economics (Honours) from the Australian National University.

THOMAS DEVLIN

Thomas is a management consultant, working for one of the world's largest and most successful strategy consulting firms, which advises numerous Fortune 500 companies as well as many of Australia's largest corporations.

By background, Thomas is an economist, and holds a Bachelor's Degree in Economics (Honours) from the University of Sydney. He has contributed to a variety of past research at the McKell Institute, and his policy interests span multiple topics including economic and quantitative analysis as well as infrastructure funding and financing.

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Foreword

Australia has moved on from the privatisation debates of the 1980s and 1990s. Very few Australians would deny the benefits that have come from privatisations at Qantas, Telstra, or the Commonwealth bank.

Equally, most Australians would agree that the private sector has a vital role to play in the delivery of infrastructure and services to our community. The ideological privatisation wars of the past are over. Today, the mainstream discussion about privatisation is substantially more civil. The debate is free of its ideological shackles, and understands that potential privatisations must be carefully examined on a case-by-case basis.

The debate about the privatisation of NSWs electricity Transmission and Distribution assets is hugely important for the NSW Government. Privatisation is currently being touted as one possible solution for providing new transport infrastructure without the state having to take on substantial new debt. While the McKell Institute agrees that investing in transport infrastructure is critical to boosting productivity and economic growth we should not allow ourselves to believe that the sale of these assets are the only means to achieve it.

The Transmission and Distribution assets deliver reliable, steady dividend streams to the Government, with each of these companies achieving an exceptional return on equity. The $1.7B that the NSW Government earned from the network last year was equal to over 25% of payroll tax, 30% of transfer duties, and nearly 90% of taxes on gambling and betting.

The sale of these dividend streams needs to be considered carefully given the substantial economic challenges facing the state. Vertical Fiscal Imbalance – where the Australian Government raises revenues in excess of its spending responsibilities while State governments have insufficient revenue from their own sources to finance spending responsibilities – is already short changing state and territory budgets by $85 billion per year. This situation is set to worsen following the Australian Government's decision to substantially reduce funding payments to the states. In the long run, state governments will be squeezed by the ageing of our population. By 2050, the ratio of workers to non-workers will decline from 5-to-1 today to 2.4-to-1.

It is in this context that the privatisation of NSW's electricity Transmission and Distribution assets needs to be considered. Fiscally responsible governments must look beyond the economic challenges of today to consider the substantial challenges facing our state in the future. Credit rating agencies place a substantially higher weighting on whether or not a government is able to keep revenue growth above expenses growth than they do on a government's overall level of debt. When confronted by the challenging dichotomy of rising health and ageing costs and proportionally shrinking tax receipts, the decision to part with a stable and growing revenue stream represents a fundamental misstep in fiscal management that is likely to leave future governments with substantially more challenging budget scenarios. By linking the proceeds of the sale to new transport infrastructure, the NSW Government's current asset recycling strategy

could instead increase the cost of debt, making it harder to fund transport infrastructure into the future.

This may be justifiable if there were substantial other benefits to be achieved through privatisation, for example, lower prices for consumers. However, unlike most other assets privatisations, NSW's electricity market functions as a natural monopoly. The fundamental benefits of greater efficiency and lower prices resulting from enhanced competition cannot be automatically expected to occur within this natural monopoly setting.

Recent commentary has argued that privatisation of NSW's Transmission and Distribution networks will improve efficiency and reduce prices. Our analysis has found that this is fundamentally not the case. Regrettably, most of these previous studies have failed to properly account for factors that are largely beyond the control of network operators, including the physical span of the networks themselves, or other state-specific factors including state based taxes and regulations. Once these factors are appropriately accounted for, it becomes clear that public companies operate just as efficiently, and in some cases more efficiently, than their private counterparts. Most concerning are the higher overhead costs associated with privatised network businesses in Victoria, including spending on administration, marketing, advertising, and executive remuneration. Our report found no evidence to suggest that power prices would decline under private ownership. Instead, prices may be marginally higher as a result.

Given these factors, it is hard to see how privatisation of NSW's Transmission and Distribution assets is in any way beneficial either to consumers or to the financial position of the state. The NSW Government must find ways to improve the fiscal strength of its budget that don't involve increasing the burden on future governments. It must also examine other methods for funding the productivity enhancing transport infrastructure that NSW desperately needs. The McKell Institute has also recently released a report on this topic that it highly recommends as an alternative approach to achieving this end - ***Getting Us There: Funding the Transport Infrastructure of Tomorrow.***

The Hon John Watkins
CHAIR,
MCKELL INSTITUTE

Sam Crosby
EXECUTIVE DIRECTOR,
MCKELL INSTITUTE

THE McKell Institute

Executive Summary

In the 2014 Financial Year, NSW's electricity Transmission & Distributon (T&D) businesses paid $1.7B to the NSW Government. This included $872M in dividends paid this Financial Year, as well as $829M in income tax equivalent payments. Payments in the 2013 Financial Year also totaled $1.7B.[1] For the NSW budget, these payments represent a relatively stable and low-risk cash flow.

To put these figures into perspective, the $1.7B the NSW Government earns from the network businesses are equal to over 25% of payroll tax, 30% of transfer duties, and nearly 90% of taxes on gambling and betting.[2]

In June 2014, the NSW Government announced the sale of the state's Transmission and T&D assets. Similar proposals have been mooted by past governments and this report considers the likely outcomes associated with the sale. In particular, it addresses two arguments:

- The assertion that a privatised T&D network will operate more efficiently than the current regime, translating into lower electricity costs for consumers and businesses;
- The argument that the sale of the assets represents a fiscally responsible move, with the NSW Government using the proceeds to partially fund its planned major infrastructure projects.

...the $1.7B the NSW Government earns from the network businesses are equal to over 25% of payroll tax, 30% of transfer duties, and nearly 90% of taxes on gambling and betting.

After extensive analysis, the report finds that, based on the implications for the budget and the efficiency of the entity, there is no logical case for privatisation of NSW's electricity T&D network. The report finds that the argument for electricity privatisation is based on questionable assumptions and generalisations about privatisation more broadly. As with other natural monopolies, the fundamental privatisation canons of competition and benefits of efficiency do not apply in the same way as a normal market.

This report has undertaken an empirical, data-driven approach to testing these arguments. Regrettably, previous studies that have found in favour of electricity privatisation haven't undertaken the necessary depth of analysis and have unfairly provided comparisons between companies that could not be reasonably considered like-for-like.

...When considering the relative efficiency of public and private networks, one key factor that is often overlooked is the physical span associated with each network–...

These analyses have missed many important layers of complexity when considering both the efficiency of public networks and the likely costs to government finances and credit ratings in the medium- to long-term.

When considering the relative efficiency of public and private networks, one key factor that is often overlooked is the physical span associated with each network – that is, the number of kilometres covered to service the customers on a given network. One of the critical findings of this report was that, after accounting for the varying physical spans of each network, privately-owned network providers operating in the National Electricity

Market were in fact underperforming relative to their publicly-owned counterparts – including in NSW.

Once this was adjusted for, NSW public providers were found to be operating more efficiently than comparable private networks interstate in terms of operating expenditures (opex).

Specifically, this report finds that privately-owned providers frequently have higher overheads than comparable public providers, and that their overheads have been growing at a materially faster rate than public providers over the past eight years.

Capital Expenditure (capex) for NSW networks was highly inflated in the last regulatory period primarily because of the costs associated with asset replacement and renewal, though also in part because of the requirement to meet more stringent reliability and safety regulations.

A major finding of this report is that as NSW exits the peak of its investment cycle, forecasts now suggest that capex will be materially lower for the NSW network from next year onwards.

Importantly, recent investments have positioned the state well, over the long-run, to respond to future requirements of the network – including growing demand on various parts of the network. Privately-owned companies operate under different incentives and are frequently more concerned with providing consistent, less-volatile returns to shareholders than they are with addressing long-term supply issues. This requirement to ensure consistent returns restricts the capex investment program of private operators, providing them with less flexibility to achieve efficient capex over the long-run.

On the question of budget management and government finances, the report found that the NSW Government's current asset recycling strategy – a strategy designed to spend the proceeds from asset sales on new transport infrastructure investments – is more likely to have a negative impact on the state's credit rating over the medium- to long-term.

Credit rating agency Standard & Poor's places a significantly higher weighting on the ability of governments to keep their recurrent revenue above their expenditures than it does on the overall level of debt held by each government. The sale of a valuable dividend stream should only be expected to have a positive impact on the long-term budget balance if that money is used to generate a revenue stream that is larger than that which is being foregone (or to reduce costs by an amount greater than the revenue which is being foregone).

The NSW Government has announced that a significant proportion of privatisation proceeds will be invested back into transport infrastructure, including on new rail and road projects. Rail projects in particular incur substantial recurrent liabilities with their operations, as do many major road projects. The implication of this is that the NSW Government will effectively be selling a stable, recurrent revenue stream in order to produce new assets with recurrent liabilities attached to them. While this report does not oppose publicly-subsidised transport, it does note that the NSW Government has given little consideration to alternate methods of funding the investment beyond its plan to sell off the network businesses

Whilst privatisation may provide a marginal, short-term boost to credit ratings through the freeing up of new capital and lowering of debt, the impact of privatisation on credit ratings is at best neutral and could very well prove to be negative in the medium- to long-term. This is likely to increase the borrowing costs for government in the future by increasing the cost of debt, further reducing the capacity of government to invest in infrastructure and essential services.

The report considers that a medium-term deterioration in state finances and credit ratings could represent a significant challenge for the NSW Government given the Australian Government's decision to significantly reduce federal funding for essential services. At the same time, the NSW Government faces other budgetary challenges including the rising costs associated with an ageing population, and the risk of stagnation, or even decline, in stamp duty receipts if house price growth and turnover begins to moderate.

...the NSW Government will effectively be selling a stable, recurrent revenue stream in order to produce new assets with recurrent liabilities attached to them.

Given that the proposal to privatise the T&D assets does not necessarily improve the efficiency of the entities involved, does not lower costs for business or consumers and could in fact increase them, damages the budget position over the medium-term and given that public opposition is overwhelming, this report recommends that the NSW Government abandon its plans to privatise the state's T&D assets.

Recommendations and Key Findings

This report strongly recommends that the NSW Government leave electricity Transmission and Distribution assets in public ownership.

This report recommends that the NSW Government instead use the strong, consistent, long-run T&D asset dividend flow to support ongoing infrastructure spending or to consolidate the financial position of the state.

Given the potential financial challenges facing the NSW Government's budget position in the medium- to long-term, the government should be extremely hesitant about selling off its recurrent revenue streams

Although this report finds no compelling evidence that network businesses would operate more efficiently under private ownership than public ownership, this report recommends that a thorough review be undertaken to assess performance of NSW T&D businesses with the aim of realising potential efficiency gains while maintaining public ownership. Any review should consider industry structure, operational matters, and social outcomes, with all efficiency gains to be reinvested in government services or passed to consumers by way of price reductions.

The report recommends that publicly-owned T&D firms should continue to take a long-term view to their investment plans. This is economically prudent, given that electricity supply needs to be planned out many years in advance of actual network demands.

Decisions by both the current and any future NSW Government to invest in transport infrastructure should be based on community need and productivity enhancements, and not be reliant on selling profitable government entities. There is no sound public policy rationale for why the current debate about privatisation needs to be linked to state infrastructure plans.

Given the potential financial challenges facing the NSW Government's budget position in the medium- to long-term, the government should be extremely hesitant about selling off its recurrent revenue streams in order to fund transport and other infrastructure projects. Measures other than electricity asset sales should and will need to be considered to strengthen the structural budget balance.

It is outside the scope of this project to recommend what these alternative revenue sources should be, though this report acknowledges the recent McKell Institute report – *Getting us There: Funding the Transport Infrastructure of Tomorrow* – as having a number of worthwhile recommendations that could easily support the delivery of transport infrastructure.

Supporting these recommendations is a number of key findings contained within this report.

THESE ARE AS FOLLOWS:

1. **Previous analyses supporting electricity privatisation have failed to compare public and private entities on a like-for-like basis. Once the analysis accounts for the important differences between networks, NSW's publicly-owned T&D networks outperform their privately-owned peers on operating expenses:**

   A simplistic analysis confirms previous findings that operating expenditures are lower for privatised companies. However, after adjusting for costs that are incomparable across states and, more importantly, properly accounting for the physical span of the network, this result no longer holds.

   To the contrary, this report found that private networks have higher overheads, and that these have been growing at a much faster rate than has been the case with public entities in NSW.

2. **Privatising NSW's Transmission and Distribution assets is likely to drive up prices due to higher overheads in comparable privatised businesses**:

   Benchmarking overheads against AusNet, the privately-owned Victorian Distribution company – which was deemed to be the most comparable privately-owned company based on physical span and the distribution of customers across city and rural areas – the report found that prices are likely to rise under privatisation. This directly contradicts recent arguments that suggest that privatisation will lead to lower prices.

   Overheads are not only higher at the privately operated AusNet, they are also growing at a faster rate. Privatisation is likely to bring NSW overhead costs more into line with those witnessed at AusNet. It is expected that increased overheads would cost the average household $38 more in the first year of operation. When the faster rate of growth in these overhead costs is taken into account, the additional overhead cost per annum increases to around $103 a year within just 5 years.

   When taken together, this report calculated that the average NSW customer is likely to end up paying nearly $350 more due to higher overhead costs resulting from privatisation.

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3. **The physical span of different T&D networks is the single largest factor behind variations in both operational and capital expenditure:**

On opex, ...Around 88% of the variation in network upkeep costs per customer was directly attributable to the physical span of the network.

   On opex, this report found that it was very important to account for the physical span of the network when comparing per customer costs. Around 88% of the variation in network upkeep costs per customer was directly attributable to the physical span of the network.

   Other analyses have chosen to consider the relationship between opex and customer density, rather than between upkeep costs and physical span. This report argues that it has examined a superior and more intuitive relationship by focusing on physical span instead of customer density. Such an analysis accepts that the size of the network is a substantial driver of higher upkeep costs regardless of customer density. This is due to, for instance, a greater number of staff being required to service a larger number of poles, a greater area of impeding vegetation to be managed, and other such tasks.

When examining capex, the report found that the physical span of the network was once again an important driver of variation in per customer costs – though this time accounting for around 50% of the variation.

The report also found that the alleged 'underperformance' in NSW was in fact largely attributable to a spike in asset replacement and renewal costs, which in recent years has represented a far greater share of costs for these providers than the market median. For example, in the last regulatory period, Ausgrid spent 42% of its capex on asset renewal and replacement compared to a median of 21% for all Distribution companies across the National Electricity Market (NEM). Critically, NSW is now exiting its asset replacement peak and as such capex is unlikely to remain at current levels into the future.

4. **Publicly-owned T&D networks appear more willing to engage in long-term planning when undertaking capital expenditure:**

   This report finds that ignoring the physical span is an important reason for previous analyses mistakenly finding that private networks are more efficient in their network investments and operations. More importantly, this report finds that NSW has just emerged from a peak period in capital investment, investing $14.4B during the 2009-14 regulatory period.[3] This was driven largely by the need for asset replacement and renewal in anticipation of future strains on the network, though these are now expected to moderate over coming years.[4]

   The report found that privatised networks are less able to pursue long-range capital investment strategies because of a competing requirement to provide steady returns for investors, a key expectation for privatised utilities.

   As such, the report concludes that NSW's networks would be more likely to deliver a rigid, inefficient capital investment plan under privatisation because of the differing incentives that exist for private entities compared with public entities.

5. **Privatising NSW's Transmission and Distribution assets offers little short-term budgetary gain and could well be detrimental over a medium- to long-term horizon:**

   This report acknowledges the current low level of net debt in NSW when compared to other states and territories. Moreover, it should also be noted that that Standard and Poor's (S&P) only places a 10% weighting on debt in the determination of a state's credit rating.

   S&P places a significantly higher weighting on the ability of the NSW Government to keep expenses growth below revenue growth than it does on overall debt. This means that the loss of recurrent revenue could actually have a negative impact on credit ratings over the medium- to long-term, particularly given the NSW Government's stated intention of recycling the capital back into new transport projects.

S&P places a significantly higher weighting on the ability of the NSW Government to keep expenses growth below revenue growth than it does on overall debt.

   In 2013/14, self-generated revenue for NSW's T&D assets equaled 120% of total expense, while, in contrast, self-generated revenue at RailCorp equaled just 29% of total expenses.[5] The NSW Government's strategy effectively amounts to selling a dividend generating entity in order to fund the construction of transport projects that will likely require continuous subsidies from government. If so, this will have a negative impact on NSW's credit rating, particularly given the higher weighting by the ratings agencies given to the government's ability to keep revenue growth above expenses growth. While this report does not oppose investing in public transport, it does find that the NSW Government's current plan of privatising

electricity to pay for such investments is not prudent.

The medium-term budget outlook remains challenging. State expenses are forecast to rise following the Australian Government cuts to health and education. There is a risk that other revenue sources will grow less rapidly or even fall if there is any moderation in the housing market and a proportional reduction in taxes – including payroll tax – triggered by the ageing of the population and the worsening in the ratio of workers-to-non-workers. The report finds that the privatisation of T&D assets would reduce NSW Government revenue through the loss of dividends and interest payments. The report concludes that this is likely to be detrimental to state finances over the medium- to long-term, and concludes that the sale does not represent prudent budgetary management.

The report also find that the $20B figure that the NSW Government frequently cites as the amount the privatisation would yield is misleading, and that the proceeds from the sale are realistically only around $13B, or $11B if the asset recycling subsidy from the Australian Government is excluded.[6*]

**This report note that the recent draft determination from the Australian Energy Regulator may reduce, in roughly equivalent portions, the sale value and the value of dividends to the government, though the determination remains subject to a community consultation process at the time of writing.*

Introduction

Over the past three decades, there has been a significant push towards the privatisation of government owned assets in Australia at both the commonwealth and state government levels. The electricity sector provides a recent illustration of this trend. In NSW, the Retail component of our electricity market has been privatised. The process of privatising Generation has already begun and is set to continue. Selling off the NSW Transmission and Distribution (T&D) network assets would represent the final stage in removing government control of this core essential service.

Such a move should therefore be scrutinised very carefully, taking full account of the impact on households, businesses, and government finances. It is also important to rigorously test the assumption that a private operator will be able to operate efficiently within a natural monopoly context. This report seeks to provide that analysis.

The NSW Government has indicated that it will privatise 49% of the state's total T&D assets if it wins the NSW election in early 2015. Whilst this may appear like an attempt to maintain majority control of these assets, this is not correct. This report notes that the 49% figure is derived from the total value of all T&D assets including the Distribution company Essential Energy.

However, since Essential Energy has been excluded from the privatisation, this means that the 49% will instead be made up through majority stake privatisations at Ausgrid, Transgrid and Endeavour Energy.

The most recent Auditor General's report found that the state's total T&D assets were worth a total of ~$31.2B, with 49% of these assets equal to ~$15.3B. Given that Ausgrid, Endeavour and Transgrid together have assets of ~$23.2B, a 49% sale of the total T&D assets in fact represents a ~66% sale of these businesses, given the exclusion of Essential Energy.

Put simply, what might look like a plan for the NSW Government to retain majority ownership across the sector is in fact a plan to privatise two thirds of NSW's T&D assets – excluding Essential Energy. This report also notes that the NSW Government has refused to rule out a 100% privatisation of these assets at some point following the partial privatisation.7

The above 'two thirds' calculation should be viewed as an indicative rather than as a fixed figure. The total sale value for each asset will be determined by future expected revenue, with some companies achieving a higher sale price because of a more optimistic forward outlook. It is unlikely that the NSW Government will privatise each asset in equal proportions.

A more likely scenario is that the NSW Government will retain a larger share of ownership in some companies and a smaller share in others. Nevertheless, across the sector as a whole, it is inevitable that the NSW Government will retain a minority share relative to the private sector.

In essence, the NSW Government's role will change from one of owner/operator to minority shareholder. The remaining value of the NSW Government's ownership share will then be moved into a NSW Future Fund with the express purpose of funding the superannuation liabilities of the public service, while the proceeds of the sale will be used to fund new infrastructure (as opposed to debt or other financing measures).

There are two key pillars of the argument to privatise the T&D assets are:

- That a privatised T&D network will operate more efficiently than the current regime, translating into lower electricity costs for consumers and businesses;
- That the sale of the assets represents a fiscally responsible move, with the NSW Government using the proceeds to partially fund its planned major infrastructure projects.

This report seeks to test these two assertions and examine whether they are borne out by data and economic reasoning.

This report is split into two sections. The first section will examine the relative efficiency of both privately and publicly-owned T&D companies. The second section will analyse both the short-term and longer-term impact of privatisation on NSW Government finances.

The report concludes that privatising NSW's T&D assets will likely lead to inferior economic outcomes in the electricity market for households and businesses.

The report also concludes that in the medium- to long-term, privatisation is likely to have perverse impacts on both the budget and the state's credit rating.

what might look like a plan for the NSW Government to retain majority ownership across the sector is in fact a plan to privatise two thirds of NSW's T&D assets – excluding Essential Energy.

Methodology & Summary Findings for Section 1

In this first section, this report takes a fine-tooth comb to the costs of the various networks in the National Electricity Market – both privately and publicly-held. Our fact base is built from a combination of regulator data and a series of interviews with various industry participants.

In this first section, this report takes a fine-tooth comb to the costs of the various networks in the National Electricity Market – both privately and publicly-held. Our fact base is built from a combination of regulator data and a series of interviews with various industry participants.

Around 88% of the variation in network up keep costs per customer was directly attributable to the physical span of the network.

To better evaluate the impact on corporate efficiency from the privatisation of T&D assets, this report undertook a detailed analysis of the Operating Expenditure ('opex') and Capital Expenditure ('capex') at both private and publicly-owned T&D companies across Australia.

A simplistic examination of the data would appear to indicate that capex and opex are materially lower for the privately-held networks than the publicly-held networks. However, a different picture emerges once the data is examined in greater depth and at a more granular level.

Where possible, this report attempts to ensure that comparisons between companies are undertaken on a like-for-like basis. For example, it would be inappropriate to compare the total expenditure of a Distribution company with a large physical span to a Distribution company with a small physical span.

To address this, this report has examined the full spectrum of sub-components for both the opex and capex of each of the companies analysed. This in turn allows for a more accurate comparison of expenditures between companies.

On opex, this report found that it was very important to account for the physical span of the network when comparing per customer costs. Around 88% of the variation in network upkeep costs per customer was directly attributable to the physical span of the network. This is intuitive – larger networks would be expected to have higher upkeep costs per customer. To compensate for this, this report has also compared costs on a per-kilometer basis, thus removing any consideration of factors that are outside the control of a company – whether they are publicly or privately operated.

In examining the specific sub-components of opex, the report also found that privately-owned networks have experienced significantly faster growth in 'overheads' over the past 8 years – which includes items such as administrative staff, advertising and marketing costs, office costs, and executive remuneration.

When examining capex, the report found that the physical span of the network was once again an important driver of variation in per customer costs – though this time accounting for only around 50% of the variation. The report also found that the alleged 'underperformance' in NSW was in fact largely attributable to a spike in asset replacement and renewal costs, which in recent years has represented a far greater share of costs for these providers than the market median. Critically, NSW is now exiting its asset replacement peak and as such capex is unlikely to remain at current levels into the future.

Interestingly, the report also found that NSW has historically experienced far greater cyclicality in its asset investments than was the case with privatised networks. Far from suggesting inefficiency, this report argues the difference in cyclicality is primarily due to the different incentives that exist for private and public companies.

Private networks are incentivised to deliver a consistent capex program in order to deliver on their expectations as a utility investment – that is, stable but growing returns for investors. Government-owned networks are less beholden to this requirement and therefore have greater flexibility to invest now for a longer-term horizon. Over the long-term, this is likely to deliver better outcomes for end users on a cost-efficiency basis.

Through discussions with suppliers, the authors of this report found that the capacity to undertake large scale asset replacement meant that government-owned utilities can, and do, benefit from investment economies of scale, with further savings achieved through the rapid deployment of new, more efficient, cost-saving technologies. Privately-owned entities cannot capture these benefits without jeopardising their stability of returns, a trade-off that is unlikely to appeal to private investors.

Given this, the added restrictions on investment capabilities that would result from the privatisation of T&D assets is likely to result in an overall negative outcome for capex cost efficiency.

...privately-owned networks have experienced significantly faster growth in 'overheads' over the past 8 years...

Methodology & Summary Findings for Section 2

The second section of this report examines the short-term and medium- to long-term budgetary implications of T&D privatisation. The report found little evidence to suggest that privatisation would result in a material or lasting improvement in NSW Government finances. This report examined the likely impact of the sale on the credit rating as well as the broader impact of privatisation on the state budget.

The report examined the multiple ways in which the privatisation of T&D assets could potentially influence the state's credit rating. This report considered whether the proposed partial sale of the assets could help, at the margin, to bolster the state's credit rating.

Trading recurrent revenue for recurrent liabilities will undoubtedly have a negative impact on NSW's credit rating.

This is unlikely to be the case if the proceeds of the sale are used to create new transport services that require recurrent state subsidies in order to cover the operating costs associated with those services. The NSW Government has announced that the proceeds of the sale will likely be used to create new rail projects. Because rail fares only recover 19.8% of the operating cost associated with train services, the creation of new rail infrastructure inevitably increases the recurrent liabilities associated with public transport.[8] That is, the state will be required to provide costly and ongoing subsidies in order to keep public transport affordable.

In this way, the NSW Government's plan involves selling a profitable business in order to build a business that requires perpetual government subsidies. Trading recurrent revenue for recurrent liabilities will undoubtedly have a negative impact on NSW's credit rating. This issue was covered in some depth by The McKell Institute's recent report into the challenges of funding public transport infrastructure.

By selling off the T&D assets in order to fund infrastructure, it is true that the NSW Government could potentially reduce its debt in the short-term either by paying off existing debt or minimising the amount of debt required to fund its infrastructure projects.

However, this report notes that major ratings agency Standard & Poor's (S&P) only places a 10% weighting on a state government's overall debt levels when determining its credit rating. Moreover, the NSW Government already has a comparatively low level of net debt when benchmarked against other major Australian states.

Given this, any possible positive impact associated with a temporary, one-off injection of cash sourced from the privatisation of electricity assets is likely to be quite modest. Furthermore, S&P also applies a 10% weighting to a state government's contingent liabilities. Given this, any potential benefit associated with the sale of an asset would be easily offset by the recurrent contingent liabilities associated with the NSW Government's proposed transport investment program.

The report also considers the overall budgetary impact associated with dividends and tax equivalent payments foregone. These payments are a significant component of the state's own-source revenues. In the 2014 Financial Year, the network businesses paid the NSW Government $1.7B, including $872M in dividends and $829M in income tax equivalent payments.[9] Payments in the 2013 Financial Year were also equal to $1.7B.[10]

These payments represent a relatively stable and low-risk cash flow to the NSW budget each year.

To put it in perspective, the $1.7B the NSW Government earns from the network businesses are equal to over 25% of payroll tax, 30% of transfer duties, and nearly 90% of taxes on gambling and betting.[11]

Under the proposed privatisation, 49% of the dividend payments would be lost to the buyer(s) and 100% of the tax equivalent payments lost – with company tax paid to the Australian Government – equivalent to approximately $1.3B this Financial Year.

The report concludes that such an approach would not be prudent given the scale of medium-term fiscal challenges already confronting the NSW Government. According to the recent Commonwealth budget, the NSW Government is set to face a significant strain on expenses as a result of cuts to federal funding for health and education.

In addition, the NSW Government's revenue trajectory is vulnerable to the possibility of a significant slow-down – or even correction – in housing prices and housing activity in Sydney. Much of the recent strength seen in NSW Government budget figures is attributable to rising stamp duty receipts. Nevertheless, the possibility of this revenue stream weakening has become substantially more likely given the potential regulatory and/or interest-rate policy changes flagged by the Reserve Bank of Australia (RBA).

A slowdown in the housing market, if severe, could have a material impact on the state's credit rating,

To put it in perspective, the $1.7B the NSW Government earns from the network businesses are equal to over 25% of payroll tax, 30% of transfer duties, and nearly 90% of taxes on gambling and betting.

given that keeping expense growth below revenue growth is also one of S&P's major credit-risk criteria.

Over the long-term, the ageing of NSW's population is also expected to have a severe, detrimental impact on the fiscal strength of the state budget. Declining participation rates will put downward pressure on payroll tax receipts, while increased health and ageing expenditure is expected to unavoidably increase government spending.

With shrinking revenue and growing budgetary risks already confronting the NSW Government, the decision to part with a non-volatile, reliable and recurrent dividend stream is not prudent in the long-run.

The report acknowledges that investing in infrastructure is a worthwhile and productivity-enhancing endeavor that ought to be encouraged. Nevertheless, state governments need to ensure that such investments are undertaken in a fiscally prudent manner. The sale of revenue generating assets to produce transport assets with recurrent liabilities does not meet this standard.

Weighing all these factors, the report disagrees with assertions that the privatisation of state-owned electricity assets is prudent from a budgetary or credit rating perspective. The report recommends that the NSW Government abandon the sale and reconsider its strategy for the NSW electricity sector.

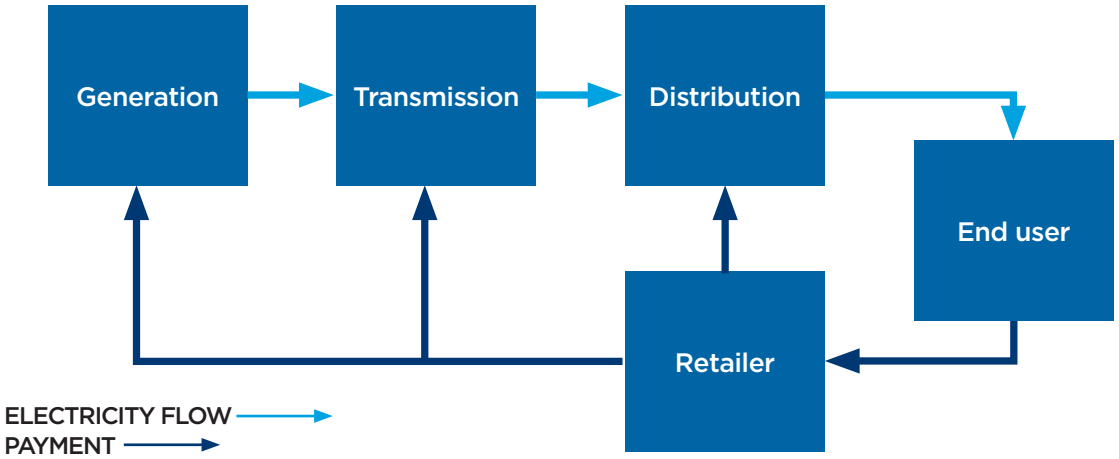
The Structure & Operation of the NSW Electricity Sector

In NSW, the electricity industry is separated into four sectors – Generation, Transmission, Distribution, and Retail.

Generation companies are those companies that are responsible for generating electricity, Transmission refers to the high-voltage energy infrastructure that carries power from the generators to the various Distribution networks, and Distribution refers to the lower-voltage energy infrastructure that carries power from the Transmission infrastructure to homes and businesses. Retail companies then compete against each other to competitively charge end users for access to the electricity that is produced via this system.

This system is illustrated in Figure 1 below.

FIGURE 1: ILLUSTRATION OF HOW THE ELECTRICITY MARKET WORKS



In NSW, ACT, QLD, VIC, SA, and TAS, generators sell their energy into a National Electricity Market (NEM) which then determines the return for generators based on spot prices. Transgrid provides Transmission for NSW as well as the ACT. Distribution in NSW is provided by Ausgrid, Endeavour Energy, and Essential Energy, with the latter servicing more rural parts of NSW and Southern Queensland. Retail providers including Energy Australia, Origin Energy, AGL, TRUenergy, and others all compete directly for consumer and business accounts.

The level of privatisation within the electricity sector is mixed, both within NSW and in other jurisdictions. In NSW, the electricity Retail sector is completely privatised. A substantial proportion of the state's electricity Generation is also privatised with further privatisation in the pipeline. T&D is currently under public ownership in NSW. Ownership of the T&D network also remains in public hands in QLD and Tasmania, whereas Victoria and South Australia have privatised their networks.

Figure 2 below shows the regions covered by each T&D network, and indicates whether they are privately or publicly-owned. Note that each state in the National Electricity Market only has one Transmission company.

Figure 2 also lists the Regulated Asset Base (RAB) for each company. The RAB represents the total value of all the capital assets that each network company holds. As is evident in the above table, whether public or private, the infrastructure investment that must be made in order to ensure reliable access to energy is significant.

The substantial fixed costs associated with T&D infrastructure makes it inefficient for new competing entities to enter the market and establish rival networks where energy infrastructure already exists. As such, electricity T&D networks tend to operate under a natural monopoly structure, regardless of whether they are publicly or privately-owned.

FIGURE 2: NETWORK PROVIDERS IN THE NEM[12]

	Provider type	State	Ownership	Regulated Asset Base (2013)
Ausgrid	Distribution	NSW	Public	$13.2B
Endeavour	Distribution	NSW	Public	$5.3B
Essential	Distribution	NSW**	Public	$6.4B
Powercor	Distribution	VIC	Private	$2.4B
CitiPower	Distribution	VIC	Private	$1.3B
United	Distribution	VIC	Private	$1.8B
AusNet (Distribution)	Distribution	VIC	Private	$2.8B
Jemena	Distribution	VIC	Private	$1.0B
SA Power	Distribution	SA	Private	$3.5B
Ergon	Distribution	QLD	Public	$8.8B
Energex	Distribution	QLD	Public	$10.2B
Aurora	Distribution	TAS	Public	$1.5B
ActewAGL	Distribution	ACT	Private/Public	$0.8B
Transend*	Transmission	TAS	Public	$1.2B
AusNet (Transmission)	Transmission	VIC	Private	$2.4B
Transgrid	Transmission	NSW	Public	$5.3B
Powerlink	Transmission	QLD	Public	$6.0B
ElectraNet	Transmission	SA	Private	$1.8B

Natural Monopoly, Regulation & Revenue Determination

In economic theory, a 'natural monopoly' refers to a firm whose fixed costs are sufficiently high that the benefits of competition in the market do not justify the presence of multiple players – that is, it makes economic sense to only have one player.

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Water supply is an excellent example – all else equal, having multiple players competing to provide you with water could theoretically push the price down, but this ignores the huge cost that would arise from building multiple competing damming, piping, and storage systems. The Transmission and Distribution of electricity is much the same.[13] Colloquially, this is often referred to as the 'poles and wires' of an electricity network, though in reality T&D infrastructure is substantially more diverse than that term would suggest. The massive capital infrastructure requirements associated with operating T&D networks ensures that the market will continue to operate in a natural monopoly context regardless of whether it's publicly or privately-owned.

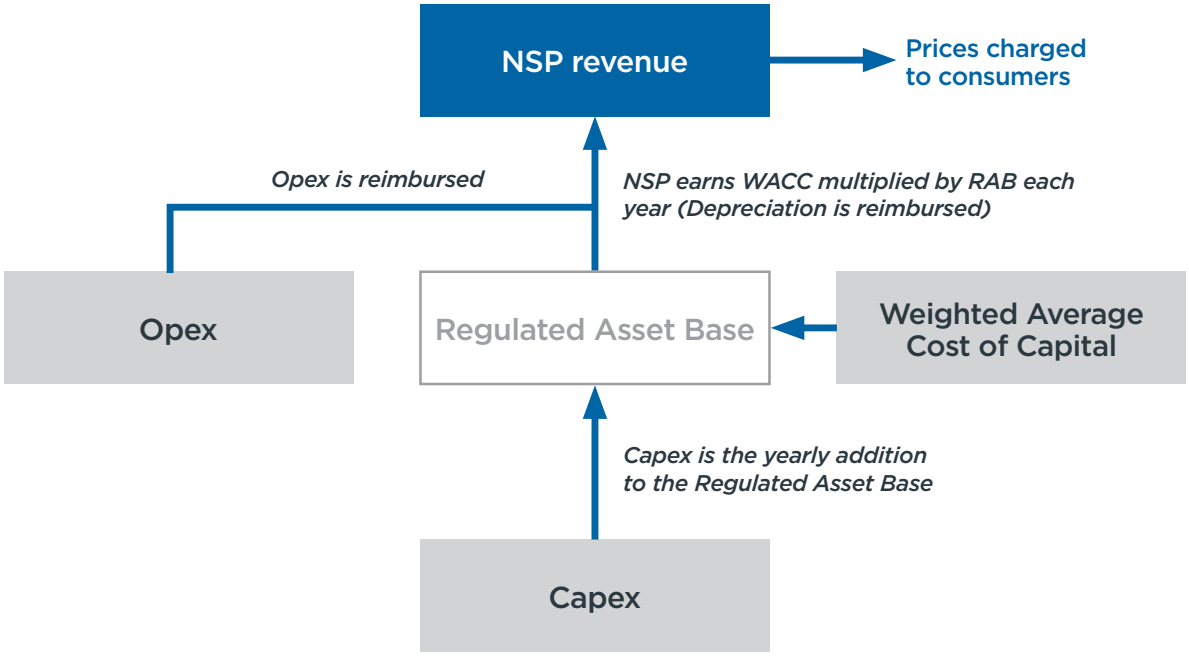
The challenge with a natural monopoly is that in the absence of appropriate regulation, there is a disturbing degree of market power placed within just one company. When that company is providing an essential service that consumers simply cannot do without, the absence of regulation would provide that company with an enormous ability to exploit its natural monopoly status to 'gouge' consumers and businesses through excessive price rises. For this reason, these networks are typically 'regulated monopolies'.

Methods for regulation differ from country to country, and in Australia's case, from state to state. In the National Electricity Market, a 'building block incentive-based' approach is used to limit the power of these regulated entities.[14] Here, the revenue that a network can earn over a regulatory period is set in advance and set equal to the estimated efficient cost of providing the network service for that period (the exact method for calculating allowed revenue is discussed in greater depth below). The network businesses are able to keep any difference between the allowed costs and their actual costs.

Because the level of revenue that each company can receive is fixed in advance, and because that level is based on the expected cost of providing each company's respective electricity service, a substantial degree of forecasting of both opex and capex is involved.

When determining the level of allowable revenue over a considered period, the Australian Energy Regulator uses a formula which provides companies with a reimbursement of opex, plus the multiplication of the Weighted Average Cost of Capital and the Regulated Asset Base over the period being considered, as well as reimbursement for depreciation of the RAB over the period. Though in reality the calculation is more complex, a simplified version of this formula is outlined in Figure 3.

FIGURE 3: HOW REVENUE IS DETERMINED FOR NETWORKS



DEFINITION OF THE WACC

The Weighted Average Cost of Capital (WACC) refers to the cost of providing capital to a firm. It is calculated as the weighted average of the required rate of return on the various forms of capital that make up a company's balance sheet (e.g. equity, debt, subordinated debt, and so on). In essence, it captures the necessary return a firm must make given its level of risk.

Normal Privatisation Arguments Do Not Apply to a Monopoly T&D Network

The argument for electricity privatisation hinges on two reasons for expecting privately-held firms to outperform their publicly-owned counterparts:

1. **'BY NATURE':** One argument is that a privately-held firm will operate more efficiently purely as a result of not being publicly-held. For instance, the firm may be more likely to hold a culture of excellence or promote based on meritocracy.

   This argument seems weak at best, and takes the efficiency of the market as an article of faith rather than an empirical and theoretical question to be thoughtfully examined on a case-by-case basis. Certainly anyone who has experienced the internal operations of a large company will know that it is a bold assumption to state that efficiency is in the DNA of privately-owned firms. Recent examples from the Global Financial Crisis shows in practical terms how privately-owned banks and financial institutions in the US, UK, and throughout Europe were hopelessly inefficient and poorly managed. Indeed, many have made the case that it was actually a lack of government regulation and involvement in those sector which allowed the crisis to evolve to the point at which it would plunge the global economy into recession.

2. **'BEATING FORECASTS':** The second argument is that privately-owned companies will have a stronger incentive to beat their forecast opex and capex over a particular regulatory period, and hence operate more efficiently. Revenue is determined for a regulatory period by the AER for a T&D network based on forecasts – if costs do not meet these forecasts, the firm will reap the difference as profit.

   It is, however, unclear why the same management principles would not apply to a publicly-owned firm. Even if a firm is publicly-owned, it still has a shareholder – the government – with efficiencies incentivised through the potential of stronger dividends for the budget. It's also worth noting that in the last regulatory period, NSW outperformed its capex forecasts by $3.7B – that is, over 20%. The evidence suggests that this 'beating forecasts' argument is weak and not compelling.

The theoretical argument for privately-held T&D companies operating more efficiently than publicly-held ones are not compelling or demonstrable. Fortunately, Australia has a 'quasi-experiment' – that is, a natural occurrence that in many ways resembles a controlled experiment – to draw from. While NSW, QLD and TAS all have publicly-owned T&D networks, VIC and SA are privatised. In principle, one can therefore compare the relative cost-efficiency of networks in across the states and draw conclusions accordingly.

As with any comparative analysis, the key is to control for differences between observations – that is, to ensure that the analysis does not compare 'apples with oranges'. In the instance of electricity privatisation, a failure to adequately account for key differences between the different entities appears to have led others to draw incorrect conclusions

around the relative efficiency of privatised T&D networks when compared with their public counterparts.

After taking into consideration state-specific costs and the role of the physical span of the network, this report finds that there is no compelling evidence that privately-held Distribution companies outperform on opex per customer.

This report also found that differences in capex per customer among Distribution companies was largely driven by network specific factors – primarily asset replacement and renewal – rather than ownership status.

Similarly, this report found no compelling evidence for superior cost performance from privatised Transmission companies.

LIKELY BUYERS OF THE NSW NETWORK BUSINESSES [15] [16] [17]

While bidding consortiums have not yet formed, a number of investors have been flagged as potential buyers for the NSW network assets. These include:

- Singapore Power
- Cheung Kong Infrastructure
- State Grid Corporation of China
- Spark Infrastructure
- DUET Group
- APA Group
- Various superannuation funds and fund managers in Australia and Canada, including Australian Super, Borealis, Queensland Investment Corporation, and Hastings Funds Management

Many of these businesses already operate within Australia's broader T&D market. State Grid Corporation and Singapore Power together own AusNet – which possesses a Distribution and Transmission arm – and Jemena. Cheung Kong and Spark together own Citi Power, PowerCor and SA Power. Singapore Power and DUET Group own United Energy. State Grid Corporation and two investment funds own ElectraNet. Cheung Kong also has a substantial shareholding in Spark (approximately 9%), which in turn has a substantial shareholding in DUET (approximately 8%).

Evidently, privatised network businesses in Australia are largely controlled by a small number of players, with the largest holdings owned by foreign governments and/or foreign companies.

CONSUMER VIEWS

When considering whether the privatisation of a state's T&D assets is a worthwhile endeavor, it is also important to consider the views of the consumers.

In a 2013 poll of 1,801 NSW residents:

- 80% of respondents said that the electricity network should be owned by the public and operated by the government to benefit the community;
- 92% said that foreign companies should not be allowed to own important infrastructure such as NSW's electricity network;
- 87% said that the issue of electricity privatisation would have some impact on how they vote at the next state election; and
- 71% said that government would do a better job at running the electricity network than private companies.

This last point is of particular importance. According to the most recent reports from both the NSW and Victorian Energy and Water Ombudsmen, electricity complaints in privatized Victoria far outweigh those seen in NSW. In 2013/14, NSW's Ombudsman received 30,349 complaints vs. Victoria's 60,517 complaints.

After adjusting for population, Victoria's complaint rate is 250% of NSW's.

This section will first provide a high-level review of price trends in electricity networks over the past few decades, comparing states with publicly-owned network businesses to those with privately-owned businesses. It will then consider the set of Distribution companies operating in the National Electricity Market. Cost comparisons are separated into opex and capex, with each considered in turn.

Transmission companies will be considered at the end of this section, though conclusions are more difficult to draw due to the small number of data points, with only 5 companies to compare.

This section will also compare the labour costs and overhead costs of public and private T&D companies.

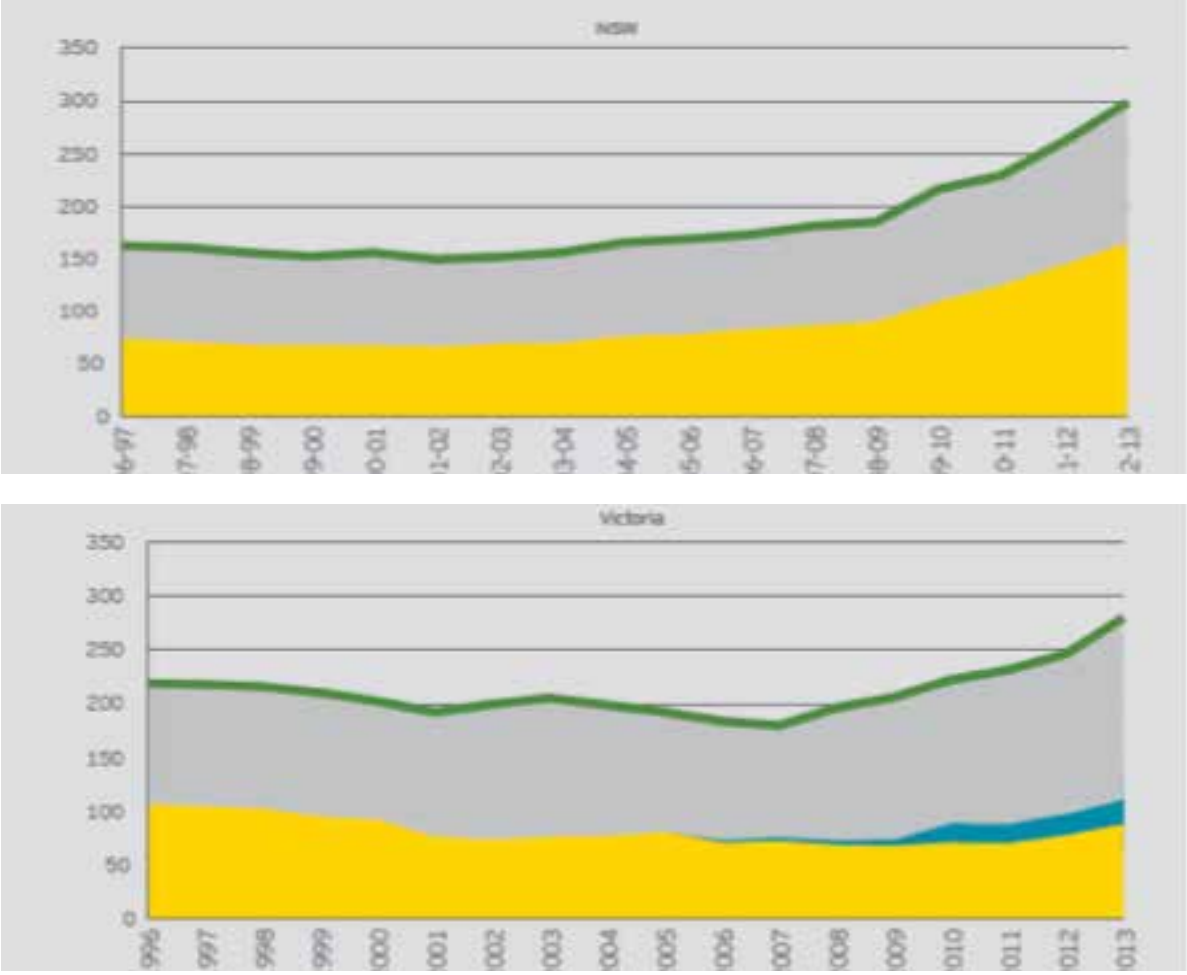
Network costs are murky

The report currently being used by the NSW Government to support its push for privatisation has argued that the component of prices attributable to the network businesses is lower in Victoria than in NSW, and suggests that Victorian network prices are lower today (after excluding inflation) than they were in 1996.[18][19]

For ease of reference, this report has reproduced the corresponding graphs from the report for both NSW and Victoria in Figure 4 below. While South Australia also offers a comparison point for privatised networks, the report only analysed this state up to 2010-11. As such, the South Australian comparison has not been reproduced below. Nevertheless, the following comments based on comparisons between Victoria and NSW would also hold when comparing NSW with South Australia.


MH
250W
DANGER
250V

FIGURE 4: DRIVERS OF CHANGES IN ELECTRICITY PRICES OVER TIME[20]



When considering the above graphs, there are a few important observations that need to be made.

- First, excluding smart metering ('AMI') in Victoria means the report has excluded the cost of metering services for these businesses. Therefore, metering costs should also have been excluded from network costs in NSW, or AMI costs included in Victoria. They weren't. The above analysis failed to ensure an adjusted comparison of the costs associated with different entities in different states.
- Second, the start date chosen for the above analyses has substantial implications for any conclusions that should be drawn from it. It must be noted that network costs in Victoria began at a much higher base for the initial year of analysis, whereas NSW was achieving substantially lower network costs in 1996. Contrary to allegations that privatisation has led to increased efficiency in network costs, what the data actually shows is that between 1996 and roughly the start of the last regulatory control period (2009), there was a convergence in network prices between the states.

Certainly, the data being used does not compellingly suggest that NSW costs would have fallen under privatisation, or equally that Victoria's costs would not have fallen if the businesses had remained under public ownership.

- Third, this analysis makes no attempt to take into account the physical span of the T&D networks in NSW. This is perhaps the most significant flaw in the above analysis. All else being equal, one would expect that the costs of NSW networks would be higher than Victoria's due to the greater difficulty in maintaining a geographically dispersed network as well as the sheer cost of building longer lines and more substations.

  With this in mind, the data would seem to suggest that Victoria has been playing 'catch up' to the NSW T&D network over the period being considered in the above analysis. This concept is explored further in later sections.

- Fourth, note that most of the divergence between network costs appeared over the last regulatory period in NSW. This period involved a substantial increase in capex from the NSW network businesses, largely driven by a need for asset replacement and renewal and to respond to government-mandated reliability standards.

  As will be explored in later sections, NSW capex is forecasted to be substantially lower in the coming regulatory period, indicating the current trends are unlikely to continue with further convergence being the most likely outcome.

Given the shortcomings in previous comparisons, this report has sought to provide a more appropriately detailed level of analysis by reviewing the drivers of cost differences at a more detailed level. This report draws on the detailed opex and capex data that is publicly available from the AER.

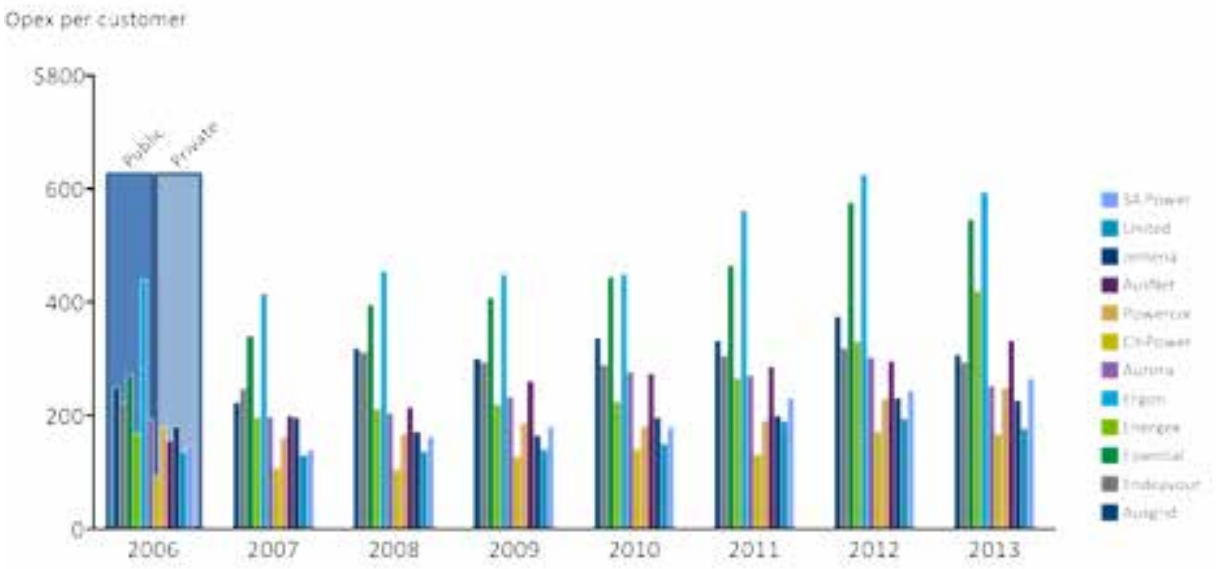
Simplistic 'first glance' analysis might suggests private networks have lower opex

The first step in comparing the relative opex of Distribution companies is to compare the data on a 'per customer' basis.

This report draws upon the recently available AER Economic-Benchmarking data for the period 2006 to 2013. Figure 5 below shows the opex per customer by Distribution network for each year from 2006 to 2013. For each year, publicly-owned companies are grouped together in the six bars on the left, while privately-owned companies are grouped in the six bars to the right.

The below graph appears to show that opex per customer has been consistently lower for privatised companies compared to public companies. This result is consistent with past findings.[21]

FIGURE 5: OPEX PER CUSTOMER BY DISTRIBUTION NETWORK [22] [23]



Even if non-comparable costs are removed, the results appear to be similar

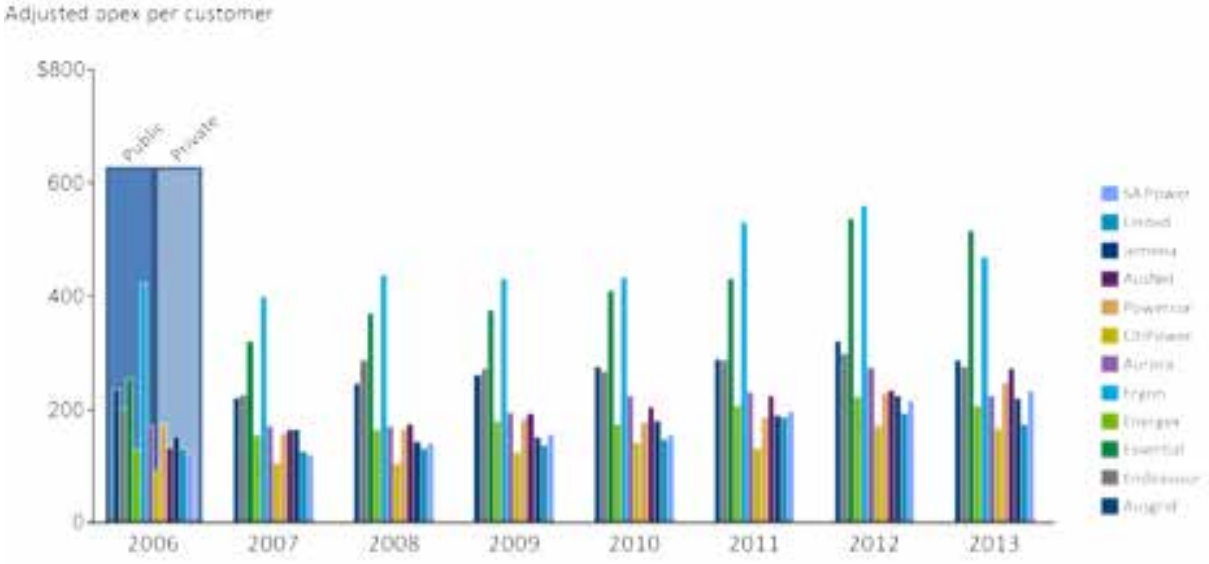
The above 'per customer' analysis is rudimentary in that it assumes that the customer profiles of different network are all identical. However, as has been noted previously in this report, it is critically important to assess the cost-efficiency of Distribution companies on a like-for-like comparison. A 'per customer' analysis does not achieve that.

The first step in achieving a like-for-like analysis is to exclude those costs that are state-specific. For instance, metering costs should be excluded from any comparative analysis given that these costs are reported differently in Victoria due to the AMI (smart-meter) program. Other costs that should be excluded include state-specific taxes and penalties, insurance costs, and costs relating to corporate financing (e.g. debt management) as it is difficult to attribute these to the efficiency (or inefficiency) of the firm.

Figure 6 below attempts to provide a more appropriate comparison between entities by removing these excludable items. At this stage of the analysis, the numbers appear to be somewhat similar to those presented in Figure 5, with a noticeable gap remaining for 'opex per customer' between private and public distributors.

It should, however, be noted that it was not possible to remove all of the exclusion-worthy costs due to aggregation in the AER data.

FIGURE 6: ADJUSTED OPEX PER CUSTOMER [24] [25]



However, size absolutely matters – physical span accounts for most of the variation in upkeep costs between public and private companies

Both Figure 5 and Figure 6 continue to provide an overly-simplistic comparison between public and private entities because of one final and extremely important factor not already considered in the tables above.

The major difference between distributors that has not yet been accounted for is the difference in physical span of the network – as measured by kilometres of route length. It is self-evident that a physically larger network will have higher operating expenditures. The cost to provide a utility to a disparate population is expected to be higher, in part because of the increased labour and transport costs associated with servicing a physically larger network.

This report notes that companies which have a relatively small number of customers that are geographically dispersed would likely have a higher opex per customer, even if the company's opex was just as efficiently managed as a different company with a larger number of customers operating in a more confined area.

This report undertook to empirically examine the extent to which the operating expenditure of a distributor was driven by this 'physical span' factor. The analysis paid particular attention to those costs that were directly attributable to network upkeep – i.e. inspection, maintenance, repair, vegetation management, and so forth.

The result was surprisingly strong. When a regression analysis of the impact of physical span on upkeep costs per customer was undertaken, there was a strong, simple and intuitively appealing correlation between network costs and line length. In other words, the greater the distance that has to be serviced, the higher the cost per customer of running the network upkeep aspect of the business.[26 27]

The report found that 88% of the variation in opex per GWh was directly attributable to differences in the physical span of networks, regardless of their status as public or privately-owned entities.

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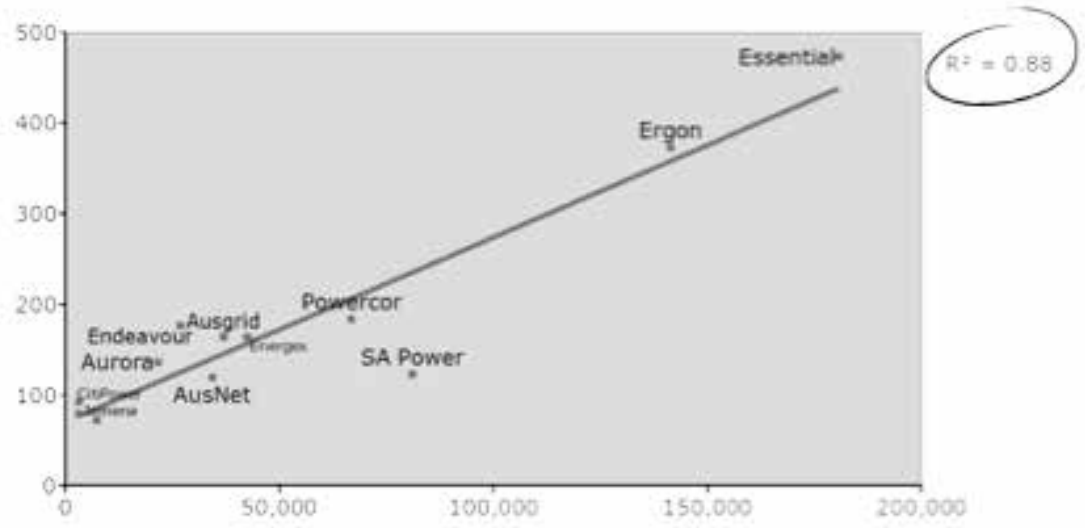
FIGURE 7: REGRESSION OF PHYSICAL SPAN ON UPKEEP COST PER CUSTOMER [28 29]



REGRESSION ANALYSIS: UNDERSTANDING THE IMPLICATIONS OF THE R2 FIGURE (ABOVE)

The R2 is a measure of the strength of the relationship between two variables. Specifically, it measures the extent of variation in the number of one variable (here, upkeep costs per customer) that can be attributed to another variable (here, the km line length of the network). An R2 of 88% is a very strong result, suggesting that the vast majority of the difference in upkeep costs per customer is actually attributable to differing physical span.

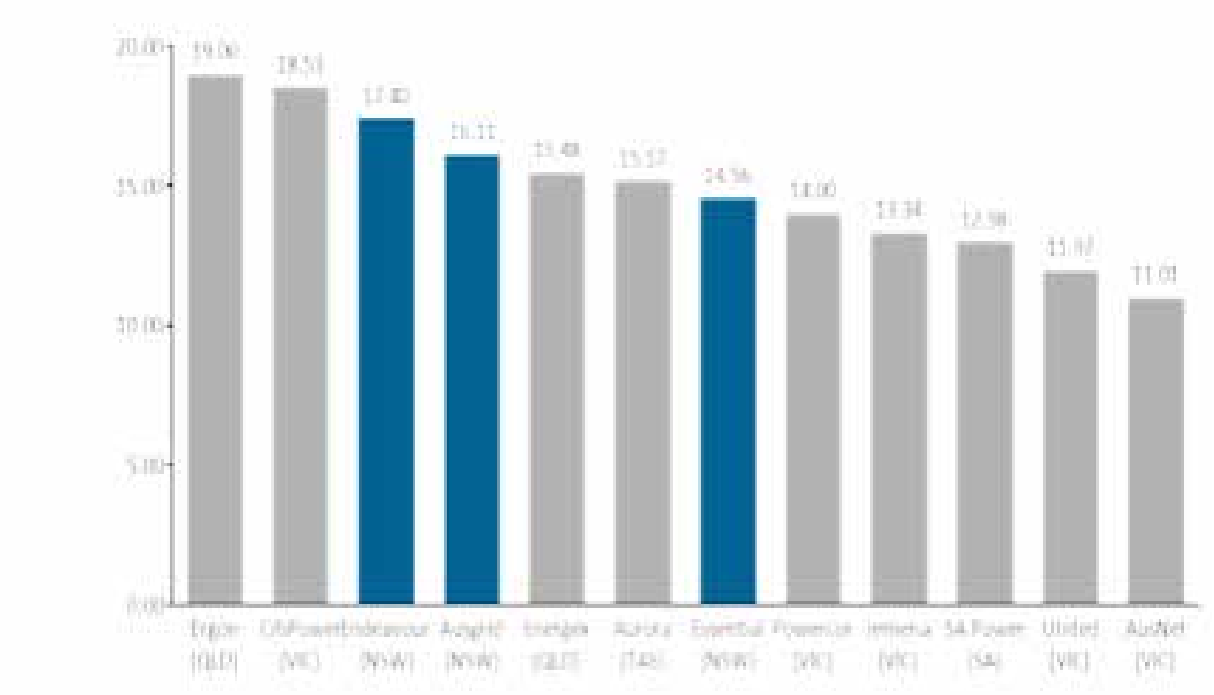
Note that, while this report has presented the results for the latest year available in the data, a strong correlation was also clear when using data from previous years.

This report also notes that other analyses have chosen to consider the relationship between opex and customer density, rather than between upkeep costs and physical span. This report argues that it has examined a superior and more intuitive relationship by focusing on physical span instead of customer density. Such an analysis accepts that the size of the network is a substantial driver of higher upkeep costs regardless of customer density. This is due to, for instance, a greater number of staff being required to service a larger number of poles, a greater area of impeding vegetation to be managed, and other such tasks.

It is also important to recognise that NSW's networks are not only larger, but also more energy intensive than almost all the privatised networks. This is attributable to a combination of factors, including greater gas use in Victoria, as well as the government-led smart-meter roll out.[30]

Figure 8 below compares the megawatt hours (MWh) per customer of the different Distribution businesses in the NEM. Observe that the median energy intensity is much lower in Victoria than it is for Ausgrid and Endeavour.

FIGURE 8: ENERGY INTENSITY BY DISTRIBUTION NETWORK [31]



The higher energy intensity experienced on NSW networks inevitably translates into having more assets that require maintenance – for example, more substations. For this reason, and all else being equal, it is critical to note that maintenance costs would logically be higher in NSW than in other states. This would be true regardless of whether the entity was publicly or privately-owned. Previous analysis appears to have overlooked the impact of higher energy intensity on network upkeep costs. This report also notes that NSW's Distribution businesses have a higher share of their network in underground assets, which are more costly to maintain.[32]

This report concludes that network upkeep costs should be excluded from any comparative analysis of the relative efficiency of different distributors, primarily because of the substantial differences in the physical span of networks, as well as other environmental factors such as energy intensity and the share of the network in underground assets.

The higher energy intensity experienced on NSW networks inevitably translates into having more assets that require maintenance – for example, more substations.

A failure to provide an analysis that appropriately excludes these costs runs a very serious risk of not comparing networks on a like-for-like basis. The following sections of this report attempt to provide a more nuanced and appropriate comparison of the cost factors affecting both public and private companies.

Labour costs: Public entities are competitive and efficient

During the interviews undertaken in the research process of this report, one potential explanation put forward to explain the variance in upkeep costs between public and private entities was the possibility that some states have more inflexible Enterprise Bargaining Agreements.

Specifically, concerns were raised with the authors of this report that those states with publicly-owned distributors – for instance, NSW – may have 'less flexible' provisions around contracting arrangements that protect workers but which also lead to higher costs.

A high-level review of the labour markets and EBAs in the relevant States did not support this assertion. In particular, this report notes that:

- **There is no clear relationship between contractor restrictions and the ownership status of networks across states.**

  The typical provisions in EBAs require contractors to specifically match the safety, performance and industrial standards for contractors to the standards that already exist for non-contract employees. This provision holds both in states with publicly-held businesses (such as NSW) and privately-held businesses (such as Victoria).

- **There is no clear relationship between contractor utilisation and costs across States.**

  This report notes that Tasmania's Distribution business has relatively low upkeep costs per customer and yet that state also has a very low contractor utilisation. This contrasts with claims that a largely non-contract workforce will automatically result in higher upkeep costs.

- **More generally, this report found that labour was more expensive in states with privately-owned businesses.**

  This report found that non-managerial labour was significantly more expensive in the Victorian electricity market than in NSW, with average weekly cash earnings of around $2,330 in Victoria compared to $1,970 in NSW.[33] This contradicts the assertion that upkeep costs are higher in those states with publicly-owned Distribution networks because of some alleged 'inflexibility' within the T&D workforces of those states.

After considering these findings, this report concluded that recent arguments suggesting that privatisation will achieve lower upkeep costs through a private-sector led 'workforce restructuring' are flawed.

Physical span will continue to account for most of the variance in upkeep costs per customer, regardless of whether an entity is publicly or privately-owned.

Administration costs: Private companies underperform against public entities

Excluding network upkeep costs paints a very different picture of the relative efficiency of NSW's distributors. Figure 9 plots the remaining opex per customer for each distributor once these factors are stripped out from the analysis.

Observe that the privatised networks appear to be operating less efficiently than most of the publicly-owned networks. In fact, the lowest overhead networks are found at publicly-owned companies, while the highest overhead costs are found at privately-owned companies.

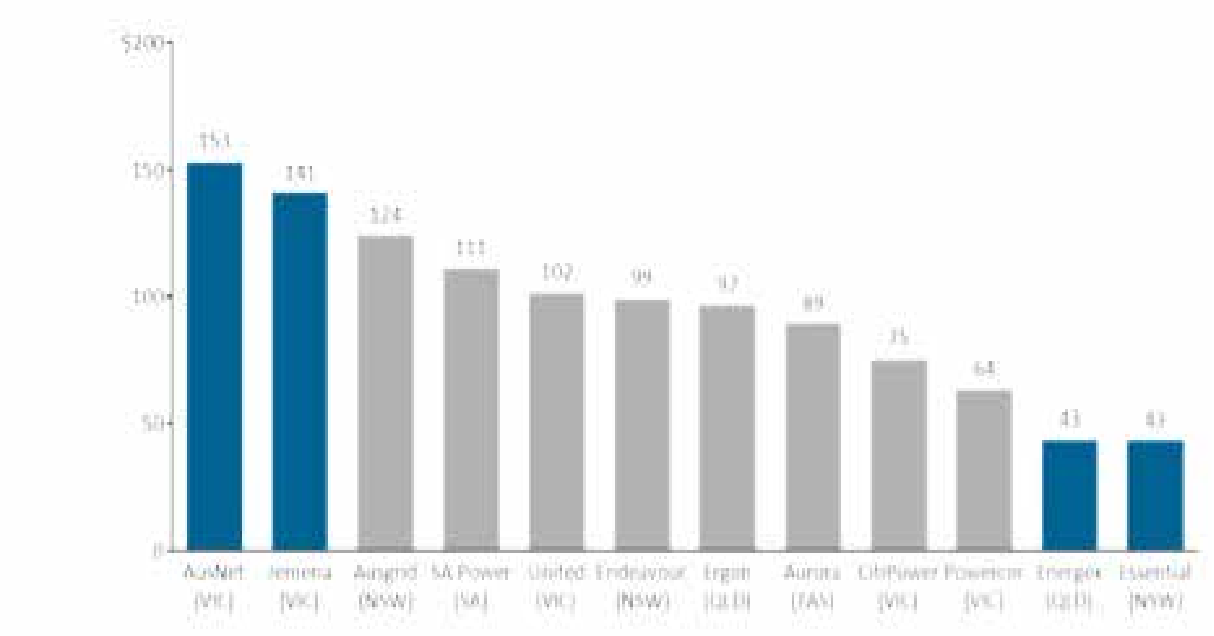
What Figure 10 analysis shows is that, once physical span and other state specific factors are excluded, operating expenditure is higher in privatised states than in non-privatised states.

Equally as important, these expenses are growing faster in privatised states, indicating that NSW T&D companies are actually operating more efficiently than their Victorian counterparts.

There is no compelling evidence to support the argument that NSW would automatically improve the efficiency of its operating expenditure if its T&D assets were privatised.

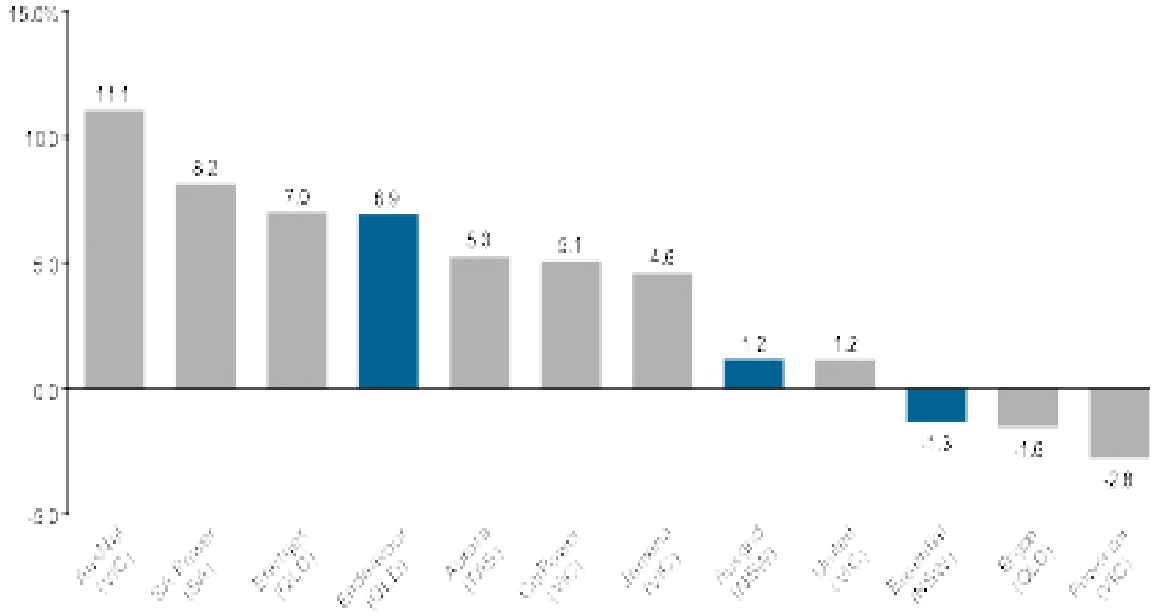
In fact, the opposite is likely to be true, with less efficient outcomes resulting in higher costs for end users.

FIGURE 9: COMPARING OPEX AFTER EXCLUDING UPKEEP COSTS [34]



Moreover, as Figure 10 below shows, these costs have grown at a substantially faster rate in the privatised states than has been the case in NSW.

FIGURE 10: GROWTH IN OVERHEADS OF PRIVATE AND PUBLIC DISTRIBUTION BUSINESSES [35]



Publicly-owned firms are not afraid to undertake capex when it is needed

In a similar vein to our opex analysis, this report has compared the capex per customer of the various network providers.

As occurred with opex, preliminary evidence would appear to suggest a higher capex per customer for public networks.

As noted in the previous section of this report however, energy intensity varies significantly across the states. While it was most intuitive to compare operating expenses on a per customer basis, it is substantially more accurate to examine capex in terms of cost per GWh. This is because the required investment for one given network will not be the same as for another network if the energy intensity of each network's customers is different. This holds true even if both networks have an equal number of customers. Consideration must also be given to state based reliability standards which contribute to Capex requirements.

Figure 12 below shows Capex per GWh for the various Distribution businesses. Note here that the divergence between private and public networks is much less clear, though on average NSW's networks do appear to have been spending more on capex, particularly in the last few years.

FIGURE 11: CAPEX PER CUSTOMER [36]

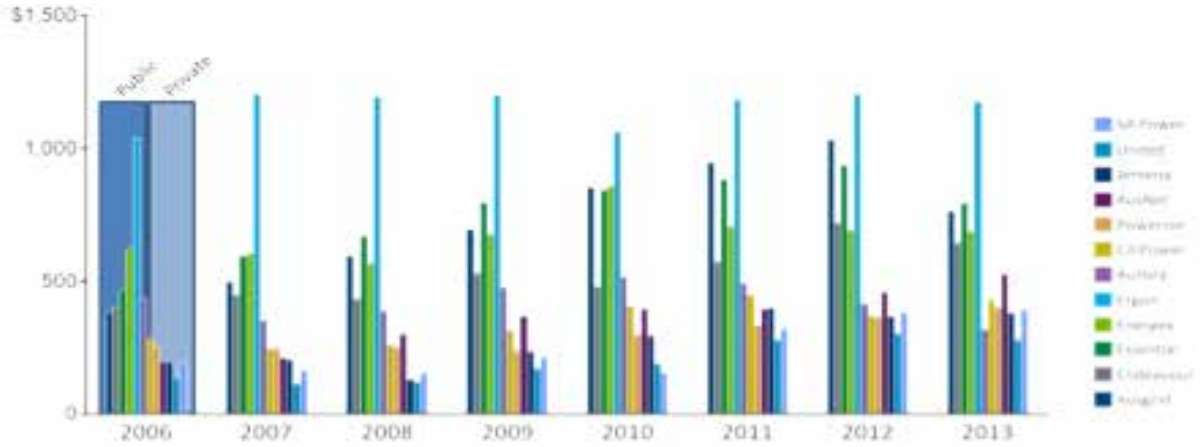


FIGURE 12 – CAPEX PER GWH [37]

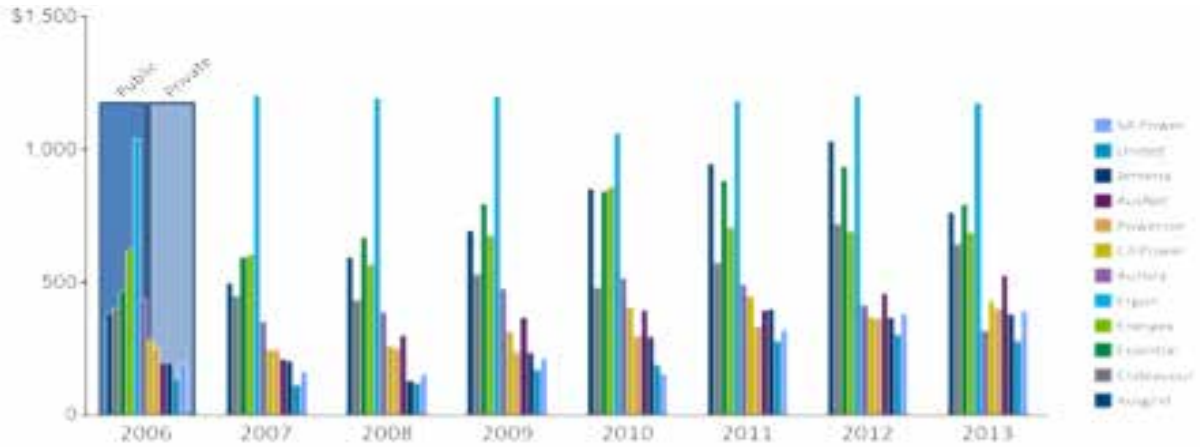
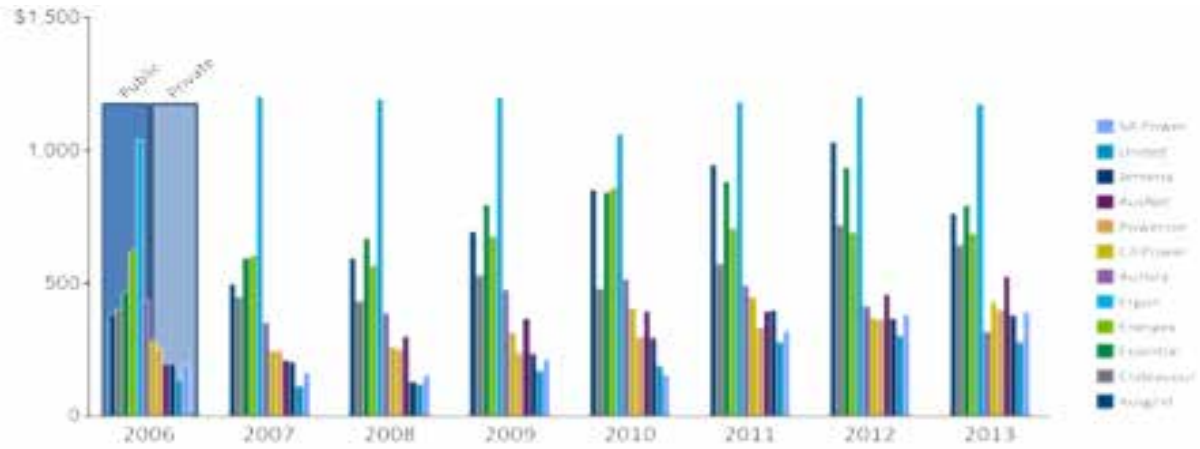


FIGURE 13: REGRESSION OF CAPEX PER GWH ON PHYSICAL SPAN [38]



As with opex, this report was interested in examining the relationship between capex and the physical span of the network. All else being equal, the cost of meeting a given level of demand for electricity will in a large part depend on the physical span of the network. This is because longer lines and more substations would be required to deliver the same amount of power across a more geographically dispersed network.

When determining the impact of physical span on capex, the report found that 50% of the variation in capex per GWh was directly attributable to differences in the physical span of networks, regardless of their status as public or privately-owned entities.

This suggests that a substantial portion of the difference in capex across public and private networks can be directly attributed to physical span. Again, this report notes that the below results are replicable for previous years, and in fact were even stronger in some previous years.

This report also sought to understand what has been driving the remaining variation in capex per customer across states. In undertaking this analysis, the report found that Ausgrid spent a significantly higher share of its capex on asset replacement and renewal compared to the median of all Distribution companies. In the last regulatory period, Ausgrid spent 42% of its capex on asset renewal and replacement compared to a median of 21% for all Distribution companies.[39] Endeavour also spent a higher proportion of its capex on asset replacement and renewal, with 25% of total capex dedicated to this task.

the report found that 50% of the variation in capex per GWh was directly attributable to differences in the physical span of networks, regardless of their status as public or privately-owned entities.

As discussed in Box 5, asset renewal can be a highly costly exercise, and yet the scale of renewal required can be hidden by looking at overall figures for remaining asset lives – for instance, due to large one-off expenses such as the building or replacing of substations. In this way, it is important to consider when particular assets are being replaced, rather than just taking an 'aggregate' perspective of capex, remaining asset lifespan, and/or the size of the Regulated Asset Base.

During the interview process of this report, the authors sought further clarification on this point from a key supplier of network assets. The supplier

explained that over the past few years, Ausgrid has spent a large amount of money replacing its old assets with 33Kv assets, which, while involving a significant short-term cost, will put the network in a very strong position going forward. This would indicate that the higher capex of NSW companies is actually intended to deliver greater efficiencies in the long-run, with lower costs projected for future years.

This report also notes that the NSW Government's own report on the topic has indicated that Victoria and South Australia may need to engage in significant asset renewal in coming years due to the life cycle stage of some of their assets.[40] This would indicate that Victoria is likely to see an increase in capex at the same time that NSW is seeing a decrease. Such factors are of critical importance when considering the recent capex performance of both public and private entities.

...consumers in NSW now experience higher levels of reliability, less frequent outages, and outages that are shorter in duration.

This report also notes that NSW Distribution companies have in recent years operated under more stringent reliability and safety regulations that have also contributed to higher Capex requirements, though these are set to ease in the future. Nevertheless, this report undertook an examination of recent NSW capex to determine whether increased investments had led to improved reliability outcomes for end users.

An examination of the frequency and duration of interruptions in NSW – using both the System Average Interruption Frequency Index (SAIFI) and the System Average Interruption Duration Index (SAIDI) – found that reliability standards have certainly improved in NSW following recent investments in T&D networks.

Notably, each index had a substantially lower value in 2013 than was the case in 2008 – i.e. before the start of the last regulatory period.[41] This means that consumers in NSW now experience higher levels of

reliability, less frequent outages, and outages that are shorter in duration.

The one exception is with Essential, which enjoys a lower frequency of outage (SAIFI), but which is yet to achieve a lower duration of outage when those less frequent outages do occur (SAIDI). In explaining that, this report notes that Essential has seen a lower proportion of recent capex dedicated to asset replacement and renewal than has been the case in other NSW companies.

Nevertheless, this analysis shows that more stringent reliability requirements have been a key driver of higher capex in NSW in recent years. This is not itself a bad thing, it simply reflects that customers in NSW have been paying extra for substantial improvements in the reliability of their electricity.

It is beyond the scope of this report to examine in detail the technical elements of the various Distribution companies' investment programs, but in relation to capex, there are two important points to note.

The first point, ascertained from discussions with asset suppliers, is that preferential pricing typically does not occur in this market. Preferential pricing is when one purchaser is offered a better price or rate on all or part of their business. This report found that T&D companies were not given different prices for network assets depending on whether the organisation was publicly or privately-owned.

What does occur is discounts for large-scale purchases. This would indicate that larger publicly-owned networks engaging in major asset renewal programs – for instance, in NSW – are better able to secure lower cost unit prices when purchasing network assets. More importantly, there is no evidence to suggest that privately-owned networks would be able to outperform publicly-owned-networks when it comes to negotiating supplier costs.

The second point to note is that the AER employs a team of consultants to review in detail each Distribution company's capital investment plan for each regulatory period. Through an iterative process, the AER and the Distribution companies thus reach an agreed allowance for capex over the period.

larger publicly-owned networks engaging in major asset renewal programs...are better able to secure lower cost unit prices when purchasing network assets. More importantly, there is no evidence to suggest that privately-owned networks would be able to outperform publicly-owned-networks when it comes to negotiating supplier costs

In the absence of any data to the contrary, it should therefore be assumed that any excessive capex over the recent peak cycle in NSW's capital investment would have been picked up by this process. Similarly, it should also be assumed that any excessive capital investments by a privately-held company would be equally likely to be picked up by the regulator.

However, insufficient investments to meet the longer-term needs of the network would presumably be more difficult for the regulator to assess. This argument is examined in further detail below.

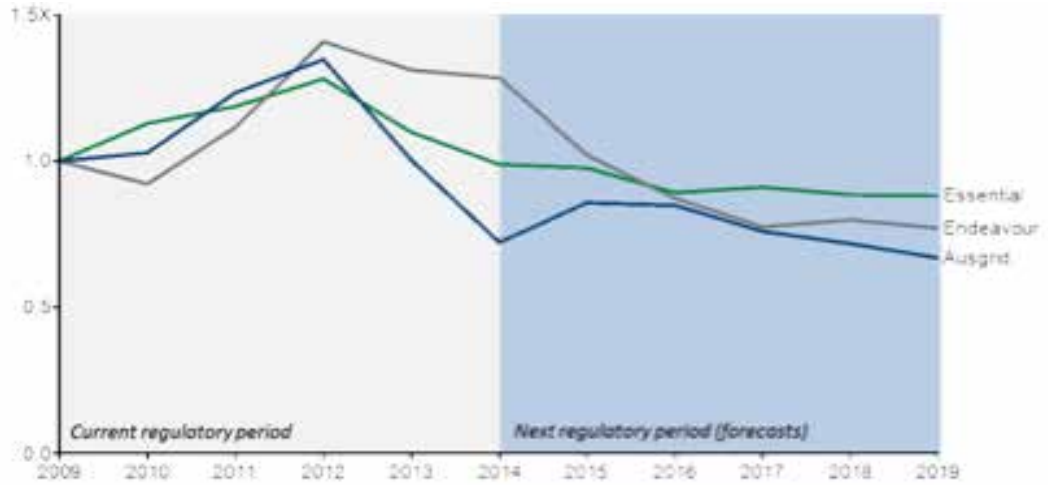
Publicly-owned firms have more cyclical investment cycles because they prioritise investment efficiency over steady dividend streams for private investors

Through discussions with the AER, the authors found that government-owned Distribution companies have historically seen much greater cyclicality in their capex than their privately-owned companies. This is particularly true for the comparison between NSW and Victoria.

This report contends that the differing investment cycles are likely linked to a greater willingness of public firms to undertake large-scale capex when there is a clear need. This provides a clear benefit to the consumers of electricity and to the long term efficiency of the company's capital investment strategy. In contrast, privately owned firms are more likely to defer important capex in order to meet the demands of private shareholders who generally expect less volatile profits and dividends.

The last regulatory period in NSW shows a clear peak in the NSW T&D investment cycle. Figure 14 below shows a marked downturn in capex per customer in NSW in the final two years of the regulatory period, with the effect particularly pronounced for Ausgrid. Furthermore, capex per customer is expected to be substantially lower for all three NSW Distribution companies in the coming regulatory period.

FIGURE 14 – NSW CAPEX CYCLE [42]



This report notes that, given the AER's draft determination, capex will probably be even lower in NSW than forecasts presented in Figure 14 (though at the time of writing the determination is yet to go through the required community consultation process).[43]

This report considered why public companies have greater cyclicality of capex than their private counterparts.

One argument could be that public networks are more open to government influence and therefore tend to have less consistent capital investment plans. However, the components of capex that are directly attributable to regulation were somewhere in the order of just 10-20% of total capex in NSW in this last regulatory period.[44] This would suggest that government influence is not a leading factor behind the greater variance in public sector capex relative to that of the private sector.

What is substantially more likely to influence the differing degrees of cyclicality is the differing incentives driving publicly and privately-owned networks. Many investment funds and other shareholders choose to buy equity in utility stocks because they represent a low-risk asset that provides a steady stream of dividends. A utility stock with volatile dividends driven by large and irregular capex spending would not be well received by the market with its share price suffering as a result.

At these privately-owned networks, the key question for management then becomes 'how do we deliver the highest-possible consistent stream of dividends?'

Given the revenue framework that prevails in the National Electricity Market – where the profits of a utility company are determined by the size of the RAB – and therefore the level of capex undertaken – it is self-evident that the investment strategy that is most likely to be well received by shareholders would be to simply maintain a consistent, non-volatile capex program over time.

This remains true even if there are cost efficiencies and savings to be gained through a more cyclical investment strategy. There is no reason to believe that this would correspond to the lowest long-term capex – in fact, the economic incentive is actually the reverse. In essence, a trade-off has been accepted whereby lower volatility is prioritised over investment cost efficiency.

Publicly-owned utilities are less exposed to these requirements because the shareholder – the state government – is not as concerned with a non-volatile dividend stream, and as such, is more tolerant of a cyclical investment strategy if it achieves better outcomes for people in the state in the long-run. This points a very different light on recent cost drivers in NSW Distribution such as Ausgrid's asset renewal and replacement program – these may in fact represent the optimal outcome for the customer over the long-term.

Overall, it is clear that a large part of the increases in electricity prices in NSW over the past few years can be attributed to an uptick in capital investment by Distribution networks. However, this report rejects the hypothesis that customers would have been better off under a privatised ownership structure.

UNDERSTANDING DRIVERS OF CAPEX [45]

In NSW, capex is broken down into five categories:

1. **DEMAND AUGMENTATION:** This refers to the increase in the regulated asset base that is necessary to keep pace with increased demands for electricity. Importantly, Distribution (and Transmission) networks must keep pace not with total demand on the network, but rather with peak demand (the highest period of demand on the network). This is because the system fails (i.e. blackouts occur) when demand exceeds peak supply.

   Moreover, it is not just overall peak demand that networks need to be concerned with, but also peak demand on particular parts of the network. For instance, if peak demand is expanding at a faster rate in regional areas than in metropolitan areas, capital expenditure on those arms will have to increase in response. Simply examining trends in overall peak demand for a particular network will not necessarily reveal the necessary increase in capital expenditure, particularly for networks that are more geographically disparate.

2. **ASSET RENEWAL AND REPLACEMENT:** This refers to the capital expenditure required to replace existing components of the network that either have completed their lifespan or are no longer sufficient for the needs of the network. There are different types of assets that make up a Distribution network: overhead Distribution assets less than 33kV (wires and poles); overhead Distribution assets more than 33kV (including towers); underground Distribution assets less than and more than 33kV (cables and ducts); Distribution substations; substations; easements; and others.

   The challenge is that there is substantial variance in the cost per unit of these different asset types. For instance, while one can look at the remaining lifespan for the poles and wires network across different Distribution companies to develop a picture of necessary replacement costs, the fact is that replacing just one substation is an incredibly expensive exercise - looking at the overall lifespan for such assets risks drawing incorrect conclusions due to too much aggregation of the data.

3. **RELIABILITY AND QUALITY:** This refers to the augmentation of the network that a Distribution company must engage in to meet the state-specific regulatory requirements for reliability and quality.

4. **ENVIRONMENTAL AND SAFETY:** There are important environmental and safety considerations in Distribution (and Transmission) networks. One that is particularly poignant for NSW is fire risk. Distribution companies must undertake regular capital investments to minimise such risks.

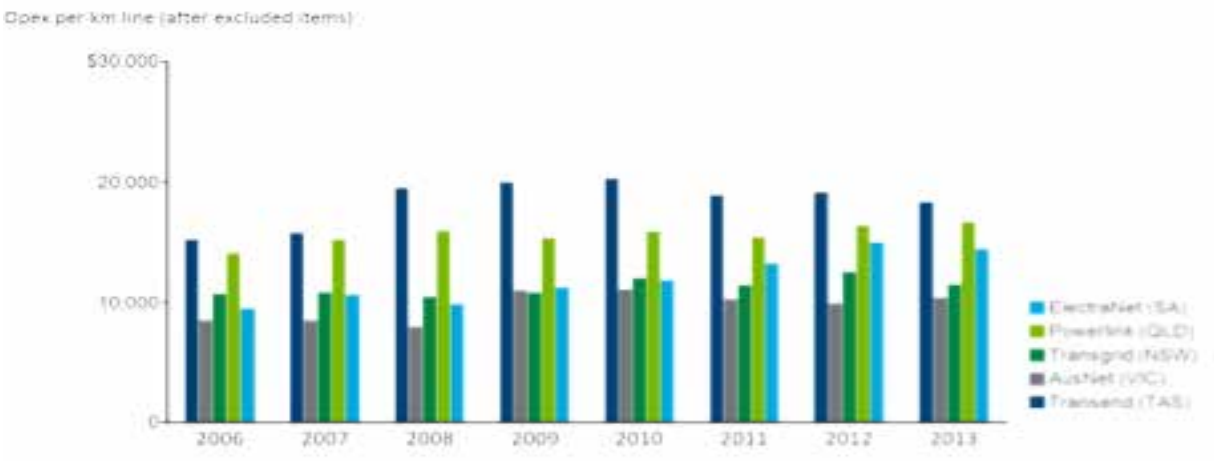
5. **NON-SYSTEM ASSETS:** This item refers to other expenses counted in capex, such as motor vehicles.

No clear evidence of publicly-held Transmission companies underperforming

This report also reviewed the opex and capex of Transmission companies in the National Electricity Market. Unfortunately, the limitation of this analysis to just 5 data points makes it more difficult to draw strong conclusions. Nevertheless, the evidence again suggests that private companies do not outperform their public counterparts on either opex (after excludable items) or capex.

Figure 15 below opex per km line after excludable items – shows that in recent years Transgrid has typically performed somewhere in-between ElectraNet and AusNet – the two privately-owned Transmission networks. Even at a rudimentary level of analysis, the data does not suggest that Transgrid would necessarily operate with lower opex under private ownership.

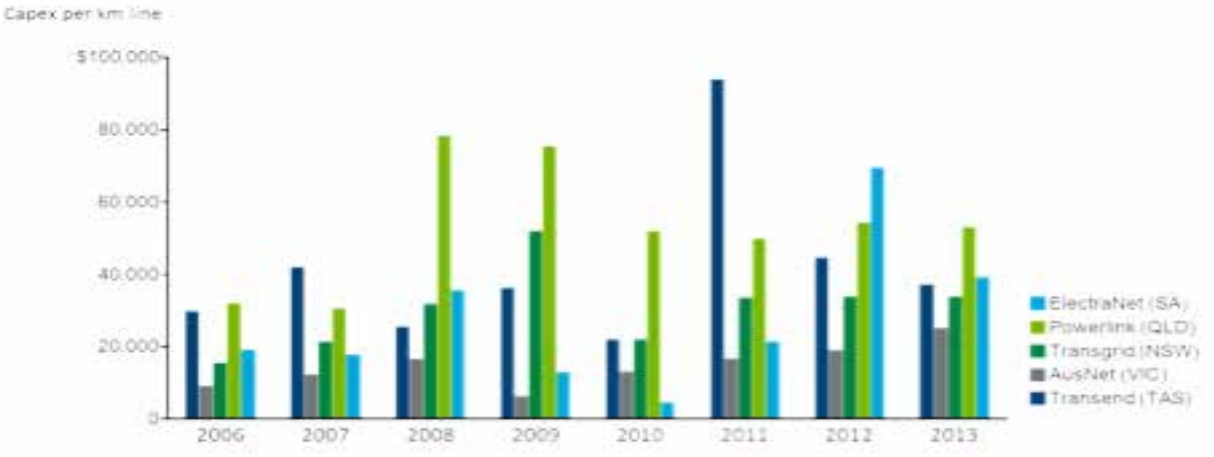
FIGURE 15: COMPARISON OF OPEX OF PRIVATE AND PUBLIC TRANSMISSION NETWORKS [46]



Note that this report has decided to use costs per kilometre of line length in the below, rather than per customer, as the latter is a less relevant metric for Transmission networks given that they do not provide power directly to an end customer. This report was unable to compare the networks on a GWh basis due to gaps in the data available.

Figure 16 below also compares capex per kilometre of line length for the different Transmission companies. The data shows that that there has been a high degree of variability in the capex of Transmission companies over recent years. This is likely driven by the nature of the Transmission assets, with investments being delivered through large and discrete costs.

FIGURE 16: COMPARISON OF CAPEX OF PUBLIC AND PRIVATE TRANSMISSION NETWORKS [47]



Again, there is no clear pattern of Transgrid underperforming on costs relative to the private networks. While capex was materially higher in 2009 for Transgrid relative to ElectraNet and AusNet, observe that ElectraNet (privately-owned) spent roughly double Transgrid's capex in 2012.

The data provides no evidence whatsoever to suggest that Transgrid's capex performance would improve under privatisation. In fact, for similar reasons to those that were outlined when comparing public and private Distribution companies, privatisation could introduce new incentives that actually worsen outcomes for end users in the long-run.

Households are set to pay more under privatisation

Previous analyses that have attempted to determine the impact of privatisation on household bills by simply comparing how network costs have changed in NSW and Victoria are limited. These analyses are too simplistic and undermined by failing to compare the companies on a like-for-like basis.

As discussed earlier, previous analysis has failed to acknowledge that network costs were at a much higher level in Victoria at the time of privatisation than they were in NSW.[48] It would be reasonable to expect costs would have moderated whether the company was public or private.

Moreover, this report has also outlined how the differing physical span of the Victoria's and NSW's T&D networks means the costs associated with those network businesses will naturally be higher in NSW than Victoria, all else equal. This would be true regardless of whether NSW entities are operating under a public or private ownership structure. This critical factor has also been missed in previous analysis.

Finally, the recent need for asset renewal and replacement, as well as changes in regulatory standards, have both led to higher capex in NSW over recent years. Consumers have received significant enhancements in reliability as a result of these investments, while the network has been set up to be able to respond to future requirements on part of the network.

In contrast to recent claims by the NSW Government, the evidence suggests that prices are in fact likely to be higher under privatisation in the long-run.

There is no evidence to suggest that capex will be more efficiently delivered under privatisation. This report also notes that NSW T&D companies have forecasted lower investment in capital over the next regulatory period, as the major upgrades and investments have largely already been undertaken over the past 5 years. In addition, given that private operators have an added requirement to deliver constant and steadily growing dividends, it is

reasonable to expect that the capex component of prices would be at least as high, and perhaps even higher, for privatised companies than public companies over coming years.

Forecasting a precise value for this would be fraught with difficulties and is beyond the scope of this report. Nevertheless, the broader incentives and existing regulatory framework for determining returns is well known, and as such, the broader investment trends for private companies vs. public companies is clear. Utility companies have a more restricted investment capacity because of the trade-off required to ensure less volatility in the dividends provided to private shareholders. In contrast, public companies are able to invest with greater flexibility.

Public companies put a higher premium on cost efficiency, whereas private companies have added restriction imposed by the need to ensure less volatility in their investment strategy.

There is absolutely no reason to believe network upkeep costs would be lower under a private model than a public one. As examined throughout this report, upkeep costs are heavily dependent on the physical span of networks as well as the level of energy intensity. These costs could fall if privatised networks began to provide less servicing to more remote parts of the network, which would likely lead to more frequent and lengthier power failures. Provided the existing reliability standards are maintained, all else being equal, there is nothing to suggest that upkeep costs would be lower or more efficient under privatisation.

The only area where a change in ownership would likely result in a change in electricity bills would come from changes in overhead expenses – including but not limited to changes in costs associated with administrative staffing, advertising and marketing, offices, and executive remuneration

Privately-owned AusNet has both higher overhead costs and faster growth in its overhead costs than comparable, publicly-owned companies in NSW.

The only area where a change in ownership would likely result in a change in electricity bills would come from changes in overhead expenses – including but not limited to changes in costs associated with administrative staffing, advertising and marketing, offices, and executive remuneration – as the formerly publicly-owned businesses change their operating model to better align with other private organisations.

A preliminary comparison between the weighted average overhead costs per customer in NSW (excluding Essential Energy customers) and the weighted average overhead costs per customer in Victoria results in figures that are broadly similar.[49]

However, this approach is simplistic and does not account for critical differences between the different T&D companies.

For example, Citipower has a very small physical network span and services the CBD and Urban areas exclusively, whereas both Ausgrid and Endeavour are relatively large networks that have a much higher proportion of their customers on Short Rural lines. This involves, for instance, more staff and divisional offices.

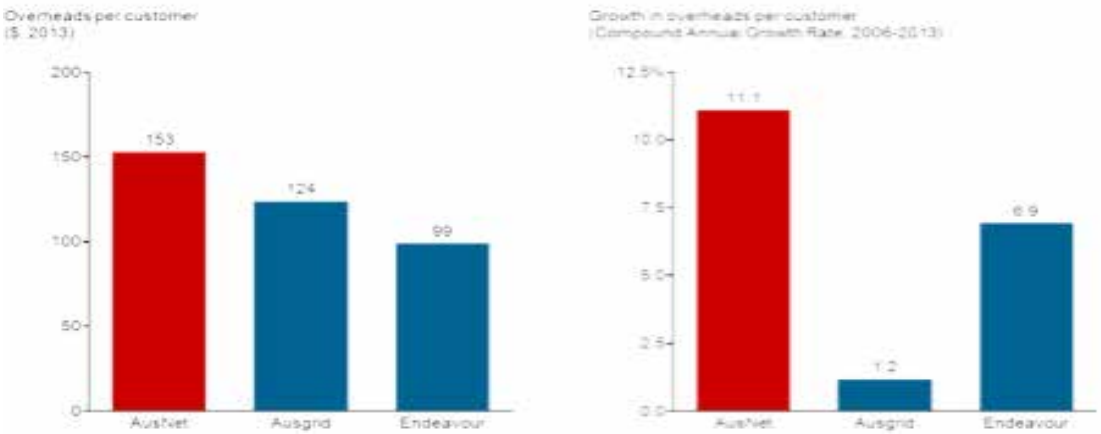
To provide an appropriate comparison between public and private entities, this report reviewed the various privatised networks to determine which company would provide the best comparison point. This report decided on AusNet for the following reasons:

1. It has a physical network that is reasonably close in size to Ausgrid and Endeavour;
2. It has a substantial share of its business on Short Rural lines; and
3. It is owned by Singapore Power and State Grid Corporation of China, which are touted as two potential buyers for the NSW network businesses (see Box 2)

Privately-owned AusNet has both higher overhead costs and faster growth in its overhead costs than comparable, publicly-owned companies in NSW. Using AusNet as the comparative point, this report calculated that overhead costs per customer would increase for the average NSW customer – on the

The difference in overheads is illustrated in Figure 17 below.

FIGURE 17:
HIGHER OVERHEAD COSTS FOR AUSGRID AND ENDEAVOUR CUSTOMERS UNDER PRIVATISATION



Ausgrid or Endeavour networks – by approximately $38 a year, assuming that privatisation leads to a broader restructuring that would bring costs more into line with those at AusNet.

When the faster rate of growth in these overhead costs is taken into account, the figure increases to around $103 a year within just 5 years.

When taken together, this report calculates that the average NSW customer could end up paying nearly $350 more through higher overhead costs over a total 5 year timeframe.

The rising cost of privatisation to the average customer on the Ausgrid or Endeavour networks is illustrated in Figure 18 below.

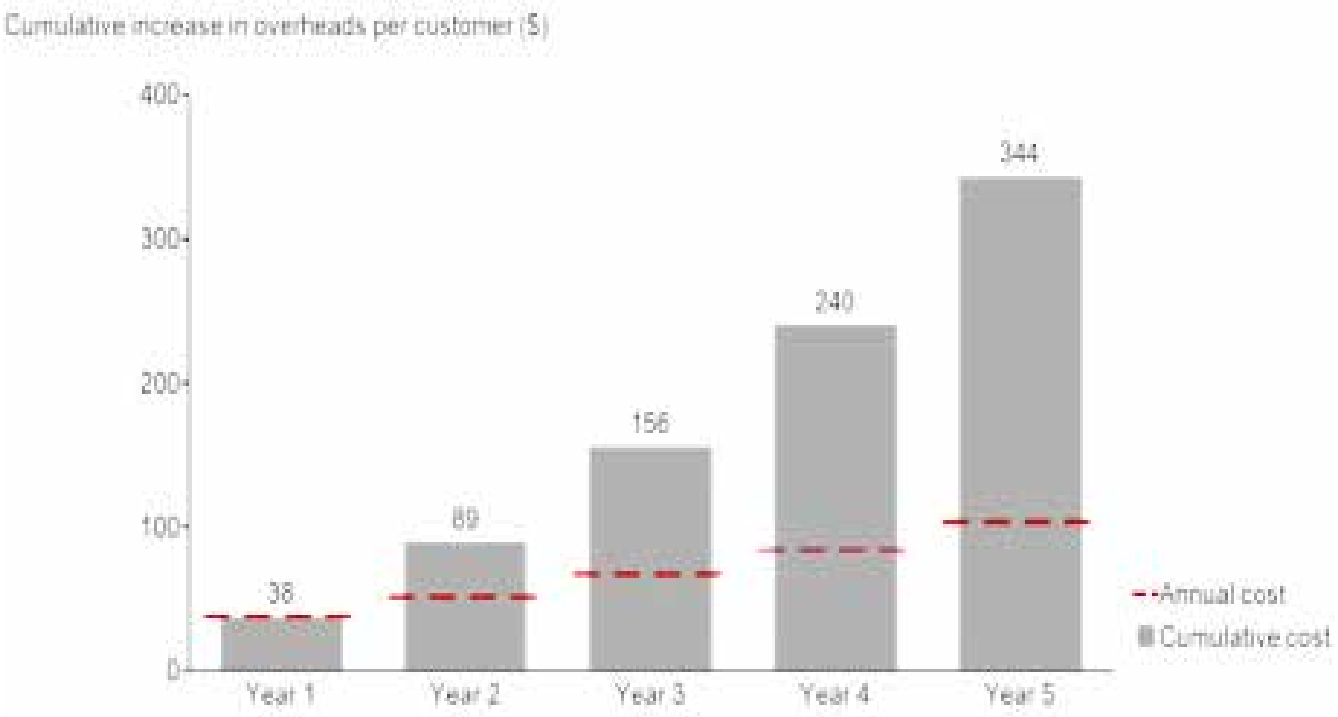
This report has focused on average costs per customer, rather than separating out household and business customers, in order to minimise assumptions imposed.

Contrary to promises that privatisation will lead to more efficient outcomes, the higher and faster growing overhead costs at privately-owned AusNet strongly suggests that privatisation is likely to result in higher costs. These costs are inevitably passed on to end users.

If Ausgrid and Endeavour were to experience similar overhead costs to their most comparable private counterpart, the result of privatisation would be a substantial increase in the financial burden placed on NSW households and businesses.[50] [51]

If Ausgrid and Endeavour were to experience similar overhead costs to their most comparable private counterpart, the result of privatisation would be a substantial increase in the financial burden placed on NSW households and businesses.

FIGURE 18: THE RISING COST OF PRIVATISATION OVER TIME



Detailed Findings: Section 2 – Consequences for the Budget

The second key component of the argument for privatisation relates to the management of government finances.

Specifically, the current NSW Government has argued in favour of 'recycling' the revenue from privatising its network assets in order to better position its balance sheet for planned investments in other infrastructure areas – principally transport. This strategy translates into either using the funds to minimise future debt arising from the infrastructure investment, and/or paying down existing debt with the proceeds from the asset sale.

As the NSW Government rapidly expands its infrastructure expenditure, consideration must be given to how the government will actively keep its risk-exposure down while maintaining the faith of investors – equivalently, its credit rating.

This section of the report will examine this topic in detail. Specifically, this report will address the following questions:

1. What is the likely short-term impact of the sale on the budget?
2. What is the likely medium- to long-term impact?

Short-term budgetary benefits are likely very modest

By using the lump-sum revenue from the sale, the NSW Government is hoping to minimise the debt required to fund its planned infrastructure investments. The argument is that this represents a more prudent budgetary strategy as lower state debt should support the NSW Government's credit rating.

...the level of net debt only represents a 10% weighting in the determination of NSW's credit rating.

NSW T-Corp, the central borrowing authority of the NSW Government, is currently rated triple-A with a stable outlook – the highest possible rating – by Moody's Investors Service while its rating is triple-A with a negative outlook by agency Standard & Poor's.

With the recent prolonged period of subdued, low inflationary economic growth, state government budgets have come under increasing pressure. However, amid that fiscal tension, the NSW Government has been able to hold its favorable credit position through a combination of moderate spending growth and increased revenue arising from the continuing strength of Sydney's residential property market.

According to NSW T-Corp,[52] S&P bases its credit rating assessment on seven elements, with each weighted according to their relative importance. These are: the economy (20%); financial management (20%); liquidity (20%); budget flexibility (10%); budget performance (10%); debt

(10%); and contingent liabilities (10%).

This report does not dispute the claim that a low level of net debt for NSW is important in maintaining its triple-A rating. However, this report also notes that the level of net debt only represents a 10% weighting in the determination of NSW's credit rating.

As demonstrated in figure 19 below, it can be seen that NSW already has the lowest level of net debt out of NSW, VIC, QLD, and WA and debt levels are forecast to remain low over the period to 2018.

Given the comparatively low level of net debt in NSW, coupled with the fact that S&P only places a 10% weighting on debt as a determinant of the credit rating, it would seem that the case for yet lower debt as a means of underpinning the credit rating in the future is low to moderate at best. The state's economic performance and on-going budget management are more important to the credit rating.

T-Corp specifically states that government expense control is "the key to NSW bolstering its AAA rating".[54] The evidence would therefore suggest that the NSW Government's success in keeping revenue above expenses in recent years, as well as the projections for this to continue going forward (figure 20 below), are much more significant factors behind the state's ability to maintain a triple-A credit rating. This would imply that a further lowering of debt levels through the privatisation of T&D assets is unlikely to register as an important consideration for ratings agencies as they reassess the state's credit rating.

FIGURE 19: NSW DEBT LEVELS IN COMPARISON TO OTHER STATES [53]

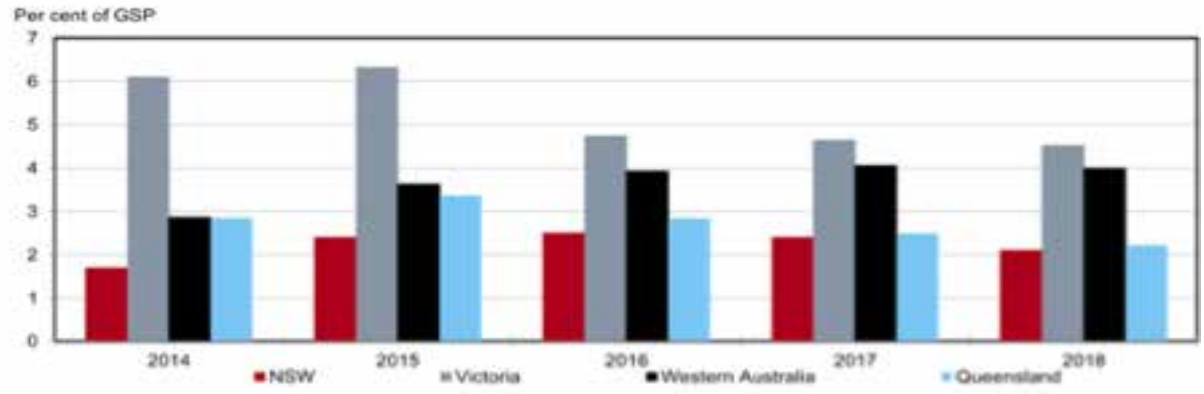
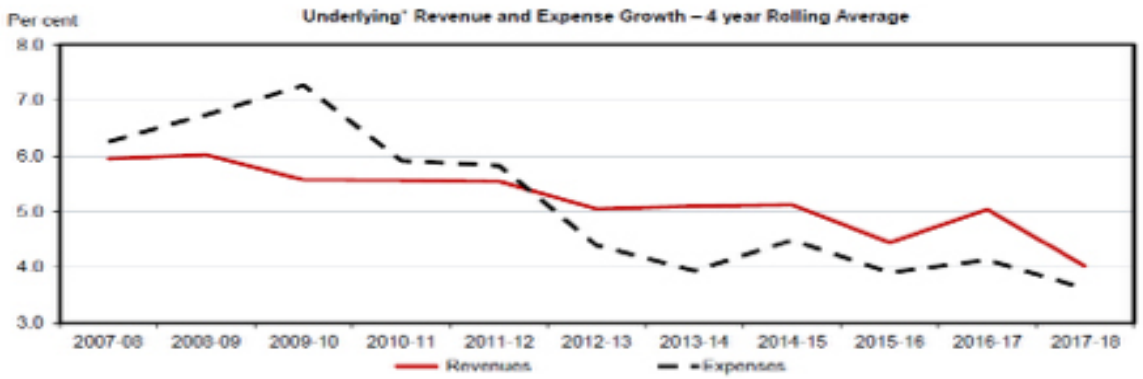


FIGURE 20: COMPARING EXPENSE AND REVENUE GROWTH IN NSW [55]



Medium- to long-term impacts likely to be detrimental as payments dry up

Currently, NSW's T&D companies provide dividend income to the NSW Government, as well as income tax equivalents (company tax would otherwise flow to the Australian Government). In the 2014 Financial Year, dividends paid by the publicly owned network businesses totaled just over $872M, while tax equivalent payments were $826M.[56] This resulted in a total distribution to the NSW Government of $1.7B in the 2014 Financial Year, with $1.7B also paid to the government in the 2013 Financial Year.[57]

This represents a relatively stable cash flow injection to the NSW budget each year. To put the scope of this cash flow into context, the payments made by T&D companies to the NSW Government represent an amount that corresponds to roughly 25% of payroll tax, 30% of transfer duties, and nearly 90% of taxes on gambling and betting.

This report finds the $20B in proceeds claimed by the NSW Government for the privatisation of T&D assets to be a significant over estimation.

If the current proposal goes through, 49% of these dividends and 100% of tax equivalent payments – totaling of $1.3B in cash payments – will disappear from the NSW Government's budget balance sheets and will instead be paid to private sector shareholders and the Commonwealth.

The NSW Government has estimated that it will receive around $20B as a result of the sale of the T&D assets.[58] This figure was determined in part by the expected proceeds of the sale, in part by the result of a payment under the Australian Government's 'asset recycling incentive' program, and in part by the interest that is expected to be earned on the capital amount over the construction period of the infrastructure.[59]

This report finds the $20B in proceeds claimed by the NSW Government for the privatisation of T&D assets to be a significant over estimation.

UNDERSTANDING THE VALUATION [60]

UBS has calculated the total value of the NSW network businesses at between $21.3B and $22.2B, after debt of $18.6B has been paid off. This implies that the NSW Government's proposed privatisation of 49% of the assets should generate between $10.7B and $11.1B. Typically, such valuations use a combination of methods:

1. **DISCOUNTED CASH FLOW:** This involves forecasting the future cash profits a business will generate, and discounting these back to the present day at the Weighted Average Cost of Capital. The cash flows are discounted to reflect the time value of money, where $1 today is worth more than $1 tomorrow due to the returns that could be made by investing the $1.
2. **PRICE TO BOOK VALUE:** This involves valuing the business using a multiple on the book value of the company (assets less liabilities). This multiple will depend on the returns a business generates as well as the Weighted Average Cost of Capital.
3. **PRICE TO EARNINGS:** This involves valuing the business using a multiple on the profits of the company. This multiple is typically drawn from past experiences of similar sales, including from overseas.

Initially, the NSW Treasury estimated the 49% stake at $13B, based on a price to earnings multiple drawn from past experiences at home and abroad. Based on UBS' valuation, this is unlikely to reflect the value the NSW Government will receive from the sale.

The potential interest savings from reduced NSW Government debt are dwarfed by the loss of income that would arise were the state's T&D assets privatised.

The latest valuation figure from investment bank UBS puts the sale price closer to $11B, substantially below Treasury's estimate of $13B (See Box 6 above). Moreover, the interest element of the $20B is based on a theoretically tenuous estimate of the time value of money – holding the proceeds of the sale over the lifetime of the asset is more likely to destroy value for the government than to create it, given that the dividends the government is earning on these assets certainly exceed the yield it would earn on investments of a similar risk level. After including the $2 billion asset recycling subsidy from the Australian Government – which cannot be guaranteed – this report expects the true value of the proceeds to be approximately $13B.

Currently, the NSW Government's debt management agency, T-Corp, is issuing debt at a coupon rate of between 2.5% and 3.75%, depending on the maturity bonds.[61] Based on a realistic assumption that the NSW Government would pay a coupon rate of around 3% for debt issued to pay for its major infrastructure projects planned, this suggests that, by selling the assets to pay for the infrastructure investments, the NSW Government could save around $390M a year in interest payments. Even in the unlikely event that the sale delivered $15B to the NSW Government and all of the proceeds were used to lower government debt, the interest saving would be just $450M per annum.

When compared to the $1.7B in annual cash injections from the network businesses – of which approximately $1.3B would be lost under the proposed privatisation[62] – it becomes apparent that the privatisation of NSW assets would be highly detrimental to the budgetary position of the NSW Government. The potential interest savings from reduced NSW Government debt are dwarfed by the loss of income that would arise were the state's T&D assets privatised.

As was outlined above, any potential upside for credit ratings associated with a reduction in debt is likely to be minimal. In contrast, the reduced income associated with privatisation will make it more difficult to keep expense growth below revenue growth – a far more important factor for ratings agencies when determining the state's credit rating.*

In the medium- to long-term, the lost revenue is a significant concern for the budgetary position. There are several factors that challenge the medium- to long-term outlook of the state budget, including the risk of a slowdown or correction in the housing market and increased pressures arising from the ageing of the population.

The RBA along with many private sector economists have recently indicated the view that the housing market in Sydney is overvalued, and that there may be a correction in prices, or at least a moderation in price increases and lower activity (turnover) as a result.[63]

Deloitte Access Economics has calculated that Sydney house prices are currently overvalued by about 10%, suggesting a correction of this magnitude in the future is possible.[64] Increases in stamp duty from property – which is directly correlated to house prices and turnover in the market – have strongly underpinned the budget position in recent years, and are built into the NSW Government's revenue forecasts going forward. Given this, a scenario in which state revenue comes under renewed pressure due to falling property prices is plausible.

** This report notes that the AER's recently-released draft determination for the network businesses will likely reduce these dividends in the future. Nevertheless, this report strongly emphasises that the value the NSW Government will receive from the sale will also, by definition, decrease in the same portions as the returns that these businesses generate. Initial analysis by the authors suggests that the proposed changes may decrease the return on equity for NSW T&D assets by approximately 23% (10.5% sought to 8.1% offered). Such a deterioration would substantially reduce the potential sale value of these assets. Because the determination is still in draft stage – with feedback and submissions still being sought – further consideration of these impacts was unable to be included in this report.*

At the same time, Australian Government cuts to health and education will inevitably result in state governments needing to increase their own expenditure in these areas so as to avoid the substantial reductions in service access and quality that would otherwise occur without such an increase.

Finally, the ageing of our population will result in a substantial restructuring of the Australian workforce with significant implications for government revenue and expenditure. While in 1970 there were 7.5 people of working age for every person over the age of 65, by 2010 this ratio had fallen to 5 to 1. By 2050, this ratio will fall further to just 2.4 to 1, leaving the government with substantially fewer taxpayers to support a growing contingent of retirees with expensive requirements in both the health care and aged care sectors.[65]

Similar problems exist at the state government level. As the scales tilt from a worker dominated community to a retiree abundant community, revenue from payroll tax will be increasingly stretched to accommodate the advanced healthcare needs of an older population.[66]

Payroll tax is NSW's largest tax and last year accounted for 30% of state government revenue.

Over the forward estimates, the NSW Government is expecting to collect $34.3 billion in payroll tax. Were the ratio of workers to non-workers the same today as is forecast to be the case for 2050, all other things being equal or held constant, payroll tax receipts would be almost $18 billion lower.

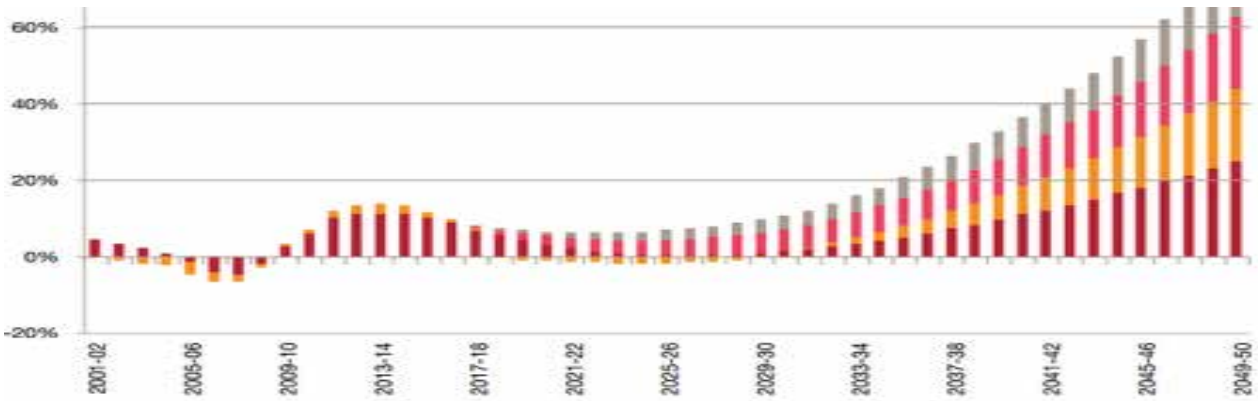
While the interaction between an ageing population and state payroll tax receipts is somewhat more complicated than the above calculation would suggest, the broad conclusion is correct. An ageing population will leave state budgets with less revenue at precisely the same time that they will need to spend more on the advanced health needs of our senior Australians.

From 2009–10 to 2049–50, real health spending on those aged over 65 years is expected to increase around seven-fold. Over the same period, real health spending on those over 85 years is expected to increase around twelve-fold. The number of people with Alzheimer's alone will grow to 900,000. In addition to these demographic pressures, demand for higher standards of health care will also place added pressure on the government to increase health expenditure, as will the costs associated with rapid technological innovation.

PwC has estimated that between now and 2050, the combined deficits of federal and state/territory governments will exceed 5.5% of GDP during this period, with total public net debt increasing to approximately 80% of GDP.

Were this forecast to eventuate, the interest costs associated with government debt would grow to approximately 34% of GDP, representing an annual interest burden of close to $550 billion in today's dollars.

FIGURE 21: TOTAL PUBLIC NET DEBT: COMMONWEALTH AND STATE/TERRITORY GOVERNMENTS, WITH PUBLIC DEBT INTEREST CAPITALIZED FROM 2016-17, % OF GDP [67]



As state and federal budgets are increasingly stretched by the combination of rising costs and shrinking revenue, credit ratings are going to come under increasing pressure. Maintaining revenue growth will be just as important as maintaining spending restraint. These demographic pressures will continue to build over time, meaning that in the long-run, the dividend stream associated with state T&D assets is likely to become more valuable as economic conditions deteriorate.

Faced with these medium- to long-term challenges, the NSW Government is proposing to strip out an important element of its recurrent revenue by forgoing dividend payments in order to pay down debt and fund major infrastructure projects. Given that financial management (keeping revenue growth above expense growth) is weighted twice as heavily as overall debt levels when determining the state's credit rating, this report concludes that the sale of T&D assets – which permanently foregoes the revenue generated by them – is not a prudent budgetary measure in the medium- to long-term. Privatisation is more likely to have a negative impact on credit ratings than a positive one.

This report argues that it would be more prudent to manage NSW Government debt levels through other structural reforms rather than selling the T&D assets in order to minimise debt requirements for infrastructure projects.

This report calls on the NSW Government to consider alternative sources for revenue, whilst also maintaining prudent spending levels. Most importantly, this report recommends keeping the revenue generated by the T&D network on the NSW Government's books in order to help it navigate a challenging medium- to long-term fiscal outlook.

Whilst this report agrees that infrastructure investment is critical to driving economic growth and productivity, this report does not believe the NSW Government has found the right solution to funding such infrastructure investment. This report notes that, to date, the NSW Government appears to have given minimal consideration to alternative methods for the funding and financing of planned infrastructure. In our view, the partial sale of the Transmission & Distribution network is not the right approach to the funding of new transport infrastructure.

Australian Government cuts to health and education will inevitably result in state governments needing to increase their own expenditure in these areas so as to avoid the substantial reductions in service access and quality that would otherwise occur without such an increase.

There are other mechanisms that could assist in minimising any increase in government debt, though a full discussion of these is beyond the scope of this report. User-Pays systems, Tax Increment Financing, Joint Property Development, and other value capture mechanisms have enjoyed many success stories around the world. This report suggests that the NSW Government ensure it has examined the full range of options for funding its planned infrastructure.

Getting us there: Funding the Infrastructure of Tomorrow *was also released by the McKell Institute in November 2014. This report recommends reviewing that report for further discussion on alternative methods for funding the state's infrastructure plans.*

Conclusion

This report strongly recommends that the NSW Government leave electricity Transmission and Distribution assets in public ownership.

This report finds no compelling evidence that network businesses would operate more efficiently under private ownership than public ownership. The physical span of different T&D networks is the single largest factor behind variations in both operational and capital expenditure. Private networks also have higher overheads and the growth rates associated with those entities are higher in privately operated networks.

S&P also places a significantly higher weighting on the ability of the NSW Government to keep expenses growth below revenue growth than it does on overall debt. This means that the loss of recurrent revenue is likely to have a negative impact on credit ratings over the medium- to long-term, particularly given the NSW Government's stated intention of recycling the capital back into new transport projects. Given the potential financial challenges facing the NSW Government's budget position in the medium- to long-term, the government avoid selling off its recurrent revenue streams in order to fund transport and other infrastructure projects.

This report recommends that a thorough review be undertaken to assess performance of NSW T&D businesses with the aim of realising potential efficiency gains while maintaining public ownership. Any review should consider industry structure, operational matters, and social outcomes, with all efficiency gains to be reinvested in government services or passed to consumers by way of price reductions.

Appendix: Comments on the AER Draft Determination

1. The AER's draft determination does attempt to take account of physical span but the authors of this report are of the view that the AER does not choose the best form of the relationship. The AER has chosen to consider the relationship between opex and customer density. In contrast, this report has run a regression of upkeep costs on physical span. It is the view of the authors that it is physical span that drives higher per customer costs due to, for instance, the need for a larger labour force, more vegetation management, and so on. The data bears this out, with a much higher correlation between upkeep costs per customer and physical span than between opex costs per customer and customer density.

2. The AER looks at asset cost (i.e. depreciation plus the WACC multiplied by the RAB) instead of capex as their response to some of the issues discussed within the report around capex being inconsistent across time. The authors chose not to examine the relationship this way. An asset that has not been replaced for a long time (e.g. older assets in the Victorian networks) will have a lot more accumulated depreciation and hence a lower asset cost because the value of their RAB is lower, whereas a brand new asset (e.g. the 33Kv assets recently purchased by Ausgrid during its substantial asset replacement program) would not have had much cumulative depreciation and will therefore have a higher asset cost. The authors of this report strongly feel that the most appropriate approach to measuring efficiency is to compare capex and not asset costs, and instead to take measures to understand the drivers of volatility (including asset replacement and investment cycles).

3. The AER has argued that Victorian networks are more efficient in their opex at least partly because of the use of contractors. The evidence examined within this report found no evidence to suggest that the use of contractors had delivered greater efficiencies in other states.

4. The AER will be cutting the rate of return on all networks, not just the NSW ones. This should theoretically have the exact same impact on the dividends the government earns from the businesses as it would on the sale value secured through privatisation.

5. The AER has strongly focused on the results of its Multilateral Total Factor Productivity model that concludes that NSW networks are more efficient. However, the AER does note that there are lots of different potential model specifications that could have been selected. Questions remain whether the AER has got these relationships right, though a detailed examination is beyond the scope of this report. Further scrutiny of these factors will likely be presented in submissions to the draft determination, with changes possible in the final determination released by the AER.

Footnotes

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26. Although the number of observations is small, the data represents a population, rather than a sample, so sample size was not considered an issue.

27. Potential Omitted Variable Bias was not considered an issue, as there is no a priori reason why the physical span of a network would be expected to be correlated to its ownership structure.

28. Network upkeep includes maintenance, repair, inspection, vegetation management, and other similar items.

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