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Electricity costs

*Preliminary results showing how privatisation went
seriously wrong*

Discussion paper

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June 2017

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Summary

Two decades ago Australia embarked on an experiment with the privatising, corporatising and marketization of the electricity sector. The proponents at the time assured the nation that everything would be better. Clearly that is not the case; between December 1996 and December 2016 Australian prices increased by 64 per cent but electricity prices increased by 183 per cent—almost three times the overall increase in prices. In those figures the carbon price was barely noticeable.

Our survey results suggest many people blame the electricity providers themselves. In this paper we have examined the type of labour employed now compared with two decades ago. Electricity is now management heavy with a blow out in the number of managers relative to other workers. In addition electricity now employs an army of sales and marketing and other workers who do not actually make electricity.

In addition the reforms seemed to encourage profit gauging on the part of companies in the industry who are able to inflate the asset base used in calculating the permitted return on assets. More than half the asset base appears to be 'goodwill' and retained earnings. There is a weird circular process in which high rates of return are capitalised in 'goodwill' and other fictitious or notional items while high profits guarantee high retained earnings which also feed into the asset base. In that way the unproductive capital base is allowed to increase and we are charged for capital that has no real function in producing electricity.

Adding up the additional labour costs of the new functions under privatisation, corporatisation and marketization and adding the costs of allowing returns on fictitious capital and retained profits we find that the additional charges are likely to be of the order of \$404 to \$502 per household per annum.

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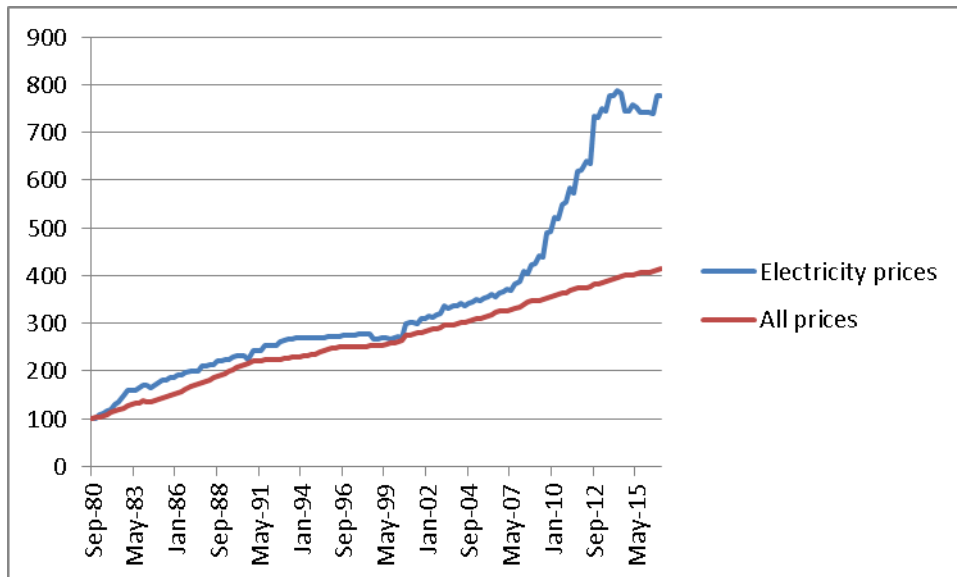
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Introduction

The Government has recently announced an inquiry to be undertaken by the Australian Competition and Consumer Commission (ACCC) to examine the retail market.¹ The original motivation for this paper was to make our views known to the ACCC. However, we feel there is a wider interest in this topic.

The cause for concern is clearly demonstrated in Figure 1 which shows the behaviour of retail electricity prices relative to the movements in the general price level.

Figure 1: Electricity prices compared with all prices (CPI); Sep 1980 = 100



Source: Authors' calculations based on ABS (2017) *Consumer Price Index, Australia*, Cat no 6401.0, 25 Jan.

A host of factors have been blamed for the increase in electricity prices relative to other prices but we would point out that the main departure from the rest of the price index happened post privatisation and corporatisation.² But as Figure 1 shows, between December 1996 and December 2016 Australian prices increased by 64 per cent but electricity prices increased by 183 per cent—almost three times the overall increase in prices.

¹ <http://sjm.ministers.treasury.gov.au/media-release/022-2017/>

² While 'privatisation' involves the sale of a government asset to the private sector, corporatisation here refers to the push to bring more commercial practices into the management and operation of government-owned or state-owned enterprises.

More recently we have seen a number of headlines announcing large electricity price increases on the part of the dominant retailers; AGL, EnergyAustralia and Origin Energy. A typical one was “AGL increases electricity prices by 16 per cent and gas prices by 9 per cent in NSW”. The story went on to quote an AGL spokesperson who said: ‘Any decision by AGL to change prices is based on a detailed consideration of a range of factors including costs, market conditions and the value we offer customers’.³ Generally it is gas prices that get the blame.⁴ However, when we examine the inputs into electricity in Australia these explanations do not quite fit the facts. For example, through an examination of the ABS input-output tables we see that gas accounts for only three per cent of the costs of supplying electricity.⁵ These figures applied in 2014-15 but even an allowance for price increases since then would imply that gas is a small proportion of the total electricity price. At the same time profits broadly defined account for 35 per cent of the value of electricity supply.⁶ A high level of profits and blaming costs on a relatively small input suggests something more is going on.

Too often we assume that private and corporatised state-owned corporations are operating efficiently. In the real world such as in the Australian economy where the checks and balances are imperfect and companies exercise considerable power. The arguments suggesting markets are efficient are beside the point. Years ago economists were shocked to learn that inefficiency was rampant in American corporations - the author of the study, Harvey Leibenstein,⁷ labelled it X-inefficiency. But it should not have been a surprise since anyone with a cursory knowledge of their local economy and the local business environment can see that the Adam Smith economy is not all that often encountered. Moreover businesses are continually developing ways of trying to isolate themselves from potential competition. Indeed, that is the whole point of business schools.

³ Han E (2017) ‘AGL increases electricity prices by 16 per cent and gas prices by 9 per cent in NSW’, *The Sydney Morning Herald*, 9 June

⁴ Harmsen N (2017) ‘EnergyAustralia follows AGL by announcing electricity price hikes across the country’, *ABC news*, 15 June.

⁵ ABS (2017) *Australian National Accounts: Input-Output Tables - 2014-15*, Cat no 5209.0.55.001, 16 June. This calculation was made by looking at the gas inputs in both generation and the ABS industry definition ‘Electricity Transmission, Distribution, On Selling and Electricity Market Operation’. Adjustments were made for intra-industry trade. Incidentally coal inputs were five per cent of the value of electricity supply.

⁶ We use the ABS item ‘Gross operating surplus & mixed income’ as our broad measure of profits.

⁷ Leibenstein H (1966) ‘Allocative Efficiency vs. “X-Efficiency”’, *American Economic Review*, Vol. LVI., June 1966

We think there is ample evidence of inefficiency when we examine the labour force and the asset base of the companies involved in supplying electricity. We briefly address them in turn.

The labour cost of privatisation, corporatisation and marketization.

With commercialisation and privatisation the electricity suppliers have changed their workforces as is shown in Table 1.

The Australia Institute (TAI) has requested electricity employment figures that break down employment by occupation. Our figure for Managers in Table 1 also includes ABS categories; “contract, program and project administrators”, “office managers” and “practice managers”. Likewise “sales workers” includes “advertising and marketing professionals” and “call or contact centre workers”. To avoid double counting appropriate adjustment is made to the “professional” category in Table 1.

Table 1: The electricity workforce

	Nov-96	Nov-16	Increase %
Managers	2,669	8,473	217
Sales workers (broadly defined)	607	3,008	396
Professional (excl advertising and marketing professionals)	6,865	11,115	62
Other	29,047	35,085	21
Total	39,188	57,681	47

Source: ABS unpublished data

Table 1 shows that there has been a modest increase in staff over the two decades of data summarised here. However, sales staff have increased almost 400 per cent. That would have been an unproductive activity twenty years ago; nobody was required to sell electricity. Electricity sold itself and only needed management to understand how to produce it. The next highest growth in Table 1 is in managers who increased 217 per cent. There are now 5.8 non-managerial workers for every manager compared with 13.7 twenty years ago. Much of the increase in the professional workers seems questionable. Going further into the detail we find that there have been large

increases in accountants, undefined professionals, training and development professionals and so on.

We can obtain a feel for the additional costs that might be passed on to consumers. First we note that official figures show that productivity has in fact fallen in electricity. The latest figures for electricity, gas, water and waste and show that over the two decades to 2015-16 the gross value added per worker fell by 34.9 per cent from its peak in 2000-01 or by 19.1 per cent over the total period.⁸ Based on the figures in Table 1, that means that there are 14,150 more workers than would have been if productivity had remained at 1995-96 levels. A second method for obtaining the additional costs is based on the growth in managers and sales workers. If the growth in these workers had been reduced to the same growth as 'others' then 7,517 fewer jobs would have been created. Costing that by using the average wage for employees in electricity supply in 2015-16⁹ gives a total cost of \$1,940 million using the first method or \$1,030 million using the second.

On these figures the cost of privatisation, commercialisation, marketization cost at least a billion dollars in the new functions electricity organisations had to take on as well as the duplication of management structures and corporate functions as well as having to operate in a market involving buying and selling skills. When retail electricity was regulated in NSW we commented on the April 2013 decision the Independent Pricing and Regulatory Tribunal which allowed retailers to increase prices by an average of three per cent. In their reasoning they cited 'increased retail operating costs, including the costs of acquiring and retaining customers in an increasingly competitive market'.¹⁰ Basically that amounts to the regulator saying 'We are going to let you charge customers more because you want to spend more on advertising to them'. It would be interesting to know how many NSW residents would be happy with that.

In 2015-16 the ABS estimates there were 9.2 or 9.3 million households.¹¹ Here we use the higher measure which implies that the cost per household of \$111 to \$209 per annum on account of the additional labour costs following from the new functions of electricity companies in the era of privatisation, corporatisation or marketization. Of course some of the charges will be borne by businesses in the first instance. However,

⁸ ABS (2016) *Australian System of National Accounts, 2015-16*, Cat no 5204.0, 28 Oct.

⁹ Figure calculated at \$137,300 pa based on ABS (2017) *Australian Industry, 2015-16*, Cat no 8155.0, 26 May.

¹⁰ Independent Pricing and Regulatory Tribunal (2013) *Review of regulated retail prices for electricity, 2013 to 2016: Electricity—Draft Report*, April. For the earlier comments see Richardson D (2013) 'Newman's power play is admirable', *The Courier Mail*, 1 May.

¹¹ ABS (2015) *Household and Family Projections, Australia, 2011 to 2036*, Cat no 3236.0, 19 Mar.

we can expect that most if not all such charges are ultimately passed on to the final consumer.

Capital Cost Padding

There is a lot of talk about gold plating of the poles and wires but there seems to be some featherbedding at the management level while other functions, such as sales, are peculiar to oligopolistic markets. By contrast to take an example from another industry, most farmers operate in a competitive market and spend next to nothing on the sales effort. We expect the ACCC will be very interested in the new functions that electricity companies have taken on when their core role is to send electricity down the wires.

The gold plating of poles and wires argument is that since the electricity suppliers are allowed a certain return on capital their profits increase when they increase their capital base. This is alleged to encourage over investment in plant and equipment. That makes sense so long as the regulated rate of return is greater than the opportunity cost of capital. But there are much more serious concerns. We submit that electricity companies make monopoly profit¹² and then use that cash flow to justify a high asset valuation which then becomes a basis for seeking high regulated rates of return from the regulator. This is a circular process that leads to higher profits which in turn leads to the justification for higher profits. We now turn to outline how that asset inflation is achieved in practice.

The potential for asset price inflation can be seen in the figures for electricity supply in Australia. In the last period for which the ABS collected the information, 2006-07, total electricity sales were \$31.2 billion with interest expenses at \$4.0 billion, and depreciation and amortisation at \$3.8 billion. On top of that the operating profit before tax was \$5.1 billion. All up \$12.9 billion or 41 per cent of the sales price represents costs or profits that are likely to be substantially higher than need be because of the history of privatisation, corporatisation and marketization. Later figures show that in electricity the value of earnings before interest, tax, depreciation and amortisation (EBITDA) was 68 per cent of value added and 24 per cent of sales in 2014-15. Of course the Grattan Institute has demonstrated how margins seem to be well above competitive rates.¹³

¹² We could quibble about the use of the term 'monopoly' and if the reader prefers 'oligopoly' might be better. What we are referring to is something well towards the monopoly end of the spectrum that goes between monopoly and perfect competition.

¹³ Wood T, Blowers D and Moran, G. (2017). *Price shock: is the retail electricity market failing consumers?* Grattan Institute.

One artefact of this inflation in asset prices in corporatised entities¹⁴ is the use of ‘revaluation reserves’ which inflate the entity’s net capital or equity. ‘Asset revaluation reserves’ are notional accounts which are topped up by increments in the value of the entity’s assets. Generally they will be the market value of the assets if they were to be sold off as a going concern. Of course the market value will reflect the likely profitability of the entity. Based on some earlier unpublished research Table 2 gives some examples of corporatised electricity entities that have inflated equity as a result of the revaluation reserves.

Table 2 Asset revaluation reserves inflate total equity values

Entity	Asset revaluation reserve (\$)	Total equity (\$)	Asset revaluation reserve as share of total equity (%)
Energex (formerly South East Queensland Electricity Board) June 2012	1,803.9	3,117.3	58
Intratil (Electricity distributor in NSW, Vic, Qld and SA) June 2012	561.0	1,015.6	55
Delta Electricity (NSW) June 2010	669.0	909.2	74

Source: Company annual reports.

The figures reported in Table 2 are interesting in that over half the value of the equity is the notional asset revaluation reserve. That inflated equity figure was used to develop such targets as rate of return on shareholders’ funds or net assets that the entity is expected to achieve. Of course the prices it has to charge is much higher to achieve a particular target rate of return if we include a large amount of fictitious capital in the asset base.

On top of that it is clear that at least one supplier, Ergon, now part of EnergyAustralia, ran an asset revaluation reserve but also periodically updated the value of its plant and

¹⁴ Corporatised entities are state-owned entities that have been set up as a for-profit organisation with a mandate to fend for themselves in the market place as well as generate profit for their owners.

equipment to reflect the 'value in use' or what was in reality part of its monopoly profits. Notes to Ergon's 2014-15 accounts state:

The fair value of regulated assets was determined as at 30 June 2015 by the Directors. The income approach was used as there was no market based evidence of fair value due to the specialised nature of the regulated assets, and the items are rarely sold, except as part of a continuing business.¹⁵

Using the income approach to value capital equipment is of course another example of circular reasoning.

Then there is the case of a company buying a corporatised entity earning monopoly profits. It pays an inflated price and then the higher asset base is taken into the regulated environment as 'goodwill'. We now turn to examine that topic.

LISTED COMPANIES, GOODWILL AND RETAINED EARNINGS

Goodwill: Goodwill as a valued item in a company's balance sheet arises when the company buys an entity at above its book value. The difference arises because the company is buying a future earnings stream which is valued more than the underlying assets. Suppose company A buys company B which has an annual profit of \$100 million which (at a 10% discount rate) is valued at \$1,000 million. However, the book value of its assets may be only \$200 million. After buying company B company A is allowed to show an increase in its assets of plus \$200 million in plant, equipment etc. and plus \$800 million in goodwill. Unlike the government agencies that seem to write their own accounting rules, our understanding is that listed companies are not permitted to declare an increase in goodwill on those assets but may well write them down as a result of any impairment. So the goodwill figure is essentially an amount over-and-above fair value of the assets and that reflects the future monopoly profits expected in the operation. To put that differently if company B only made a normal rate of return on its capital (the \$200 million) the company would be valued at an amount equal to the book value of its assets.

Retained earnings: Companies that earn profits have a choice of paying out the profits as dividends or retaining them for whatever purpose. Generally they would be banked or used to purchase other financial assets and the company may well wish to retain these funds to make new acquisitions in the future. Whatever the reason for accumulating retained earnings these then enter the company's equity base and, as

¹⁵ Ergon Energy Corporation (2015) Annual financial statements

such, they are allowed to be used in the capital base for the purpose of setting the regulated sales price.

To be clear, the Australian Energy Regulator (AER) explicitly allows companies' goodwill to be included in its asset base for the purpose of calculating permitted amounts for the return on capital and setting prices.¹⁶ Likewise retained earnings are allowed as part of the company's asset base. The argument against retained earnings being included in the asset base is somewhat different. The regulators are permitting these assets to be used in their asset base. If they are doing that in the regulated market we can be sure they are also using similar tactics in the unregulated parts.

Imagine a company is set up to supply electricity with plant and equipment worth \$100 million and working capital of \$10 million. It does not borrow so the value of its equity is equal to its net worth and both are equal to \$110 million. In its first year it makes a profit of \$10 million which it retains as deposits at the bank. Now it has a total equity of \$120 million. It now continues in this way over subsequent years and may well build up a substantial amount of retained earnings. But no matter how much of its profit it retains the company's ability to generate electricity remains the same. Hence we would submit that retained profits are irrelevant to the ability to produce electricity and so should be excluded from any pricing formula that the regulator/s may apply. In addition of course the retained earnings are going to be invested in earning assets and many companies earn income on their current or liquid assets. So we think that retained earnings, which themselves are invested elsewhere, should not be considered when setting a company's electricity price.

It is always useful to consider the behaviour of an enterprise in a perfectly competitive market. Consider the farmer selling wheat which is produced by the farmer's workers, equipment and land. If the farmer has a good year and puts a million dollars in the bank but leaves everything else unchanged the farmer's production will be exactly the same and will not attract a higher price. The farming income is unchanged as a result of retained earnings. Exactly the same should be the case when using market principles to set prices and profitability.

To help understand the issues we look somewhat more closely at the books of AGL and Origin Energy. Especially in relation to the difficult concept of 'goodwill'.

¹⁶ AER (2014) Electricity Transmission Network Service Providers; Information guideline (Version 2 with tracking). See item 4.11: "Any balance representing goodwill on acquisition of assets and its associated amortisation shall be recorded under the column headed 'Not allocated' in the disaggregation statements."

AGL.

In 2016 AGL made a large statutory loss of \$408 million but an underlying profit of \$701 million. The losses were due to the impairment of gas assets, together with exit and restructuring costs. All of that seems to be the result of AGL's decision to quit most of its gas assets due to low prices and, no doubt also, the political/environmental problems with unconventional gas deposits. Despite that we are here interested in the electricity businesses which were indeed profitable.

AGL's 2016 Annual Report shows intangible assets of \$3,232 million. The bulk of that is broken down into three categories; goodwill at \$2,791 million, licences \$311 million and customer relationships and contracts at \$136 million. AGL is able to maintain a high value for goodwill by testing whether its acquired assets are able to continue to earn monopoly profits. That 'impairment testing' involves a 'value in use' exercise in which assumptions are made about the 'customer numbers, consumption volumes, energy procurement costs, and gross margin including assumptions around regulatory outcomes, pricing in unregulated markets and customer discounts'.

Deloitte, AGL's auditors, did not qualify their report but drew attention to the 'Carrying value of property, plant and equipment and intangible assets, including goodwill'. These were included under 'key audit matters'. 'Key audit matters' are 'those matters that required significant auditor attention in performing the audit' as described in auditing standard ASA 701. We are not suggesting any impropriety but as explained in notes to the accounts, the carrying value of plant and equipment includes an estimate of value in use of business units that refers to the monopoly profits likely to be earned in the future. That amount is not clear from the accounts but may be significant given property, plant and equipment of \$6,482 million at June 2016. Unfortunately too we do not know how much of this is to be attributed to the electricity businesses. But what is clear is that the regulator is likely to be given vastly inflated figures for the value of the assets employed in producing and distributing electricity.

ORIGIN ENERGY

Origin Energy like AGL made a loss in 2016 but recorded a large underlying profit. Underlying earnings before interest, taxes, depreciation, and amortization (EBITDA) was \$1.6 billion of which \$1.3 billion came from the segment Origin calls 'energy markets' which is mainly electricity and gas sales to residences and businesses. Unfortunately in the case of Origin we cannot always distinguish electricity costs from costs in other segments but we can usually get a total for the 'energy markets' segment. 'Energy markets' had net assets of \$10,099 million (\$12,349 million gross) of

which goodwill was \$4,827 million (for these 'energy markets') or 48 per cent of net assets.

In addition to that the valuation of plant and equipment is contaminated by an income approach to valuation. Origin describes this in its Annual Report when it says:

Recoverability of carrying values: Assets are grouped together into the smallest group of assets that generate largely independent cash inflows (cash generating unit). A Cash Generating Unit's ("CGU") recoverable amount comprises the present value of the future cash flows which will arise from use of the assets. Assessment of a CGU's recoverable amount requires estimates and assumptions to be made about highly uncertain external factors such as future commodity prices, foreign exchange rates, discount rates, the effects of inflation, climate change policies and the outlook for global or regional market supply-and-demand conditions.¹⁷

So we have a vicious cycle, electricity providers' businesses, like any monopoly assets that can be used to charge whatever the market will bear, are very valuable. Given the potential profit to be made buyers will borrow large amounts to fund their purchases and make winning bids. However, once they do that there is a new interest expense that has to be honoured by the new companies. Likewise depreciation and amortisation expenses increase dramatically. That means the whole cost structure is much higher than under government ownership at least before corporatisation. The consequence is that asset price inflation is likely to be a major contributor to higher electricity prices.

In the ideal competitive model competition bids down profits until they just represent a return on the efficient or state of the art capital necessary sell electricity. Capital cost padding and seeking approval from the regulator increases the return well beyond the competitive benchmark and is passed on to consumers in higher prices. Taking the goodwill from just Origin and AGL gives a total value for goodwill of \$7.6 billion which would inflate their profits by some \$690 per annum.¹⁸ Of course not all the electricity market is now formally regulated. But close interest on the part of the community, the threat of ACCC inquiries and so on will act to reduce price increases to that which the companies think is justifiable. That means is also likely to involve cost padding of the sort used to get around regulated caps on rates of return on capital.

¹⁷ Origin (2016) *Annual Report 2015-16*, p 83.

¹⁸ Based on a nine per cent allowable rate of return.

A SAMPLE OF ELECTRICITY COMPANIES

Table 3 is an attempt to estimate the use of fictitious capital and retained earnings on the part of electricity suppliers in Australia. We have built up the aggregates in Table 3 by adding the companies which published figures for 2016 or 2015 in the case of Transgrid. Generally for state-owned corporations there is an asset revaluation reserve that is able to be used in Table 3. However, in the case of Ausgrid and Transgrid we are able to use their definitions of 'carrying amount' from which we deducted the 'cost of regulated assets'. Ausgrid for example provides a good description of its valuation technique which explains:

System assets are stated at fair value less accumulated depreciation and impairment losses. The fair value of system assets is determined using the income approach ...The valuation methodology reflects a discounted cash flow methodology to value Ausgrid, and a calculation to subtract the value of other business assets and liabilities to arrive at a value for Ausgrid's system assets. The income approach is based on a discounted cash flow model using the following methods and assumptions:

Use of an estimate of future cash flows to be derived based on financial projection approved by the Board;

Expectations about possible variations in the amount/timing of future cash flows to reflect the most likely outcome;

The time value of money, represented by the current market risk-free rate and the price for bearing the uncertainty inherent in the asset, as encapsulated in the discount rate;

Other factors such as illiquidity that should be reflected in pricing future cash flows; and

A multiple of the forecast regulated asset base (RAB) at the end of the forecast period used as a proxy for the terminal value. The terminal value RAB multiple is determined with reference to market observable multiples.¹⁹

Where possible the assets used in the electricity business have been used. However, in some cases with multi-product companies that has not been possible. For example in the case of AGL and Origin we are forced to use their breakdown into 'energy markets' which includes retail gas. In the case of Delta it seems the NSW Government has taken most of its equity to boost its budgetary position and very little remains.

¹⁹ *Ausgrid Annual Report*, p. 26

Many companies are excluded from Table 3 chiefly because adequate data are not available. EnergyAustralia for example is now wholly-owned by Hong Kong company CLP Group²⁰ but is described as third among the three largest electricity retailers.

²⁰ CLP used to stand for China Light and Power.

Table 3: Accounting data for electricity companies

Entity	Asset revaluation reserve and/or 'fair value' minus historic and/or good will	Retained earnings	Total equity (\$)	Asset revaluation reserve as share of total equity	Fictitious cap plus reserves share of equity
	\$m	\$m	\$m	%	%
Retailers					
Intratil	561	na	1,016	55.2	55.2
Delta Electricity (NSW)	12	na	115	10.4	10.4
Distributors/Network operators					
Ausgrid	3,037	827	4,127	73.6	93.6
Endeavour Energy	2,233	566	1,829	122.1	153.1
Energy Qld Limited	2,174	71	3,365	64.6	66.7
Essential Energy	2,033	1,002	2,288	88.8	132.6
Transmission					
Transgrid 2015	1,740	51	2,093	83.1	85.6
Not allocated					
AGL (includes gas)	2,791	1,243	7,926	35.2	50.9
Origin	4,827	6,502	10,099	47.8	112.2
Grand Total	20,064	10,262	50,360	39.8	60.2

Sources: Various companies, *Annual reports*

Table 3 is very revealing. When we aggregate the figures in show that just using our sample of companies total equity was \$50,360 million. Of that \$20,064 was fictitious

capital, 'goodwill' or the equivalent for state-owned companies, and \$10,262 million was retained earnings. That gives a total of \$30,326 million which we argue is likely to have been illegitimately included in the various state pricing calculations or used to justify earnings in the deregulated part of the market. Given the regulators allow a nine per cent return on capital it means that households are paying some \$2.7 billion more in electricity charges than they should have been charged on our arguments. Using the above estimate of 9.3 million households implies that each household is paying an average of \$293 per annum for the return on fictitious capital allowed under the present arrangements and which flow directly from the privatisation, corporatisation and marketization agendas begun roughly two decades ago.

Note too that EnergyAustralia's owner CPL Group in its 2016 annual report listed HK\$17,135 million in 'goodwill and other intangible assets' in its Australian assets which at present exchange rates (23 June 2017) gives a value of approximately A\$2.9 billion. Those figures are not included in the above calculations. Nor are many other electricity companies for which data was not available.

Common ownership

The Australia Institute first examined the question of common ownership in relation to Australia's big banks in 2012.²¹ Examination of the top 20 shareholders in the banks' annual reports shows that, on average, over 53 per cent of each big bank is owned by shareholders that are among the top 20 shareholders in *all* the big banks. Moreover, ownership figures for the second tier banks show they are also owned by the same shareholders that own the big four.

Common ownership raises serious concerns – in particular, there is always the potential to boost profits by colluding and acting as a monopoly. It is definitely in the interests of the common owners to eschew price competition. Since TAI published that paper *The Economist* has examined the common ownership phenomenon and reported that higher profits are found in industries with common ownership among the main corporations.²² It noted academic research showing profits tend to be higher in industries with higher common ownership.

For that reason we show in Table 4 the results of an examination of the top shareholders in two major electricity players; AGL and Origin Energy. These two companies are both listed on the stock exchange and between them had retail sales of \$21.7 billion (including retail gas) in 2014-15 which compares with gross electricity sales of \$57.9 billion in 2014-15 according to the latest input-output tables.²³ That implies that the two companies alone account for something a bit over a third of the market. We may even be understating their importance given that the retail sales figures are compared with all electricity businesses from the input-output tables; the industry it defines as 'electricity generating' plus what the ABS calls 'transmission, distribution, on selling and electricity market operation'.

The figures in Table 4 are taken from their latest annual reports which require the reporting of the top 20 shareholders. For each shareholder we provide their holding in both AGL and Origin as well as the average in each. We then present the share owned by those owners common to the two companies. Some shareholders are listed twice or more in the Annual Reports. Sometimes that is because the one owner operates two or more separate accounts and those are listed separately. For example, HSBC Custody

²¹ Richardson D (2012) 'The rise and rise of the big banks: Concentration of ownership', *Technical Brief No. 15*, December

²² The Economist (2016) 'Stealth socialism', *The Economist*, 17 September.

²³ ABS (2017) *Australian National Accounts: Input-Output Tables - 2014-15*, Cat no 5209.0.55.001, 16 June. Gas supplies were \$4.7 billion in the same year.

Nominees appears four times as a top 20 shareholder in Origin. Our figures combine those different listings. Being confined to the top 20 owners necessarily means we miss some of the common owners, albeit smaller less influential owners.

Table 4: Top shareholders in AGL and Origin Energy

	AGL	Origin	Average
HSBC Custody Nominees (Australia) Limited	20.83	21.94	21.39
J P Morgan Nominees Australia Limited	13.95	22.68	18.32
National Nominees Limited	8.86	9.20	9.03
Citicorp Nominees Pty Limited	7.26	8.40	7.83
BNP Paribas Nominees Pty Limited	3.66	2.95	3.31
RBC Investor Services Australia Nominees Pty Limited	1.70	0.78	1.24
AMP Life Limited	1.00	0.17	0.59
Australian Foundation Investment Company Limited	0.83	0.34	0.59
Argo Investments Limited 3,650,000 0.54	0.54	0.63	0.59
Custodial Services Limited	0.52	0.00	0.26
Milton Corporation Limited	0.40	0.00	0.20
CS Fourth Nominees Pty Limited	0.39	0.00	0.20
Australian Foundation Investment Company Limited	0.00	0.34	0.17
IOOF Investment Management Limited	0.23	0.00	0.12
The Senior Master Of The Supreme Court (Common Fund No 3 A/C)	0.00	0.20	0.10
Carlton Hotel Limited	0.20	0.00	0.10
Gwynvill Investments Pty Limited	0.19	0.00	0.10
Navigator Australia Limited	0.21	0.15	0.18
Forsyth Barr Custodians Ltd (Forsyth Barr Ltd-Nominee A/C)	0.14	0.14	0.14
Common to both companies	58.98	67.38	63.18

Sources: AGL and Origin Energy *Annual Report 2016*

Table 4 clearly shows that there is a good deal of common ownership among AGL and Origin and that the owners are quite substantial owners. For example HSBC Custody Nominees owns almost 21 and almost 22 per cent of AGL and Origin respectively. Moreover, just the top four owners own among themselves 50.9 per cent of AGL and 62.2 per cent of Origin.²⁴ The fact that two of the biggest players are majority-owned by common owners is a very serious concern and is likely to cost their customers dearly.

²⁴ However, CPL Group, the owner of EnergyAustralia, does not appear to have among its substantial shareholders any owners in common with AGL and Origin according to its 2016 Annual Report.

Conclusion

The examination of electricity costs and price setting suggest that Australians are paying much more than they should be if their regulators were guided by considerations of the most efficient delivery of electricity. Some mechanism needs to be invented to ensure that regulatory guidelines are kept up to date and that strategies evolve to cope with new developments. When the capital padding issue is important then there really has to be some better oversight of investment to judge whether it is legitimate or not.

There is also the question of how to respond to the unnecessary functions that the electricity companies have undertaken. Nobody expected that in with corporatised and privatised electricity companies there would be a large numbers of sales people trying to sell indistinguishable commodities to consumers. The costs of 'acquiring and retaining customers' probably costs quite a large amount. Consider the pub test: Should you have to pay electricity companies the costs of advertising and marketing to you?

We do not necessarily blame the electricity companies themselves. In privatisation, corporatisation and marketization the various state and federal governments unashamedly turned the industry over to corporations motivated not by the public good but motivated by profit-seeking. Competition among for-profit companies, including re-oriented state-owned companies, was supposed to produce efficiencies. As it happens two of the large for-profits AGL and Origin cannot really be considered completely independent competitors when they are majority owned by the same large shareholders.

Adding up the additional labour costs of the new functions under privatisation, corporatisation and marketization (\$111 to \$209) and adding the costs of allowing returns on fictitious capital and retained profits (\$293) we find that the additional charges are likely to be of the order of \$404 to \$502 per household per annum. That is the amount we were able to identify and we have no doubt missed a good deal because of data availability problems.

