



MONASH BUSINESS SCHOOL

17 May 2020

Dr Kerry Schott AO
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Dear Kerry

RESPONSE TO CONSULTATION ON TWO SIDED MARKETS

Thank you for the opportunity to respond to the Energy Security Board's discussion paper, ***Moving to a two-sided market*** released last month for public consultation. The introduction of a two-sided bidding mechanism in the National Electricity Market would represent the most profound customer-facing reform since the introduction of full retail competition (FRC) in the early 2000s, followed by full price deregulation some years later.

The focus of this submission is limited to the 'full participation' two-sided market because only this model compels participation by small customers (households and small businesses), whether directly or via a third party. The submission considers how consumers and service providers might participate in a two-sided market. Their likely responses will influence the market's evolution and the benefits that can be delivered by the proposed reforms.

The submission begins with a brief overview of the reform goals and the necessary conditions assumed in the discussion paper. Section 2 explores different aspects of the proposal and how they might affect consumers whose conduct deviates from the assumptions embedded in the proposal. The discussion reflects on issues of: **Participation & Price Responsiveness, Choice & Flexibility, Complexity & Trust, Fairness & Acceptance, Benefits & Preferences**, and the role of **Consumer protections**. Section 3 briefly draws on the experience and lessons learnt from the retail electricity market over the past twenty years.

The submission concludes by highlighting how misplaced assumptions in the design of a two-sided market will almost inevitably lead to a loss of consumer confidence and invite political intervention in the proposed market in the years ahead. This chain of events can be avoided with careful analysis of how consumers and service providers will respond to different market designs. The preferred model should be the one that delivers the greatest benefit across the widest range of potential behaviours by market participants.

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The submission emphasises the need to deploy a range of economic disciplines to solve this problem, including (but not limited to): **experimental and behavioural economics, industrial organisation, game theory and institutional design.**

I would welcome the opportunity to engage with the Energy Security Board on the matters raised in this submission. I would also be delighted to facilitate introductions to my colleagues in the **Monash Business School** who are very well-versed in these economic methods (noting the views expressed in this submission are those of the author and not the Faculty or its staff). Likewise, the **Monash Energy Institute** and the **Monash Sustainable Development Institute** could make very valuable contributions to the work that lies ahead.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ron Ben-David'.

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Response to Consultation on Two Sided Markets

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1. OVERVIEW

The Energy Security Board's paper, *Moving to a two-sided market*, proposes far-reaching reforms to the consumer-facing electricity market.¹ The paper explains a two-sided market mechanism is being considered within a broader suite of reforms.^{2,3} This submission follows the lead of the discussion paper and only addresses matters relating to a two-sided market.

While the discussion paper does not present a consolidated set of policy objectives to be achieved by the establishment of a two-sided market, these goals can be inferred from the discussion. They include:

- **Visibility** – Participants reveal information about their availability and willingness to generate or use electricity. This information will reduce investment uncertainty, and increase operational certainty for market participants and AEMO (p.5)
- **Greater control** – increased incentives for owners of DER to bid into the wholesale market which will overcome the largely uncontrolled amounts of electricity it currently provides (p.10,14)
- **Efficient allocation** (or rationing) of services, including reliability of electricity supply, to the parties who attach the greatest value to those services, will reduce the cost of electricity for all consumers (p.ii,6,30-31)
- **Consumer benefits** from better prices and more choice (p.i)
- **Fairness** through the elimination of cross-subsidies and prohibitions that protect consumers from certain types of conduct that harm effective competition (p.24,32).

¹ <http://www.coagenergycouncil.gov.au/post-2025/two-sided-markets>

² Other reforms mentioned in the discussion paper include: Ahead markets (p.27), Network tariff reforms (p.24-25), Locational marginal pricing and COGATI (p.23-24), AEMC's wholesale demand response mechanism rule change (p.16), various other market trials and consideration of markets for a range of other services which will assist AEMO to operate the system. These include Network Support Control Ancillary Services, System Restart Ancillary Services, emergency reserve services (eg. the Reliability and Emergency Reserve Trader, RERT) (p.11) and potentially other services including inertia response, primary frequency control, voltage control and system strength (p.27).

³ The discussion paper also notes the very worthwhile opportunity to simplify the complicated regulatory arrangements the currently exist to account for different types of market participants (eg. "retailers, generators, different types of aggregators, and special arrangements for storage and other devices" p.10).

The discussion paper describes the main conditions (or assumptions) that need to be satisfied for a two-sided market to achieve these objectives. These include:

- ***Innovative service providers*** who will focus on enabling market participation, including by households and small businesses, by deploying new technologies and developing bespoke contracts that reflect their customers' responsive capabilities (p.7,20,21)
- ***Stable and discoverable consumer preferences*** which will be translated into 'schedulable' demand bids (and supply offers) reflecting the prices at which consumers are willing to use varying volumes of electricity, with customers' levels of service adjusting automatically in line with the market clearing price (p.4,7,23,30)
- ***Price responsive customers*** who will use less (and/or export more) electricity when the market price exceeds the value they individually derive from consuming that electricity without impacting on the benefit they obtain from using electricity (p.4-6)
- ***Full and active participation*** which will lead to greater market efficiency and certainty for market participants and the system operator, by facilitating greater visibility of market participants' price responsiveness (p.13, 21)

The discussion paper describes three broad implementation options but sees full participation as "the goal for a two-sided market" (p.21) with the other options potentially representing "stepping-stones" (p.18) along the way.

The focus of this submission is limited to the full participation market because only this model compels participation by 'small customers' (households and small businesses), whether directly or via a third party.

Section 2 discusses how the benefit for small customers of a full participation two-sided market is highly conditional on their conduct within that market. If their behaviour deviates from the stylised assumptions noted above, the market is likely to evolve in ways not contemplated in the discussion paper. In this sense, there are parallels between the proposed introduction of a full participation two-sided market and the introduction of full retail competition in early 2000s. Section 3 briefly explores some of these parallels.

Section 4 concludes the paper with a reflection on the consequences of misjudging how consumers and service providers might respond to the introduction of an involuntary two-sided market. Fortunately, sophisticated techniques are now readily available to better understand how market participants are likely to respond to different market designs.

The preferred model for a two-sided market should be the one that delivers the greatest benefit across the widest range of potential behaviours by market participants.

2. DISCUSSION

The full participation two-sided market envisaged in the discussion paper would bring a level of sophistication to the Australian national electricity market unmatched anywhere else in the world. Of course, Australia is at the vanguard in terms of the penetration of distributed energy resources coupled with increasing investment in large-scale renewable energy production. This is placing obvious strains on the system and the system operator. The proposed two-sided market presents a mechanism to alleviate those strains but its success rests entirely on whether its many assumptions are realised in practice.

This section does not attempt to describe all the assumptions upon which the successful implementation of a full participation two-sided market would rely. Instead, it focusses on a few assumptions about market participants' conduct. Even this limited discussion highlights the potential consequences for consumers if these assumptions are found wanting in practice.

This does not imply that a two-sided market is not worth consideration, but it suggests great caution is needed before moving to a full participation version of the model. A market cannot be designed based on a singular set of assumptions about participants' responses to that design. The claimed benefit of a full participation two-sided market must be robust to a wide range of potential consumer responses. If those benefits are not sufficiently robust to alternative modes of consumer conduct, then other options must be sought in pursuit of the goals identified above.

2.1 Participation & Price Responsiveness

The discussion paper opens by observing that when the NEM was developed 20 years ago, its designers envisaged it would eventually "share the characteristics of other commodity markets" (p.1). That may be so, but the relevance of their expectations must be questioned after two decades of experience with a consumer electricity market.

Consumers have little engagement with commodity markets and there is typically a long value-adding supply chain between them and commodity trading. Even though the electricity supply chain is very short, few consumers would see themselves as participating in an electricity commodity market.

Unimproved and bland commodities do not stoke community passions in the way the electricity market has provoked community displeasure in recent years. It was community anger with the retail energy market that drove governments to commission two inquiries^{4,5}

⁴ Australian Competition and Consumer Commission (2018), *Restoring electricity affordability and Australia's competitive advantage, Retail Electricity Pricing Inquiry - Final Report*, June

⁵ Thwaites, J, Mulder, T and Faulkner, P. (2017) *Independent and Bipartisan Review of the Electricity and Gas Retail Markets in Victoria*, August

and subsequently implement a broad suite of market reforms. It would be overly simplistic to dismiss these interventions as politically inspired (or “bad politics getting in the way of good economics”). These interventions were inspired precisely because the community does not view electricity as a mere commodity.

The community attaches values to the provision of electricity that have no equivalents in other commodity markets. It is doubtful whether too many members of the community are concerned about their lack of access to the hog futures market or the fairness of offer prices for molybdenum contracts. But access and fairness do matter when it comes to the design and operation of the electricity market, at least as it is experienced by consumers.

Whereas traders can withdraw from a commodity market if their experience of the market is unsatisfactory, consumers have no such option if they are dissatisfied with their experience of the electricity market. Appealing to a political process is one of the only ways dissatisfied consumers can seek restitution for their poor treatment by the electricity market. Indeed, political intervention may well be inevitable when essential service markets fail to meet higher community standards of conduct for those markets. In other words, political involvement in the electricity market should be treated as endogenous to its design and operation.

For as long as values-driven outcomes such as access and fairness matter to the community, consumers are very unlikely to view the electricity market as “shar[ing] the characteristics of other commodity markets.”

Despite the NEM designers’ original envisagement, experience now cautions against designing a consumer-facing electricity market predicated on the assumption that it can operate like a commodity markets.

*

The discussion paper also favours the neo-classical assumption that consumers’ participation in a two-sided market will be determined by the value they attach to consuming electricity at any point in time relative to its price at that time. Alternatively stated, the paper lays great weight on consumers responding to price signals.

“The ability to respond when prices are high and supply is scarce, creates incentives to change behaviour and conserve electricity or to shift the timing of consumption.” (p.ii)

Experience suggests otherwise.

There is now sufficient evidence indicating customers fail to switch retailer (or energy plan) even when they could save hundreds of dollars, or thousands of dollars in the case of small businesses. These savings are left unrequited even though they could be realised with a short phone call. In contrast to these observed patterns of behaviour, the paper assumes that consumers in a two-sided market will continually fine-tune their consumption (directly or indirectly) in order to make incremental savings in line with the market clearing price.

Likewise, the paper attaches significant weight to the emergence of new technologies to assist in altering consumption patterns in response to changing prices. This expectation will probably prove correct, however technologies already exist to help reduce energy bills. Thermostats have been used to control heaters and coolers for decades, yet they do not appear to have moderated energy bills despite soaring electricity and gas prices over the past decade.

These two examples do not prove that customers do not respond to prices, but they highlight that price responsiveness in a large cohort of customers may be substantially lower than the paper anticipates. This invites many questions such as: How will a two-sided market evolve if consumers are not very responsive to prices, or if consumers show far less interest in the sorts of contracts anticipated in the discussion paper (see section 2.3)?

When the ESB begins modelling the two-sided market, it would be worthwhile examining how substantially the benefits of a full participation model decline if say, 40, 60 and 80 per cent of customers do not respond to price signals as currently anticipated in the paper. Likewise, it would be worth investigating how the benefits of a two-sided market decline if consumers gradually disengage from price responsive participation in the market as the novelty fades.

2.2 Choice & Flexibility

The opportunity for greater consumer choice is among the benefits of a two-sided market identified by the discussion paper.

“A two-sided market can deliver benefits of improved efficiency and innovation, and customer benefits including better prices and more choice.” (p.i)

The paper foreshadows that part of this choice will involve consumers deciding whether they trade directly in the electricity market or whether they participate through a third-party trader, such as a retailer or aggregator. The discussion paper explains how this choice will support customers to efficiently express their consumption preferences in response to price signals.

Behind this view of consumer behaviour lie many assumptions which have not been explored in the paper. Some examples include:

- *Consumers value choice* – While this assumption is a mainstay of traditional economic thought, it is not an assumption that should be taken for granted when it comes to an essential service like electricity. Analysis commissioned by Energy Consumers Australia (ECA) shows that consumers are not particularly interested in engaging with energy-related

decisions.^{6,7} Because electricity is an essential service, consumers view its reliability, sustainability and price as the responsibility of governments, rather than themselves.

- *Consumers can efficiently process the choices they face* – There is plenty of evidence from the behavioural sciences that an abundance of choice can lead to poor decision making. When overwhelmed by choice, consumers will make decisions that are contrary to their own self-interests. This can include decision avoidance (also known as ‘status quo bias’ or ‘consumer inertia’).

The potential for harm in the face of complex options may be heightened when consumers have insufficient skills or time (or both) to access and process the necessary information. A report recently commissioned by the Australian Energy Regulator, identified that 44 per cent of Australians have low literacy skills.⁸

- *Consumers have flexibility to respond dynamically* – As flagged in the discussion paper, the benefits available to consumers in a full participation two-sided market will be largely conditional on them acting in response to current prices (noting those actions may be managed via third parties). Consumers who lack this assumed level of flexibility, whether for physical or financial reasons, may not share in the benefits of a two-sided market. Worse still, they may find themselves harmed when the benefits are not a positive sum gain.

The paper appears to assume there is substantial latent discretion in the use and export of electricity. The three potential limitations noted here (and potentially others) mean this latent potential could be significantly less than is being assumed.

If consumers’ behaviours in practice fail to match their assumed behaviours, then the proposed full participation two-sided market will not evolve in the way expected by the discussion paper. Of course, markets are dynamic so allowances must also be made for how service providers’ conduct may also deviate from expectations, particularly in response to consumers’ real rather than assumed behaviours. The dynamic relationship between consumers and service providers suggests a game theoretic approach should be applied to modelling a two-sided market.

The robustness of the benefits of a full participation two-sided market need to be stress-tested against a wide and mixed distribution of assumptions regarding consumer and service provider behaviours. The preferred market design should be the one that delivers the greatest benefit across the widest range of potential behaviours by consumers and service providers.

⁶ <https://energyconsumersaustralia.com.au/wp-content/uploads/1D-ECA-Future-Energy-Vision-Research-Forethought-Household-Presentation.pdf>

⁷ <https://energyconsumersaustralia.com.au/wp-content/uploads/1D-ECA-Future-Energy-Vision-Research-Forethought-SME-Presentation.pdf>

⁸ O’Neill, Emma. Consumer Policy Research Centre (2019), *Exploring regulatory approach to consumer vulnerability* (1 November)

2.3 Complexity & Trust

The discussion paper has not speculated on the types of offers and contracts consumers may be offered in a full participation two-sided market. It notes however, that service providers will:

“[have an] incentive to develop bespoke contracts that reflect responsive capabilities...” (p.21)

The paper also notes that the ESB will:

“consider the details of a framework that proportionally rewards traders when they meet their targets and penalises those who do not.” (p.15)

Presumably, these bespoke contracts will reflect the various elements that define each customer’s agreed responsive capabilities. At a minimum, it seems these contracts will need to include terms addressing:

- the price at which electricity is sold to, and bought from, the customer
- the quantum of electricity to be consumed, or exported, at different prices and possibly at different time of day (week, year)
- the level and conditions of control over demand and supply handed to the service provider
- the compensation to be paid to a consumer if their electricity usage is curtailed beyond agreed limits by the service provider
- any penalties payable to the service provider when the customer fails to meet their contracted commitments
- ownership, payment and access arrangements for any equipment installed at the consumer’s premises.

Customer experience in the contestable retail energy market highlights how difficult they have found navigating the market even when it operates in just one of these dimensions (namely, price).⁹ Analysis in a forthcoming paper by the Victorian Energy Policy Centre highlights the ineffectiveness of households’ search efforts when switching electricity retailers.

The bespoke, multi-dimensional contracts required in a two-sided market will be considerably more complicated than current retail electricity contracts. This could make misjudgement very costly for consumers.¹⁰ These foreseeable complexities and risks mean significant testing is required to understand consumers’ likely behavioural responses to these multi-dimensional contracts.

⁹ Noting there might be multiple ‘sub-dimensions’ to price – eg. conditional discounts or feed in tariffs.

¹⁰ For example, when consumers misjudge their future capacity to comply with contract terms (i.e. the well-known phenomenon of over-confidence bias).

The discussion paper also suggests:

“Technological advances and digitalisation mean that consumers will not need to monitor electricity prices and decide how or when to participate. These decisions would be set up to happen autonomously or in an agreed way via their retailer or aggregator.” (p.ii)

This may be true as far as electricity prices are concerned, but how will customers judge the value-for-money of a contract given the multiple dimensions across which contracts will need to operate in a two-sided market? Importantly, consumers won't have access to external cues such as the published prices if the proposed market relies on bespoke contracts. Consumer confidence and trust in a two-sided-market will be precarious if customers are unable to readily compare and judge the value-for-money of the offers they face.

It may be tempting to assume that competing service providers will innovate to overcome this complexity, however experience suggests otherwise. The retail energy market shows that leaving it up to service providers to solve complexity reflects a false hope. In a contestable market, each service provider acts in its own interests rather than in the interests of the market's overall credibility. Full retail competition has driven each retailer to seek a way to distinguish its offers from those of its rivals. The resultant 'confusopoly' of market offers led to consumers losing confidence in the retail energy market and eventually demanding a regulatory solution.¹¹

This loss of trust has profound consequences.

Speaking earlier this year, the CEO of Reposit, a frontier service provider looking to deliver the types of services that would be available in a two-sided market, described the difficulty his firm was encountering when trying to explain Reposit's value proposition to customers.¹² Reposit found customers had a limited understanding of the electricity market but this could be overcome with considerable investment in explaining it to them. Unfortunately, this led to a seemingly paradoxical outcome for Reposit. The more customers understood about the electricity market, the less they trusted the market or the services Reposit was offering.

Perhaps Mr Spacevento's most telling observation was, "They don't understand, and they don't want to know."

Reposit would presumably be dealing with some of the most willing customers in the electricity market. Yet it seems a large proportion of even this cohort were not interested in 'understanding or knowing'. This suggests a full participation two-sided market will encounter considerable market friction, with potentially adverse consequences that need to be fully understood.

¹¹ As discussed in section 2.1.

¹² https://energyconsumersaustralia.com.au/news/foresighting-forum-2020-publications-and-resources?mc_cid=82122483d2&mc_eid=6e20848f0e

2.4 Fairness & Acceptance

Behind consumers' confidence and trust in a market lies their belief that it is fair. Of course, fairness is an elusive value and community standards often only manifest in the breach. Despite its elusiveness, fairness must be a central consideration in the design of a full participation two-sided market if it is to gain *enduring* community acceptance. As already noted, when the community perceives 'the market' is not treating people fairly, its demands for a regulatory solution become difficult for the polity to withstand.

Many large, systemic reforms founder because the reform designers fail to account for how the new market conditions will appear to customers as the reforms begin to take effect. The ESB should carefully and openly describe how a two-sided market will appear when viewed through the experiences of different customer cohorts – from the most to the least willing and able to participate in the proposed market.

This is not just a matter of static assumptions and analysis. Modelling needs to take into account how service providers will respond to these different cohorts, and the extent to which this incentivises service providers to adopt discriminatory pricing, marketing and contracting strategies. A sense of being adversely discriminated against is potentially a major source of grievance for consumers, even when they have chosen not to engage actively in the market.

It is also worth further considering the discussion paper's implicit assumptions around the primacy of consumer sovereignty as expressed, albeit indirectly, in statements like:

"Pricing congestion in a two-sided market could lead to the market responding more efficiently to ration the limited network/generating capacity that is available..." (p.6)

It may be reasonable to assume consumer sovereignty in most markets for consumer goods and services, but experience suggests the community can embrace quite a different standard when it comes to the provision of essential services (see section 2.1).

During the millennium drought, the community unambiguously rejected the primacy of consumer sovereignty over access to water. The community held the view that, "We're all in this together", hence widespread support for behavioural controls (i.e. water restrictions) rather than price rationing. Behavioural controls rather than price rationing more accurately reflected the community's standard of fairness. These community standards remain unchanged even a decade after the drought ended.

The discussion paper defines fairness as the elimination of cross-subsidies and the prohibition of conduct that harms effective competition (see section 1). This interpretation is likely to be much narrower than the community's standards of fairness in relation to the provision of electricity — even more so in the context of the so-called 'energy transition' that lies ahead. Great care needs to be taken to understand the community' standard of fairness, and to ensure the proposed full participation market satisfies those standards.

2.5 Benefits & Preferences

In several places, the discussion paper refers to developments in a two-sided market promoting the long-term interests of consumers. Although there is no detailed description of those interests, the paper refers to various consumer benefits including:

- “better deals” (greater innovation)
- “better participation” (more choice)
- “better prices” (lower costs)

The paper only refers to these benefits in the abstract rather than describing them in terms of the day-to-day experiences customers might reasonably expect. This invites questions like: Better than what? What will better deals, participation and prices look like to a customer? How will customers judge whether deals and prices represent good value? What consequences will customers face if they fail to take advantage of these better deals?

The paper also refers to customers having different preferences in terms of their electricity requirements. This may be true, but it is not self-evidently true. Moreover, the success of a two-sided market will presumably depend on a sufficiently broad spectrum of consumer preferences over consuming and exporting electricity. Were this not the case, there would be little arbitrage opportunity for service providers to mine.

It would be instructive to undertake research to confirm whether consumers’ preferences are indeed sufficiently heterogeneous to realise the expected systemic and individualised benefits of a two-sided market. Where dispersed preferences are limited to a very narrow set of consumption choices, say, when to charge an electric vehicle, the relative merits of alternative mechanisms to a full participation two-sided market should be assessed.

Importantly, the discussion paper makes clear that a two-sided market is being considered in the context of a broader suite of reforms. This includes network tariff reform which aims at cost reflective network tariffs (p.7) and which could lead to fixed network costs recovered through a “subscription charge” plus a reserved capacity charge reflecting individual customers’ requirements (p.24-25). This reform may have significant merit but its interaction with the consumer benefits from a two-sided market need further elaboration.

For example, network tariffs currently comprise 40-50 per cent of a typical household bill. If this component of the bill becomes fixed (as a subscription fee), it leaves a much smaller share of the bill from which a full participation two-sided market can deliver household savings.

2.6 Consumer protections

The discussion paper does not directly address the nature of the consumer protections that may be required in a full participation two-sided market. It just notes that the AEMC is reviewing “how regulation may need to develop as new energy products and services are available to consumers and digitalisation changes the traditional sale of energy.” (p.32)

Market design and consumer protection should not be viewed as two distinct exercises where the proposed two-sided market is designed according to ‘first best’ principles and any remaining concerns about consumer outcomes are addressed either in a consumer protection framework, or through social policy interventions.

(In this context, a consumer protection framework refers to a set of regulations aimed at supporting customers without interfering with the expected competitive dynamic of the market. The reference to social policy interventions relates to actions governments might take that lie outside the regulatory framework governing the market. Examples might include financial concessions or rebates, or assistance with purchasing energy efficient appliances.)

Regulators’ experience with full retail competition (FRC) has shown that consumer protection frameworks cannot mitigate adverse effects which are facilitated by market rules.

Under FRC, retail strategies became increasingly extravagant as energy retailers sought to distinguish themselves in the marketplace. These strategies accorded with the rules of the market. The regulatory community even viewed them as a sign of success – claiming the market was now ‘effectively competitive’. But as noted above, these obscurantist pricing strategies led to confusion and mistrust, and poor consumer outcomes. Addressing these adverse outcomes lay beyond the reach of regulators’ consumer protection frameworks. Eventually, governments felt compelled to intervene to change the market rules.

If market rules are the source of adverse outcomes for consumers, then alternative market rules are the only remedy.

3. LESSONS FROM THE RECENT PAST: FULL RETAIL COMPETITION

Many of the goals and assumptions in the discussion paper echo the ones that preceded the introduction of Full Retail Competition (FRC) in the early 2000s and full price deregulation in the years that followed. At the time, it was assumed that a contestable market would see retailers vigorously competing to attract customers. Retailers would offer new innovative products to customers. Discerning customers would switch between products and retailers in pursuit of the best value for money. Prices would be driven to their efficient costs. Smart meters would encourage a new wave of innovation and competition between retailers. Brokerage services would lower transaction costs. And so forth.

The retail energy market did not turn out that way.

For a long time, policy makers and regulators considered the retail energy market's shortcomings to be transitional rather than structural in origin. They therefore deliberately limited themselves to promoting better product disclosure, reducing search costs, and imploring customers to shop around. These efforts changed little in the market experienced by consumers.

By 2018, the ACCC's Retail Electricity Pricing Inquiry and the Thwaites review in Victoria had made clear that few of the originally anticipated outcomes had materialised in the retail energy market. To the extent they were observed, the consumer benefits were anaemic. And too often, the market was producing outcomes that were detrimental to consumers.

It may be convenient to blame FRC's disappointing outcomes on policy and regulatory settings, but this does not fully explain why the goals of FRC failed to materialise.

The goals of FRC failed to materialise because neither consumers nor service providers responded to the introduction of contestability in the ways assumed by the market designers. As a result, the market did not evolve as expected.

Despite the disappointments of FRC, many of the same goals and assumptions have resurfaced in the ESB's discussion paper. There is one material difference, however.

There have been very significant advances in the technological environment in which these goals are now being pursued and these assumptions are now being made. Despite these advances, the success of a full participation two-sided markets is neither guaranteed by these new technologies nor condemned by those old assumptions.

The lesson of FRC is that technologies and assumptions should not be taken for granted. The significance of technology on consumer behaviour must be tested and contested, trialled and piloted. Even more importantly, markets must not be designed on the basis of a single, narrow set of assumptions about consumer behaviour. Likewise, experience shows service providers will not necessarily act as assumed (particularly when consumers do not act as expected). The robustness of a proposed market's design should be tested against a wide distribution of alternative assumptions about consumers and service providers.

4. CONCLUSION

Designing a market based only on first best principle risks the misappropriation of economic simplifications. First-best principles are often found wanting in practice. This has been the experience with full retail competition (FRC) where an axiom about rational choice morphed into an assumption about consumer behaviour, then a policy prescription, then a cause for community resentment, and finally, a political reaction that seemed at odds with the original objective of creating a contestable retail energy market.

This evolution is summarised in the following table.

Evolutionary stage	Premise	Description
1. Economic theorists	Consumers shop around for better prices.*	Axiom
2. Market designers	Consumers will shop around for better prices.*	Assumption
3. Industry regulators	Consumers must shop around for better prices.*	Policy prescription
4. Customer experience	Why shop around? It makes no difference in the end.#	Resentment
5. Policy makers	We must stamp out inappropriate industry conduct.#	Reaction

* The following words could be added here, "thereby driving efficiency in the energy market."

The following words could be added here, "because the energy market has failed."

The evolution of full retail competition may or may not have been perfectly predictable. We will never know. We do know however, that twenty years ago theoretical assumptions went untested before they were embedded in the design of the retail energy market. It would be a pity if a full participation two-sided electricity market followed the same path as FRC. It need not.

Today, market designers, policy makers and regulators have access to tools that allow assumptions to be tested in high definition.

Experimental economics applies laboratory methods to economic questions. There is no reason why these methods cannot be used to examine how a two-sided electricity market might evolve as theoretical assumptions about consumers and service providers are loosened, stretched, exhausted and reversed. At the same time, **behavioural economics** can help market designers peer into market participants' true decision-making processes. Likewise, economic theorists in the fields such as **industrial organisation**, **game theory** and **institutional design** can apply their own assumption-bending techniques to theoretical models of a two-sided market.

The full arsenal of economic methods should be openly deployed in search of answers to the questions raised by this submission, and many other questions.

Implementing a two-sided electricity market based on its benefits *in principle* is likely to see it follow the same evolutionary path that led to the eventual loss of confidence in the retail electricity market. The claimed benefit of a full participation two-sided market must be robust to a wide range of potential responses by consumers and service providers. If those benefits are not sufficiently robust to alternative modes of consumer and service provider conduct, then alternative policies must be explored for meeting the ESB's objectives for a two-sided market.¹³

17 May 2020

About the author

In March 2020, Dr Ron Ben-David joined the Monash Business School (Faculty of Business and Economics) in partnership with the Monash Sustainable Development Institute, as a Professorial Fellow. This followed ten years as the full-time chair of Victoria's economic regulator, the Essential Services Commission. His earlier career involved senior positions in the Department of Premier and Cabinet (Vic) and Treasury and Finance (Vic). In 2007, he led the secretariat for the national Garnaut Climate Change Review. Ron is known for his freethinking and deep commitment to reforms that deliver fairer outcomes for consumers. He has written and presented on a wide range of topics. He holds a B.Sc (Optometry), B.Comm (Hons) and a PhD (economics).

¹³ Including the voluntary participation and selective participation models identified in the discussion paper, the AEMC's wholesale demand response mechanism, or entirely different solutions.