Reconciling energy prices and social policy

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The regulation of retail electricity prices has been a highly contentious energy policy issue in Australia, with industry arguing for its removal on the one hand and welfare groups arguing for its retention on the other. Yet rarely is the most basic question asked – are ‘market contracts’ delivering benefits to customers? In this article, regulated standing supply offers in NSW, which are set at long-run economic levels, are contrasted with market contracts across households of differing consumption levels. Our analysis demonstrates that the vast majority of households would be better off on market contracts even after accounting for fees and charges applied for late payments and other contract breaches. We then conducted a survey of financial assistance providers to determine whether consumers in financial hardship were being encouraged to utilise market contracts. Our survey results show that most providers of financial assistance do not recommend market contracts primarily due to inadequate information. We conclude that the energy industry and peak consumer groups need to move beyond the ideological divide related to the merits of regulating electricity prices and focus on the provision of relevant information that allows consumers, particularly consumers in hardship, to minimise their energy costs in the competitive market.

Keywords: electricity prices; price deregulation; financial hardship

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1. Introduction

The Australian National Competition Policy (NCP) reforms of the 1990s were aimed at introducing competition in various Australian industries to improve productivity and economic output (Hilmer, 1993). In the case of electricity, it was recommended that a National Electricity Market (NEM) be created and competition introduced at both the wholesale and retail level. This has largely occurred, albeit with some criticism (Chester, 2006).

Wholesale market reforms have been estimated to have delivered around \$2 billion in annual productivity benefits to the Australian economy (Parer, 2002). As reforms were adopted, significant excess supply-side capacity became utilised and unit prices declined for consumers. However, since 2008 there has been a rapid run-up in electricity prices. There has been significant debate within Australia about why prices have increased so rapidly following real declines in tariffs experienced throughout the 1990s and early-2000s. Views range from lack of demand-side participation, gold-plating of electricity networks, poor regulatory oversight of natural monopolies and overlapping support for small-scale solar PV. The Australian Energy Market Commission (AEMC, 2011, p.2) for example concluded that prices have increased because of “peak demand, higher commodity prices, replacing aging assets and higher costs of capital due to the global financial crisis”.

Whilst prices have been increasing over the period 2008 to 2013, two NEM jurisdictions removed retail price regulations and shifted to price monitoring regimes. Victoria removed retail price regulation in 2008 and South Australia removed retail price regulation in early 2013. As a consequence of the removal of regulated pricing and the increased focus on electricity bills by households because of rising prices, customer switching rates in Victoria are the highest of any

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market in the world (VaasaETT, 2012). However, ongoing discussion of the role of price regulation in other jurisdictions persists.

Public policy advocacy in relation to the merits of retail price regulation relates to consumer protection from market power of energy retailers, and in particular, the protection of low-income consumers. Yet there is scant evidence of market power in the NEM retail market, and somewhat surprisingly, even less quantitative evidence presented in the Australian context to determine whether regulated prices or competitive market contracts (with varying terms and conditions) are a better outcome for low-income consumers. The purpose of this article is therefore to sequentially determine whether competitive market contracts provide a better deal for consumers in a range of scenarios against an economic regulated price cap benchmark, and to identify if customers in hardship are being adequately advised and supported in making the right decision for their circumstances.

Section 2 of this article provides a brief literature review and documents the lack of existing literature related to the suitability of competitive market contracts for low-income customers deemed to be financially vulnerable. Section 3 presents our analysis of household electricity bills for customers on competitive market contracts and regulated tariffs across varying consumption levels. In Section 4, we provide an overview of the results of a survey of financial assistance providersⁱ on their perceptions of the suitability of market contracts and regulated tariffs for hardship customers. Policy recommendations are discussed in Section 5 with concluding remarks following in Section 6.

2. Brief Literature Review

There is rich academic and public policy literature devoted to the theoretical and empirical understanding of the introduction of competition in retail electricity markets. Many of these studies and inquiries recommend that retail price regulation be discontinued where competition is effective (Parer, 2002; Abbot, 2002; Yarrow, 2008; AEMC, 2008; Simshauser and Downer, 2012; Commonwealth Government, 2012; and Simshauser, 2012). The studies view the market as a superior instrument for allocating capital and pricing electricity efficiently, when compared with regulatory intervention. This is perhaps best articulated by Yarrow (2008, p. 15) who noted that ‘*price regulation in competitive market situations generally harms economic efficiency...*’ However, there have also been significant criticisms of the deregulation of the electricity industry. Prominent studies undertaken within Australia and elsewhere question the benefits of introducing competition in retail electricity markets and thus oppose the removal of price regulation. Many of these studies also question the microeconomic reform of the electricity industry more broadly (Quiggan, 1997; Beder, 2003; Beder, 2012).

While the arguments for and against the continued regulation of electricity prices continue to be made, there is surprisingly little literature within Australia about the financial outcomes for consumers based upon their ability to enter into a competitive market contract for electricity. Johnston (2012, p. 4), the author of the only study we are aware of that attempts to provide detailed analysis of varying product offerings, articulates this point best:

Under retail price regulation arrangements, tariff tracking and tariff analysis are not usually prioritised activities amongst advocates and consumer representatives. In a deregulated environment, however, it will become increasingly evident that advocates, as well as consumers themselves, need improved awareness and understanding of changing tariff offers – both in terms of changes to price as well as changes to tariff shapes.

The Johnston (2012, p.14) study concludes that when customers pay on time and meet options or obligations entered into under the market contract (such as the use of direct debit), there were

significant savings to the customer. However, the study notes that some products have significant contract termination fees, late payment fees and payment dishonour fees. A limitation of the study relates to the analysis being based upon average consumption of around 7 MWh per annum. While average consumption of about 7 MWh was a credible assumption, it simplified the wide variation in 'quantity consumed' by customers. In our subsequent analysis, we simplify the number of products but provide considerably greater granularity of consumption variation. We believe this is an important contribution to the literature given the higher proportion that fixed fees comprise for low consumption households relative to higher consumption households.

3. A review of electricity pricing in New South Wales

In NSW, all households and small businesses that consume less than 160 MWh are currently entitled to remain on a regulated electricity contract where prices and the terms and conditions are regulated by an independent regulator (the Independent Pricing and Regulatory Tribunal: IPART). However, as a fully contestable market, all consumers are also able to choose to enter into a 'market contract' – that is – one that is offered by a competitive electricity retailer. The pricing and terms and conditions of these contracts are not regulated by IPART but they must meet basic standards set by law. As a contrast, in Victoria all consumers are either on 'standing offer' contracts (which are unregulated but published at regular intervals as required by law) or competitive 'market contracts'. Pricing and terms and conditions are not regulated but must meet basic consumer protection standards.

We opted to analyse NSW electricity prices because the process of determining the regulated tariff in that market is set at an optimised long run marginal cost of supply. That is, wholesale and retail cost allowances are determined using an optimisation process given prevailing energy demand, capital goods and capital markets conditions, while the (AER) regulated network tariffs associated with the monopoly transmission and distribution businesses are simply 'passed through'. In short, the optimisation process is extensive, and no supra-normal profit exists on a "whole of supply-chain" basis. This makes it a particularly useful benchmark.

In considering the impacts of different electricity pricing structures on consumers, we obtained three product offerings from the three largest retailers operating in NSW as at December 2012: Energy Australia; Origin Energy and AGL Energy utilising their respective website quoting mechanisms. The three product offerings we selected were the most prominent on the individual websites, and were not necessarily the best or worst offers in the market. As Johnston (2012) found, there are a large number of products offered by multiple competing retailers. The purpose of our analysis is to determine whether a competitive market contract or the regulated standing offer is better for a customer, assuming the customer devotes minimal effort towards product selection. We then contrasted these with the standing offer contract (i.e. the regulated tariff). It is highly likely that offers presented here would be updated frequently due to changing wholesale electricity prices, demand conditions and the behaviour of competitors. As such, we are not articulating support for any particular retailer or product. The products and their characteristics are outlined belowⁱⁱ:

Table 1: Summary of electricity products in NSWⁱⁱⁱ

Product	Pricing Structure	Exit Fees	Other Fees ^{iv}
Standing Offer	Three tier pricing structure. First 4 MWh per annum: 26.84 c/kWh; Next 4 MWh per annum: 28.05 c/kWh; Thereafter; 37.73 c/kWh. Supply charge 69.08 c per day.	N/A	\$7.50 late payment fee (per qtr) ^v and \$9.00 dishonour fee (per qtr) ^{vi}
Energy Australia Everyday Saver	3% discount on regulated charges with a further 3% discount applied for payments made on or before the due date.	\$90 in year one, \$70 in year two or \$50 in year three.	N/A ^{vii}
AGL Select 14	10% discount on regulated charges (usage only). Further 2% discount for direct debit and further 2% for payments made on or before the due date.	\$75 in year one or \$50 in year two.	\$13.75 dishonour fee (per qtr) and \$14.00 late payment fee (per qtr)
Origin Daily Saver	21% discount on regulated charges (usage only). Further 1% discount for direct debit and further 2% for payments made on or before the due date.	\$70 in year one.	\$15 dishonour fee (per qtr) and \$12 late payment fee (per qtr)

In analysing the benefits to customers of different products, we have ignored non-immediate financial benefits associated with customer reward programs (e.g. flybuys) and energy efficiency offerings. We have also excluded other benefits available to all customers such as concessions. To determine the impacts on consumers, it is necessary to consider the significant difference in the annual usage of the various types of households. Accordingly, we modelled the total annual bill for five annual usage quanta: 2 MWh per year; 5 MWh per year; 7 MWh per year (approximate average household consumption in NSW); 10 MWh per year; and 12 MWh per year. We considered two main scenarios in our modelling. Firstly, we examined a household that avoids all preventable fees and charges by paying on time and not breaking the binding nature of a market contract. Secondly, we examined a household that incurred all possible fees and charges including first year exit fees and late payment and payment dishonour fees each quarter for a year.

The annual bill for customers on the regulated tariff with varying consumption levels is shown in Figure 1. As expected, as the rate of consumption increases, the total bill increases. This expected outcome is enhanced by the three level inclining block regulated tariff. Customers using more than 8 MWh per year pay 1.4 times more per MWh for their consumption above 8 MWh than customers using less than 4 MWh per annum. This is an important observation as we will later conclude that market contracts present a cheaper option for customers with higher consumption.

Figure 1: Annual bill for regulated tariff customers by consumption level

Figure 2: Saving on annual electricity bill relative to the regulated tariff

The results from our first scenario are presented in Figure 2. The analysis reveals that where customers pay on time and in a manner consistent with their obligations under the contract they have signed, significant savings can be made through adoption of a competitive market contract (as opposed to the regulated tariff). For example, the average NSW customer who consumes 7

MWh per annum can save between \$154 and \$460 per annum relative to the regulated annual cost of \$2,167. This is illustrated in both Figure 1 and Figure 2.

Households that select a competitive market contract and meet the obligations stipulated in the contract (such as paying on time) have lower electricity bills irrespective of their consumption or product choice. This is not unexpected given: the objective function of a regulated retail tariff is to set prices at long-run economic levels and facilitate competition, not impede it as Simshauser (2012) notes; and the sheer level of customer switching in the NEM. Customers using 2 MWh achieve savings of between \$37 and \$129 per annum depending upon the product they select. Similarly, customers using 12 MWh achieve savings of between \$191 and \$889. To be clear, the use of 12 MWh is not a theoretical construct. As Simshauser, Nelson and Doan (2011a, 2011b) demonstrated, a non-trivial number of low income households in NSW consume more than 8 MWh per annum (32.6%) and 12% of low income households consume 12 MWh or more. In any event, our analysis reveals that customers who are able to meet the obligations stipulated in a competitive market contract would be in a superior financial position if they entered into a competitive market contract. This is an outcome consistent with the broader thematic of Johnston (2012).

However, the outcome is not as clear cut when fees and charges are levied on customers who have entered into a competitive market contract and fail to meet their contract obligations. Figure 3 shows the savings per annum for customers at various consumption thresholds when all possible fees and charges are incurred.

Figure 3: Saving on annual bill relative to market contract (including all fees and charges)

The savings presented in Figure 3 are materially lower than the savings presented in Figure 2 because fees and charges documented in market contracts are higher than those regulated by IPART. Recall from Table 1 that the late fees charged by AGL Energy and Origin Energy are almost double the regulated fee. Furthermore, the discounting on energy usage charges provided by market contracts is generally reduced if payment is not received on time. However, even with the fees and charges outlined in Table 1 applied at their maximum level (i.e. late payment fees

applied four times a year), customers consuming 5MWh or more per annum pay less for electricity on a competitive market contract than the regulated tariff. The savings of between \$15 and \$666 per annum apply irrespective of how the customer engages with the retailer. We assume that payment is ultimately made and that there is no disconnection event (noting that disconnection can occur irrespective of whether the customer is on the regulated tariff or a competitive market contract). For customers using less than 2 MWh, the regulated tariff may be a better outcome if none of the terms and conditions stipulated in the market contract are likely to be met. However, our suspicion is that customers are most unlikely to incur four late payment and four payment dishonour fees in a single year without having been moved to a hardship program (where many of these fees are waived in any event). Accordingly, this represents the minimum benefit available to a customer on a market contract.

As noted above, customers using 2 MWh or less are worse off on two of the three market contracts surveyed when terms and conditions are not met. This is due to the higher proportion of fixed fees and charges (e.g. late payment fees) of the overall bill. However, as consumption increases, the fees and charges become less relevant to the decision making process. This is because customer gains are substantial from the higher discount provided by competitive market contracts.

Some policy makers, regulators and consumer advocates have concerns about exit fees charged by retailers. However, these fees pale into insignificance when compared to the savings achievable through readily available discounts. The savings obtained by switching to a market contract (per Figure 2) are greater than the maximum first year exit fee (\$90) for all customers with consumption of 5 MWh or greater. Our analysis shows that low-usage customers are right to be wary of signing a competitive market contract if they believe they are not able to meet the obligations of a market contract. However, for all other consumers, market contracts result in savings irrespective of the customer's ability to meet the terms and conditions in the contract.

4. Financial Assistance Provider Survey

While our analysis demonstrates that market contracts can result in material savings for households, for low-income and vulnerable consumers such a conclusion is of little use if it is not widely known or understood. Accordingly, we conducted a survey of peak consumer groups and financial counsellors to determine perceptions and attitudes towards energy supply and preferences around market contracts and regulated pricing.

We invited community organisations, financial counsellors and consumer advocacy workers (through a wide electronic network) to respond to an online survey. We had 137 respondents to the survey. The vast majority of these respondents (72%) are involved in first-hand provision of advice to customers in some form of financial hardship (financial counsellors, social workers and community assistance workers). We have used the generic term 'financial assistance providers' to refer to the respondents of the survey.

Our analysis in Section 3 demonstrated that an understanding of whether a customer is on a competitive market contract or the regulated tariff is important. Accordingly, respondents were asked whether their clients were on a market contract. The results are presented in Figure 4. Approximately two-thirds of financial assistance providers are not aware of the status of the supply contract of their clients. This is an important finding as it contrasts with the opportunities for reducing customer bills identified in Section 3. For customers using 2 MWh or less annually, Figure 4 is relatively meaningless as the status of the customer's supply contract (market or regulated) is relatively immaterial to their total annual bill. However, for customers using more than 2 MWh, market contracts readily available in the competitive market represent an important opportunity for households in financial distress to reduce a component of their household

expenditure. Accordingly, it is a failure of industry, consumer groups and government that this information has not been adequately communicated to financial assistance providers.

Figure 4: How many of your customers are on a market contract?

This finding is even more problematic when considered in the context of research into hardship demographics. Simshauser and Nelson (2012) found that customers in hardship are more likely to be within the family formation demographic (households where primary responsibility for the electricity bill is with someone aged between 30 to 49). Furthermore, they established that these households are likely to have above average consumption due to a greater number of people occupying the home. Accordingly, based upon our analysis in Section 3, these ‘family formation’ households are likely to have the most to gain from switching to a market contract because of their higher usage.

Irrespective of whether financial assistance providers are aware of the status of their clients’ existing contract, it is important to determine whether the financial counselling community is broadly aware of the differences between competitive market and regulated product offerings. Figure 5 outlines the awareness of survey respondents in this context. Around 80% of financial assistance providers surveyed indicated that were either completely unaware or did not know enough to discuss specifics with clients. Figure 6 continues this theme by presenting the results of survey respondents to the question: would you recommend a competitive market contract to a client?

Figure 5: Are you aware of the differences between market and regulated offers?

Figure 6: Would you recommend a competitive market contract to a client?

Figure 6 shows that only 2% of financial assistance providers would strongly recommend the use of a competitive market contract. In light of our earlier findings, this seems to be quite problematic. Conversely, 62% of financial assistance providers would not recommend a market contract to a client. However, given the results presented in Figure 5, it is unreasonable to expect financial assistance providers to recommend market contracts when they have been provided with

insufficient general information to discern whether there is material benefit to their clients associated with switching their supply.

To be clear, while the results in Figure 5 and Figure 6 are disappointing from a welfare perspective, apportioning ‘blame’ on any one stakeholder at this point would be entirely unhelpful. Electricity bills are one item of overall household expenditure and, to be sure, one of the more complicated expenditure items in relative terms. However, it is not inappropriate to state that the results in Figure 5 and Figure 6 are a combined failure of government, consumer groups and industry. Given the benefits of market contracts identified in Section 3, policy makers should ask why financial assistance providers have not been provided with the requisite general information which would allow them to advise their clients to appropriately minimise their electricity bills.

5. Policy Implications

A casual observer of the energy industry could be forgiven for asking why regulated prices aren’t simply lowered to provide savings to all customers. However, there is a detailed literature outlining why any regulated price caps should be aligned with the Long-Run Marginal Cost (LRMC) of supplying electricity – and the counterfactual to this is ‘boom bust scenarios at the retail level’. Simshauser (2012) and Yarrow (2008) articulate these arguments in great detail and so we do not propose to replicate them here.

However, one argument for deregulating electricity prices and shifting to price monitoring very much within the scope of this article is how price discounting occurs in retail electricity environments. Johnston (2012) makes the salient point that in regulated markets discounting is generally from a regulated load shape (i.e. proportion of fixed and variable charges is not varied in different retail products). In deregulated markets, Johnston (2012) found that there is a greater variety of tariff shapes used by electricity retailers which ultimately benefits consumers with different consumption patterns. For example, low usage households are able to opt for low fixed and high variable charges products while high usage households are able to select high fixed and low variable charges products. Such variation is not available in markets where prices are regulated.

That said, the purpose of this article was not to explore the merits of price deregulation specifically. Rather, the purpose was to examine whether competitive market contracts suit consumers in specific circumstances and test whether these benefits are being promoted to low-income and vulnerable customers. Even customers that incur all possible fees and charges under a market contract by violating all terms and conditions are better off with one of the three market contracts we modelled irrespective of consumption. Only consumers breaking market contract terms and conditions using 2 MWh or less are worse off. It would be reasonable to state that policy makers and stakeholders (such as the energy industry and consumer groups) are continuing to debate the merits of competition and retail price regulation without addressing a core underlying issue: informing the community sector about the merits of intense competition and product innovation and differentiation.

Consumer Awareness

The critical question for policy makers in jurisdictions where price regulation remains is not just whether such regulation should be removed but what education initiatives should be used to ensure consumers (and in particular vulnerable consumers) are offered the opportunity to improve their circumstances. As Swadley and Mine (2011) demonstrated, greater customer participation and larger markets lead to lower prices.

A key component of any education campaign must be focused on vulnerable consumer segments and support services (such as financial assistance providers). Our analysis in Section 4 demonstrated that financial assistance providers and consumer groups do not have sufficient general information to make important recommendations for clients in relation to the benefits of competitive markets and market contracts. It may be that financial assistance providers have pre-determined views about the merits of market contracts. McDaniel and Groothuis (2012) established that socio-demographic variables affect opinions in relation to energy policy. Greater relationship building between the industry (electricity retailers) and social groups (consumer groups, financial assistance providers) should be of importance to resolve information asymmetries in relation to products and pricing. Similarly, social welfare groups should be focusing on the level of competitive activity, the structure and the extent of product differentiation and discounting in the market, rather than the form of the regulated tariff.

Educational initiatives cannot be delivered by any stakeholder in isolation. It is necessary for consumer groups, the energy industry and governments to work together on providing the right information to consumers to allow the most appropriate decisions to be made. Greater definition of the role of each stakeholder is required in this context. A 'shared responsibility model' must be explicitly agreed. Such a model would define clearly the roles of industry, community and government (state and federal). Ideally, it would be bound by reciprocal obligation and incentive. To be clear, what is not needed is more regulation that stifles product innovation and differentiation.

6. Concluding Remarks

In this article, we have established that consumers are better off in almost every conceivable situation by entering into a market contract in New South Wales at the time of writing (December 2012). Only households using less than 2 MWh who fail to meet all of the terms and conditions in a market contract are in a worse economic position than if they had remained on the regulated tariff. Households that meet the terms and conditions of a market contract, irrespective of their level of consumption, are unambiguously better off financially by entering into a market contract, as one might reasonably expect in an intensely competitive market. The regulated tariff has been set at an optimised LRMC of supply and so we can quickly rule out the possibility that the price has been set to deliver 'supranormal' profits or to recover inefficient costs (i.e. as the LRMC calculations are based on an 'optimal' supply stock using lowest cost technology against prevailing levels of aggregate demand).

We contrasted these results with views about the suitability of market contracts for low-income and vulnerable households. A survey of financial assistance providers revealed that: financial assistance providers do not know what proportion of their customers have signed market contracts; they are unaware of the differences between the regulated tariff and competitive market contracts; and (due to a lack of information) would not recommend a market contract to their clients. Given the significant savings for consumers signing competitive market contracts identified in our analysis, we view this as a material problem that requires correcting.

Within Australia, South Australia and Victoria have deregulated their retail electricity markets. In these markets, default tariffs exist as do market contracts, and a similar result to our New South Wales analysis would be expected. This is because default tariffs are set at levels reflective of the LRMC of supply and discounts of similar median magnitudes exist. If we assume that the New South Wales and Queensland Governments remove retail price regulation following a review of the effectiveness of competition (as they are required to do through the Australian Energy Market Agreement), it is important that policy makers consider maximising the effectiveness of the deregulation event. However, these benefits rely upon industry, consumer groups and governments developing and implementing a comprehensive education campaign. Such a

campaign should be focused on providing consumers (and community workers such as financial assistance providers) with adequate information and tools to make the most appropriate decision for their circumstances.

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ⁱ We have used the term financial assistance provider to encapsulate the spectrum of people assisting vulnerable consumers, including but not limited to financial counsellors, community workers and consumer advocates

ⁱⁱ The information was obtained from the websites of the three retailers on 28 December 2012.

ⁱⁱⁱ Based upon metropolitan pricing (i.e. Ausgrid network area).

^{iv} We have not considered disconnection and reconnection fees in this study. We have also excluded benefits from ‘dual fuel offerings’ where gas and electricity is bundled.

^v Late payment fee schedule provided in IPART (2010).

^{vi} Dishonour fee based on financial institution fee (see IPART, 2010) obtained from Westpac: <http://www.westpac.com.au/personal-banking/bank-accounts/manage/avoid-and-minimise-fees/>, accessed online on 31 December 2012.

^{vii} No explicit fees and charges are listed on the Energy Australia offer, nor the standard terms and conditions. Accordingly, we have assumed that the customer only loses the 3% discount when payment is made after the due date.