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Designing a free market in insurance: Institutional insights for a digital age

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Abstract

Markets can be redesigned to enhance freedom, transparency and efficiency. Recent competition reviews have suggested design changes to address the consumer harms that arise from new technologies and increased market power. Regulators' current approaches, however, do not appear promising. Their focus on competition has meant that they discourage collaboration that could facilitate innovation and efficiency. They seem over-reliant on competition to address abuses, and over-confident in their ability to maintain and enforce up-to-date and detailed regulations where competition does fail. They also underestimate the administrative and psychological costs of compliance. This paper proposes a shift in the making of regulations to an accountable body representative of market participants to protect against opportunistic market participants and roll back the proliferation of precise prescription in favour of tried and tested legal principles. The paper concludes with some suggestions for actuaries.

Key words: Competition regulation, Market design, Transparency, Digital platforms, Regulatory capture

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1 Introduction

This paper reviews the institutional literature from economics and the principles of insurance law to propose an alternative – and more intentional – approach to market design. It is argued that market participants are not free when they are subject to competition that involves obfuscation and manipulation in an ongoing process of zero sum haggling. Efficient and innovative markets need "rules-in-use" (Ostrom, 2010) to create a level of collaboration that brings out the best in all participants. All participants should to be able to contribute directly to determining these rules – rather than have them fashioned by remote, and potentially captured, regulators. This paper therefore proposes a shift in the making of regulations to an accountable body representative of all market participants: producers, consumers, regulators and the public. Its role would be twofold":

- Firstly, to identify opportunities for collaboration that could lead to more innovative and efficiency.
- Secondly, to roll back the proliferation of precise prescription in favour of tried and tested legal principles and assist regulators to identify and disempower opportunistic market participants.

Impetus for this paper has arisen from frustrations with failures to use digital technology in Australian insurance markets, which also provide the context for the discussion.

The internet has made it much easier to access data of every sort, and increased computational power makes it possible for it to be transformed, interpreted and distributed quickly and efficiently. There are new opportunities to tailor products to needs, make their terms and prices more transparent, and advise people on their best choices. Consumers need enhanced protection against invasions of privacy and unfair discrimination. But digital markets do not seem to be more transparent or even efficient as is evidenced by their being the current focus of competition regulators. Four recent major reviews of competition policy in digital markets are available in English: Crémer et al. (2019) in the EU, Furman et al. (2019) in the UK, Scott Morton (2019) in the US and ACCC (2019) in Australia. They recommend more detailed regulation to enhance competition and reduce harms. Their focus on increasing competition means that they undervalue the potential contributions from market participants and the benefits of collaboration. It is also suggested that they underestimate the costs of the ongoing explosion in detailed regulation in creating an administrative burden while psychologically focussing producers on compliance and finding loopholes.

Ostrom (2010), in her Nobel lecture, provides the inspiration for the ideas in this paper. She describes a more nuanced view of human nature and alternatives to simplistic market or regulatory approaches:

> *Designing institutions to force (or nudge) entirely self-interested individuals to achieve better outcomes has been the major goal posited by policy analysts for governments to accomplish for much of the past half century. Extensive empirical research leads me to argue that instead, a core goal of public policy should be to facilitate the development of institutions that bring out the best in humans. We need to ask how diverse polycentric institutions help or hinder the innovativeness, learning, adapting, trustworthiness, levels of cooperation of participants, and the achievement of more effective, equitable, and sustainable outcomes at multiple scales.*

Section 2 of this paper considers the online insurance market and consumer harms as well as opportunities that current markets are not addressing. The third section reviews relevant ideas from institutional economics, highlighting both the opportunities of collaboration and the role of appropriate rules of exchange and their enforcement to protect against opportunism. Section 4 demonstrates how insurance law is based on principles of justice developed over millennia to protect free exchange and suggests that they provide a stronger basis for enforcement. Section 5 considers the question of governance and proposes the mechanism where the principles of subsidiarity and poly-centricity can be applied. Finally, section 6 concludes with some suggestions for actuaries and emphasizes that the proposed mechanism has wider applications beyond the actuarial profession and Australia.

2 Current harms and opportunities

Some of "market failures" in Australian markets could potentially be addressed by a more intentional approach to market design.

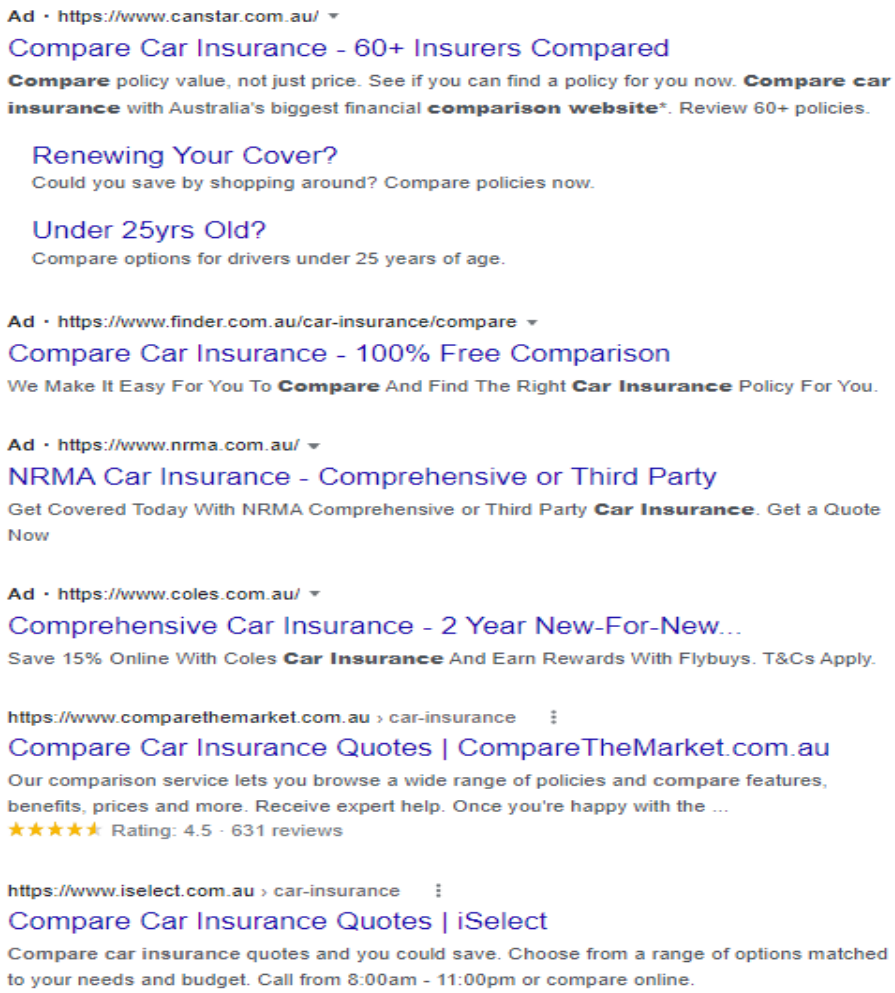
2.1 On-line insurance markets

The current position can be illustrated by the process of buying comprehensive car insurance. The first page of a Google search presents the six options shown in Figure 1: four comparison sites and two providers.

To get a quote, one must provide personal data that might not be entirely relevant and cannot get information without providing an email address that may lead to unwanted future emails. These sites also do not necessarily include the best deals, which may be offered by companies who are not prepared to pay commission to the comparator sites. They may be out-of-date or irrelevant because they refer to another country entirely. They may

also not be particularly profitable because a substantial proportion of the profits is captured by the search engines that require payment to get to the top of the list.

Figure 1: Google search for "Car insurance"



The regulatory approach to digital markets has been spurred by the dominance of the main players, which is often ascribed to the "network effect" and the economies of scale that arise from minimal marginal costs. An alternative perspective is to see them as owners of a new, digital, marketplace. This new market has not had much time to evolve and is characterised by unnecessary layers of intermediation, obfuscation of product and price, and intrusions into privacy.

There is an alternative. In New South Wales, compulsory third-party (CTP) motor insurance is very much easier. Enter your driver's licence number and car registration into the government provided website and you are provided

with a comparison of the six private providers and their prices, and a link to their sites. The process is quick; you are not sharing unnecessary data and you know that you are getting the best deal. This clearly superior model has not however been able to remove competitors, as a web search for CTP (not shown here) places them at the bottom of the first page after the advertisements.

The recommendations of this paper are not that government provision is the only route to the alternative, but that the current regulatory approach is too narrowly focussed to get to a superior alternative that could enhance freedom and innovation.

2.2 Insurance pools are fragmented

More broadly, Australian insurance markets are begging for redesign.

Cover against accidents at work and on the road is required in all states. These arrangements originated partly to ensure that employers and drivers took responsibility for harms they created (Epstein, 1981), but a by-product is that they only provide cover against death and injury in limited circumstances. The incompleteness of the accidental cover can be addressed – as in New Zealand – by a national no-fault accident compensation scheme[1], but it does not cover death and injury caused by disease. Apart from potential underinsurance, this fragmentation can lead to unnecessary and painful disputes over which insurer is responsible where the cause of the death or illness is not clear.

The CTP and worker's compensation schemes also offer medical insurance, which leads to further disputes about what treatments are covered by whom. Medical and rehabilitation costs can also be covered by Medicare or Defence Health who are the government providers, private health insurance, trauma or lump sum disability benefits from life or general insurers or support from the National Disability Insurance Scheme.

There are also issues relating to rising flood and fire insurance premiums as a consequence of global warming – as raised by Michel-Kerjan and Kunreuther (2011). In each of these areas, it seems that no one in either government nor

[1] See https://www.acc.co.nz/

private sector has the power or capability to address the harms or seize the opportunities.

Some collaborative action has at least been taken in the market for private disability income insurance. The market has been in complete disarray for a decade – being not only unprofitable but also offering inappropriate products with benefits greater than lost income, and poor service. Actuaries Institute (2022) – prompted partly by the prudential regulator – has made 45 market design recommendations, so illustrating how market participants, and particularly professionals, can be better placed than regulators to make timely and detailed changes.

2.3 Data opportunities

To be widely useful, technology invariably requires interoperability. Brown (2020) defines it as "a technical mechanism for computing systems to work together," but international agreements on interoperability go back to the founding of the International Postal Union in 1845. Brown gives the example of numbers for mobile phone calls and messages and proposes that the same seamless approach could be achieved for social networks. He also suggests that the standardisation offered by interoperability would allow for individuals to moderate the content they see. Of course, governments would also find it easier to censor content, but it could be argued that they already have the capacity to do so on every platform.

Providing product and price comparisons also requires such interoperability. There are also obvious advantages for using government data for medical purposes and for financial planning.[2]

2.4 The regulatory burden

It is not that insurance markets suffer from insufficient regulation, but rather from torrents of additional regulation that have not adequately addressed these issues. Wild et al. (2017) suggested that an excessive regulatory burden in Australia reduces economic output by over 10%. The modelling they cite may be questioned as ideologically biased, but it is difficult to believe that over 30,000 pages of new regulation annually create that much benefit. More persuasive evidence of an excessive regulatory burden comes from criticism by judges, who are faced with interpreting laws with unnecessary

[2] Asher et al. (2021) discusses in more detail.

and unhelpful prescriptions. Kirby (2014) is effuse in his praise of the earlier Insurance Contracts Act 1984 as bringing "order out of chaos" but less so about subsequent amendments such as section 59A, which he describes as "difficult and cumbersome", and "we can be excused if we yearn to free ourselves from the current torment with a sharp and bloody reformer's axe." Austin (2007) takes aim at changes to the Corporations Act 2001:

> *The very mention of the Financial Services Reform Act 2001 will produce moans of despair. It is not just the excessive detail and complexity of the drafting, the devastatingly comprehensive abandonment of the principles of simplification, that causes difficulties; it is also the extent to which the legislative text is affected by regulations and ASIC modifications, adjustments that evidently became necessary because of flaws in the formulation of policy and legislative text.*

Hayne's (2019) final recommendation, arising from the financial services Royal Commission, was to begin a simplification of financial services law. He recommends – firstly – settling the principles of the law and then a detailed examination of how they fit together to achieve policy objectives. The next two sections take up the challenge of beginning to articulate the principles and appropriate policy objectives.

3 Market design

This section applies some of the insights of New Institutional Economics (NIE) to market design.

3.1 Different paradigm?

Presentations of earlier drafts of this paper have elicited questions about whether the proposals are "Marxist" and whether the intention was to limit the free market. The answer is no to both. This failure to communicate can be partly explained by the competence of the presenter but might also be explained by unfamiliarity with the ideas that markets are necessarily subject to rules-in-use. It is also likely that political partisanship clouded the discussion.

Underlying some of the enthusiasm for apparently unfettered markets is the view that left to themselves, market rules-in-use will evolve to create efficiencies. A corollary is that attempts by governments to enforce externally determined rules are as likely to do harm as not. Friedrich Hayek is perhaps the best know exponent of this view and Vanberg (2014) provides a short and useful discussion and reconciliation of Hayek's views with those of Elinor Ostrom. He makes the points that changes to the rules-in-use will come about by individual action, but no one can be sure of the outcomes of intentional

changes and that they are likely to be further adapted as the outcomes become evident. Given this evolution, markets are complex systems that may have 'emergent properties' that go beyond the intentions of participants and regulators. Roe (1996) observation still applies widely:

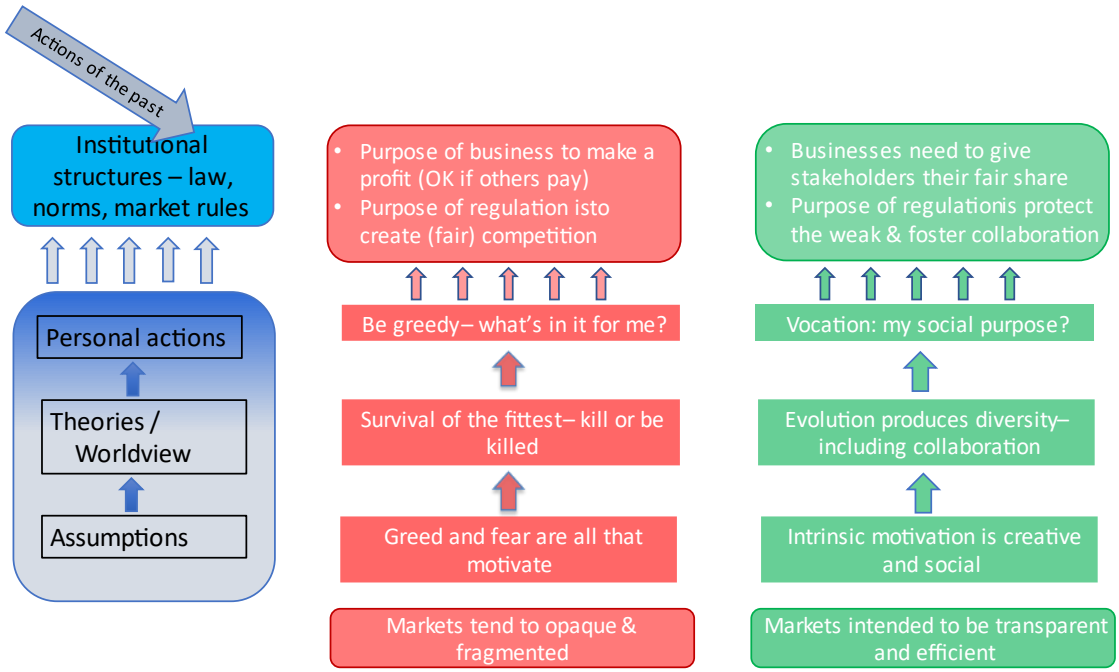
> *The classical evolutionary paradigm has a strong grip on law and economics scholarship. What survives is presumptively efficient: if it were inefficient, the practice, the law, or the custom would be challenged by its more efficient competitors.*

He suggests three aspects of systems theory to challenge the classical paradigm: chaos theory which emphasises the impossibility of accurately predicting the developments of complex systems; path dependence which highlights dependence on past decisions; and the realisation that evolution is not monotonically upward. His paper is however part of a large literature on the interaction between biological evolution and economics – and debatable assumptions that have migrated each way.

Gintis (2007) is a brave attempt to integrate some of this literature. For purposes of this paper, most relevant is his conclusion that ", the notion that preferences are purely self-regarding must be abandoned." Neither extreme altruism nor extreme self-interest can endure – as Mansbridge (1990) shows. It is often difficult to determine which motivation is strongest, but Ostrom's (2010) aspiration appears the right one. The "core goal of public policy should be to facilitate the development of institutions that bring out the best in humans."

Figure 2 provides an outline of two alternative paradigms that can be applied to market design. As with Roe (1996), those us exposed to current Anglophone economic thinking, may have difficulty shifting from the idea that "markets channel greed" to "free markets are transparent and fair." It is however distortion of evolutionary theory to suggest that survival is the only aim and nature works by "kill or be killed". Observation of life shows, in contrast, that while there is a cycle of life and death, nature is prolific in its generation of unnecessarily complex and beautiful lifeforms. And as recorded by Von Hippel (2018), modern evolutionary theory explains why human societies particularly are characterised as much by collaboration as competition.

Figure 2 Alternative paradigms



3.2 NIE is "mainstream"

NIE is no longer that new and the thinking is perhaps so incorporated into current research that it does not need to be called out as a separate theory. It would be good, however, if its insights were incorporated more into the teaching of economics and business – and had more of a role in actuarial thinking. It certainly deserves a central place in the formulation of regulations. Its respectability is confirmed by Williamson (2000), who identified six Nobel Memorial prize winners[3] as key figures in the development of the theory. Another five[4] of those cited by Williamson (2000) have won subsequently. This list does not include Alvin Roth, whose work on market design is closely related.

[3] Kenneth Arrow, Friedrich Hayek, Gunnar Myrdal, Herbert Simon, Ronald Coase, and Douglass North.

[4] Elinor Ostrom (2009), Oliver Williamson (2009), Oliver Hart (2016), Bengt Holmström (2016) and Paul Milgrom (2020)

3.3 Markets have "rules" that govern them

A foundational realization of NIE is the insight that all markets have rules. The rules-in-use in different markets can vary from implicit agreements between participants to detailed regulation as explored by Vogel (2018) and can be effective in varying degrees or can unravel – as discussed famously by Roth (2008) in describing the market for medical interns. Strictly speaking, markets cannot work nor fail; they are places where people make exchanges. Free markets are where participants are free to trade without being dominated by the powerful or deceived by opportunists.

Coase (1991) gives the example of stock exchanges:

> *Stock and produce exchanges are often used by economists as examples of perfect or near-perfect competition. But these exchanges regulate in great detail the activities of traders (and this quite apart from any public regulation there may be).*
>
> *What can be traded, when it can be traded, the terms of settlement and so on, are all laid down by the authorities of the exchange. There is, in effect, a private law. Without such rules and regulations, the speedy conclusion of trades would not be possible.*

Ostrom (2005) observes that the rules-in-use develop over time both through the interaction of participants or after self-conscious "collective-choice or constitutional choice" decisions. This paper is intended to promote this self-consciousness. Ostrom (2011) classifies the rules for collaborating institutions, that can also be used to define a market:

- Who may participate and what different participants may do (boundary, position and choice rules).
- Information rules as to what data is shared and when.
- Payoff rules that set out the allocation of costs and benefits.
- Aggregation or control rules as to obtaining permission or the nature of agreements.

Having looked at markets more explicitly, Roth (2008) argues that their objectives should be to:

> 1. *provide thickness—that is, they need to attract a sufficient proportion of potential market participants to come together ready to transact with one another;*
> 2. *overcome the congestion that thickness can bring, by providing enough time, or by making transactions fast enough, so that market participants can consider enough alternative possible transactions to arrive at satisfactory ones;*

3. *make it safe to participate in the market as simply as possible.*
   a. *as opposed to transacting outside the marketplace, or*
   b. *as opposed to engaging in strategic behavior that reduces overall welfare.*

3.4 Transparency, negotiation and haggling

The safety of participants requires transparency. North (1991) describes the traditional Suq markets of the Middle East as an illustration of inefficiency:

> *Haggling over terms with respect to any aspect or condition of exchange is pervasive, strenuous, and unremitting. ... In essence, the name of the game is to raise the costs of transacting to the other party to exchange. One makes money by having better information than one's adversary.*

Kent traces how more efficient fixed price retail markets of the developed world came about in the nineteenth century – not least because of the work of Quakers who wanted fixed prices for ethical reasons. Prices should be fair to the uninformed and the powerless. It apparently took them about 200 years to succeed in changing the market – illustrating the possibility progress is not necessarily automatic.

Austin and Gravelle (2008) look at a much wider range of examples and find that transparency does not necessarily lead to lower prices. It is, however, fairer and should reduce the costs of exchange faced by both buyers and sellers. Market participants who wish to transact with multiple other parties need to be required to truthfully disclose information about the price at which they are prepared to transact.

While few will openly defend dishonesty in commercial dealings, an element of deception is implicit, if not inherent, in many bargaining situations when prices are not transparent. Lewicki and Robinson (1998) say: "those who have written about effective negotiation strategies have often suggested that some types of dishonest behaviour may be appropriate or even necessary to be an effective negotiator." Most of the respondents in their study think it acceptable, for instance, to "make an opening demand far greater than what one really hopes to settle for."

Transparency is obviously not easy to achieve. Edelman (2017), for instance, raises the difficulties in ensuring that on-line reviews are fair and not abused. We would however – overall – be much better off if we were to stop as much haggling as possible and seek transparency.

3.5 Addressing opportunism

Markets fail when some participants or external parties suffer harm. Effective rules are required to prevent failure by circumscribing opportunistic behaviour, which can be seen to be the cause of market failure. It can include taking advantage of asymmetric information or market power, free riding on others' provision of public goods, or imposing externalities on others.

3.5.1 Naivety and cynicism

A simplistic advocacy of market freedom on the one hand or of government intervention on the other, can demonstrate naivety as to the process of market evolution or the competence and integrity of market participants and political processes. Such a view might oscillate with cynicism about all motivation and a despair that we are all trapped in social dilemmas "without capabilities to change the structure". Ostrom (1998) addresses both these simplistic views. In the first instance, governance needs to consider how to circumscribe the influence of opportunists. Ostrom (2011) defines opportunism as follows:

> *Opportunism—deceitful behavior intended to improve one's own welfare at the expense of others—may take many forms, from inconsequential, perhaps unconscious, shirking to a carefully calculated effort to defraud others with whom one is engaged in ongoing relationships. The opportunism of individuals who may say one thing and do something else further compounds the problem of uncertainty in a given situation. The level of opportunistic behavior that may occur in any setting is affected by the norms and rules used to govern relationships in that setting, as well as by attributes of the decision environment itself.*

In Ostrom (1998) she says:

> *Any serious institutional analysis should include an effort to understand how institutions ... are vulnerable to manipulation by calculating, amoral participants. In addition to the individuals who have learned norms of reciprocity in any population, others exist who may try to subvert the process so as to obtain very substantial returns for themselves while ignoring the interests of others. One should always know the consequences of letting such individuals operate in any particular institutional setting.*

3.5.2 Beneficiaries of inefficiency

The beneficiaries of market inefficiency are not necessarily opportunist. People can find themselves in inefficient and corrupt structures that do

effectively trap them. Alisdair MacIntyre's suggests that "(t)he faceless men of the contemporary corporation are themselves instruments not by virtue of some act of will of their own ... but by virtue of the structure of the corporation" may be overstated as Beadle and Moore (2006) and others contest. But Chuck Prince's notorious quote about dancing into the subprime mortgage crisis[5] suggests that even senior management can be trapped.

The traditional life insurance agent provides an insurance related example. An analysis of the pressures on them to given by Guy Oakes in a series of papers and a book, reviewed by Smith (1991):

> *The general thesis of this book is that these salesmen … are subject to two inherently conflicting principles: a commercial idiom that stresses sales at all costs and a service idiom that stresses concern and sensitivity for the needs of clients ... he offers a brief discussion of the major antimonies of the profession, namely, sacralization (making 'religious') and manipulation, opportunism and professionalism, toughness and sensitivity, sincerity and dissimulation. The book ends with an analysis of the ways in which most salesmen succeed in remaining ignorant of their own conflictual situation.*

A case could perhaps be made that many market intermediaries and consultants face the same antimonies. There is often an incentive to make things more complicated. The professions – actuaries, accountants and lawyers – are not exempt. Professional standards are in part required because clients cannot evaluate the services that they are given. While the standards are necessary, different market designs can help release the trap.

4 Legal principles

This section thus attempts to trace the outline of the principles govern markets. It is suggested that justice is both the main legal and philosophical principle. Given that justice was the explicit objective of Hammurabi's code of the 18th Century BC, (Nagarajan, 2011) one might have hoped that it would have been well mapped out in the intervening period. However, given that it requires every person to be given their fair share, both the drafting and application of rules and regulations that promote justice can be subverted by opportunists through successfully lobbying or outsmarting of regulators and

[5] https://archive.nytimes.com/dealbook.nytimes.com/2007/07/10/citi-chief-on-buyout-loans-were-still-dancing/

courts. And given that both opportunists and aspirant reformers need a theoretical framework to justify their position to themselves and others, debates about justice also generate a proliferation of theories around which opposing parties may well become polarised.

At the present time, there seem to be two main assumption frameworks that undermine appropriate market re-design. Both can be traced to the view that fairness is inevitably subjective and cannot be defined. On the one hand, this leads to vain attempts to design institutions that will "force (or nudge) entirely self-interested individuals to achieve better outcomes" as suggested by Ostrom (2010). On the other, it leads regulators to abandon principles for screeds of black letter prohibitions as recommended by the competition reviews referred to earlier.

This is not to suggest that justice and its implementation are easy. Rather, with Gordley and Jiang (2020) it is to argue that fairness should be recognised as the fundamental principle of contract and exchange and with Linzer (2001) that justice is inevitably rough, but "rough justice is infinitely better than no justice." Furthermore, it would make sense to build on the more specific principles of justice that have been developed over recent centuries – especially those with applications in insurance. It can be noted however that principles that govern the Australian government's current dispute regulation scheme for the financial sector do not go beyond, impartial, fair and reasonable (AFCA, 2021).

There are however other, subsidiary, principles that have been developed over time to govern insurance markets.

4.1 Viable

To be viable, the rules-in-use in insurance markets must address moral hazards and information asymmetry.

4.1.1 Insurable interest and indemnity

Moral hazard arises if insured parties change their behaviour as a result of enjoying cover, giving rise to the need for the insured to have an insurable interest and the compensation to be limited to indemnity for the loss incurred. De Roover (1945) records that while marine insurance as we know it (with limits to cover) had appeared at least by the thirteenth century, "life insurance was not entirely unknown in the Middle Ages, but it was still in its infancy and was not clearly distinguished from pure gambling." Insurable interest was however formally legislated in the UK by the Marine Insurance Act 1745 and the Life Assurance Act 1774.

Anifalaje (2021) traces how the principle has required modification over time to prevent insurance companies from refusing to pay what would otherwise be genuine claims, while at the same time permitting them to protect themselves against gambling and associated moral hazards.

There are two recent episodes where Australian insurers have not protected themselves adequately against moral hazard. Debus (2002) argued for a regulatory response to the superimposed inflation in non-economic losses that had led to the collapse of the largest insurer and a subsequent crisis of availability. While "an aggressive legal industry" and regulatory failures bear much responsibility, insurance companies should have taken steps to limit their exposure to superimposed inflation. The disability income crisis referred to in section 2.2 above similarly shows a failure of the life insurers. The recurring nature of these episodes suggests that it might be better to look for a solution in alternative governance structures rather than the moral courage of actuaries and management or delayed responses from regulators.

4.1.2 Utmost good faith

Asymmetric information is addressed by the general law requirement of utmost good faith. Gordley and Jiang (2020) find "good faith" in ancient Roman law and Larkin (1995) repeats the view that the word "utmost" adds little, so the concept is also ancient. It requires transparency on the part of both parties, taking insurance contracts out of the realm of caveat emptor into one where both parties are expected to be entirely frank and respect the interests of the other.

Given inequalities of power, however, it is not that surprising that Larkin (1995) has found in Australian courts:

> *The overwhelming majority of cases have concentrated on the duty of good faith via the insured's duty of disclosure, rather than the issue of ongoing mutual good faith throughout the contract relationship.*

She suggests that insured parties and their legal advisers could be made more aware of the rights given to them by utmost good faith. Costabel (2015) reports that the UK Insurance Act 2015 has significantly reduced the rights of companies to refuse claims on grounds of utmost good faith where the refusal appears otherwise unfair.

4.2 Fair

The desire to protect policyholders has also led to prudential regulation and the concept of reasonable benefit expectations.

4.2.1 Prudential regulation

Prudential regulation appears to have begun with the Life Insurance Companies Act 1870 in the UK, which became necessary after insurance companies were permitted limited liability by the Companies Act 1862. It has subsequently been extended to general insurers and banks and clearly is intended to protect policyholders and depositors from being exploited by opportunistic shareholders and management.

4.2.2 Reasonable benefit expectations

Some courts and regulators covering life insurance have come to include the concept of policy owners' reasonable benefit expectations (RBE) as described by Shelley et al. (2002). They suggest however that it is now embodied in the UK regulatory principle of "treating customers fairly". The Australian Corporations Act (2001) has a similar concept in that companies and advisors must consider their clients' "best interests".

ACCC (2019) illustrates a tendency in Australia at the current time to replace fairness with "community expectations", which Findlay (1991) shows is too reliant of readily manipulable public opinion. Sharp (1935) shows that this issue has been recognised as a problem for millennia and underlies the fundamental requirement for executive and judicial powers to stand against unfair "community expectations".

4.3 Other relevant principles

There are other legal principles originating beyond insurance that are particularly relevant to market regulation.

4.3.1 Ban on conflicts of interest

Conflicts of interest have been prohibited in the common law since at least the 18th Century:

> *it is an "inflexible rule … that a … fiduciary … is not … allowed ... in a position where … interest and duty conflict. Human nature being what it is, there is danger, of the person holding a fiduciary position being*

swayed by interest rather than by duty, and thus prejudicing those whom he was bound to protect …"[6]

The prohibition applies wherever one person owes a duty of care to another and is at risk of taking advantage of the relationship. Ford (1969) shows its various applications in the relationships between lawyers, policyholders and companies. The prohibition is however often diluted not just in practice (by ignoring the law or explicitly contracting out), but by regulators and legislatures. In discussing the dilution in UK company law, Keay (2012) accepts the argument that in respect of the complete prohibition, "directors have found such an approach to stifle opportunities and limit efficiency". The "stifled opportunities" mainly involve directors holding multiple directorships, which is clearly advantageous to the directors, but not necessarily to the wider society.

The position is worse in the Australian Superannuation Industry (Supervision) Act 1993, where the provisions of Part 6 specifically permit conflicts of interest and remove all common law restrictions and rights of redress. This, despite the Australian Law Reform Commission and the Companies and Securities Advisory Committee (1992) recommending before the Act was passed, that "prohibition of conflict of interest should be central to the new legislation".

4.3.2 Competition regulation

Abuse of market power goes beyond higher prices and include such practices as tying, bundling and self-preferencing, which are unfair to customers and competitors (Cabral et al., 2021). Laws against such exploitation are also ancient. De Roover (1951) records that monopoly and conspiracy to raise prices was illegal under Roman law from at least the 4th century CE. He does not record the penalties other than to say the death penalty probably only applied from 301 to 305. The right of wronged parties to restitution was incorporated into English law by the Statute of Monopolies, 1624.

The earlier laws seem to have focussed on conspiracy to fix prices, but the reach of the laws expanded significantly after the expansion of limited liability in the nineteenth century allowed the emergence of dominant companies through mergers and acquisition. Goyder (1965) suggests that the motivation in the USA was as a reaction to the consequent excessive concentration of

[6] Bray v Ford [1896] AC 44

power, but that in the UK there was greater concern over the actual abuses of market power. While different emphases are perhaps observable in the reviews mentioned in section one of this paper, breaking up dominant players are always seen as a last resort. There is however a precautionary case for breaking up dominant players – as is argued at greater length in the next section.

Interestingly, there is no mention in the reviews of any restitution for abuse of power, although the dominant platforms have faced large fines for abuse of power. But as Scott Morton (2019) puts it: "A fine does not restore lost competition." Ancient theories of deserts and unjust enrichment would suggest that some consideration should be given to compensating customers and competitors. Not only should rent extraction (which by definition arises from abuse of market power) be punished, but punishment should fall on the people responsible and not - as in some cases - on the current shareholders of a company fined for the past misdemeanours of its then directors.

4.3.3 Privacy principles

Warren and Brandeis (1890) trace the common law development of the right to privacy during the nineteenth century. The growth of computing power and the collection of personal digital data requires further development of the law. There are not only threats of invasion of privacy but the possibilities of unfair manipulation, theft and even outright control by governments. There is a need to ensure that the law requires data to be secure, not used unfairly and for people to be able to access their own data. The Australian Data Privacy Principles[7] seem to cover the issues, although methods of enforcement are still being developed.

4.4 Innovation

The value of free markets includes opportunities for innovation. Barriers to entry need to be examined and reduced where possible, and new products encouraged where they might offer better benefits to some customers. At the same time, new products and business methods that merely fragment the market and add complexity and opacity need to be discouraged. Obtaining a balance is difficult, but is certainly made more difficult by prescriptive regulation, which becomes more complex each time an

[7] https://www.oaic.gov.au/privacy/australian-privacy-principles/australian-privacy-principles-quick-reference

innovation is permitted or prohibited – with greater benefits for incumbents. There is no avoiding the need for innovations to be evaluated.

The market for such evaluations has already been created by a variety of consumer bodies and rating houses. Callo (2023) provides an example of how, what he calls research companies, rate disability income insurance, but the recommendations of Actuaries Institute (2022) are critical of their simplistic evaluation – mere counting – of the benefits of different product designs.

4.4.1 Intellectual property

Warren and Brandeis (1990) report that copyright has been recognised in English law since 1558. Moser (2013) traces patents back to Venice in 1474 and suggests that the Statute of Monopolies, 1624 that transferred the rights to grant monopolies to Parliament (from the monarch) played a key role in the industrial revolution. Patents and copyright provide a period of exclusivity to reward innovation, but they do not apply to methods of doing business, which means innovative financial services normally do not qualify. Their absence makes it more difficult to justify an investment in innovation.

Thought might be given to introducing some type of intellectual property for financial products and services. One approach might be to dispense with the patenting requirement that an invention be non-obvious and novel by a measure of whether the product was currently available in the market. A potential supplier might apply for a short term (say 5 year) exclusive licence. This suggestion is made by Budish et al. (2019), who investigate the inefficiencies in US stock markets that arise from advantages that some traders obtain from speed – and find that there are insufficient incentives for innovation to correct the inefficiencies.

4.4.2 Addressing digital opportunities

The freedom to innovate and experiment means that new markets should be allowed to develop, but it also allows opportunists to fragment the market in order to create arbitrage opportunities and can thus lead to its unravelling. Mandatory interoperability standards provide a solution that permits new markets to exist, even if entry costs are relatively high. Budish et al. (2019) report on how US regulations have allowed different stock markets to operate by requiring existing markets to recognise other listings and created interoperability and frictionless search: the same price must be quoted on all markets.

Interoperability requires considerable technical detail – some of which is covered in Brown (2020) and Marsden and Nicholls (2022). The current speed

of change suggests that the development of regulations might need some fast-tracking and requires collaboration that competition policy may prevent. Prior to the digital age, Jorde and Teece (1990) argued: "Current U.S. antitrust law needlessly inhibits interfirm agreements designed to develop and commercialize new technology." Digital opportunities do make a narrow focus on competition even less appropriate.

4.5 Precise prescriptions

In the last thirty years there has been a dramatic increase in regulatory interventions of every sort. Annunziata (2020) traces the developments back to the Investment Services Directive (ISD) of 1993 where the "conduct of business rules emerged … as a third objective of EU Financial legislation, alongside transparency and prudential standards." Annunziata (2020) notes that the original scope of the legislation has been extended from banking to other financial services.

These principles have been implemented in the EU through Product Oversight and Governance (POG) regulations while in Australia they are called "Design and Distribution Obligations" (DDO). Annunziata (2020) reports that the regulations include an "increasing number of precise prescriptions", being "highly complex, interconnected at different levels with other silos, often very technical and difficult to grasp, and strongly influenced by market failures that emerged in the context of the crisis." He does see positive effects, but regulated entities are dissatisfied with the additional compliance burden. Based on research by Paul et al. (2019), the peak German Banking body concludes[8]:

> *European lawmakers have clearly overshot the mark with MiFID II. It's an annoyance for customers, a nightmare for banks and advisers and is doing a disservice to investor protection and the securities culture in Germany.*

Moreover, there is evidence of failure even in the short time that this approach to regulation has been applied. Most damaging has been a failure to address the scandalous proliferation of cryptocurrencies, facilitating crime and exploiting the vulnerable. Another example is given by Sadaf et al. (2021) in discussing failures to appropriately regulate algorithmic trading, where they conclude that: "A key outcome concerns the claim that rules-based regulatory regimes

[8]https://die-dk.de/en/topics/press-releases/mifid-ii-driving-customers-away-capital-markets/.

place too much burden on regulators to provide governance mechanisms and instruments." It can be asked whether these quasi-fiduciary principles were not already present in earlier law? Following through on Larkin's (1995) suggestion, are they not the application of utmost good faith to providers?

Black (2007) sets out the arguments for and against principles and prescription, accepting that the disadvantage of the former is that it is likely to provide less certainty. It might on the contrary be argued that such uncertainty can be an advantage if it steers participants away from practices that are likely to infringe on the principles.

5 Governance

This brings us to questions of governance: who should be responsible and how can the rules-in-use best be developed and enforced in a way that is fair and efficient? A high-level democratic principle is all stakeholders need to be given a voice as to the development and implementation of rules, or alternatively the right of exit – as famously set out by Hirschman (1970). This recognises their dignity and is likely to provide checks and balances on the exercise of power.

5.1 The principles

The proposals in the next section address the issue of governance by applying three interwoven principles: accountability, poly-centricity and subsidiarity.

Accountability covers transparency of decision making and the careful measurement and reporting of performance to relevant stakeholders. In insurance markets, performance would include such measures as underinsurance and its consequences, and evaluation of the fairness of rating factors, as well as value for money. Accountability means little unless the stakeholders have some power over those that govern. Braithwaite (1998) spells out the need for monitoring – what he calls "institutionalising distrust" – and for the distribution of power.

> *Guardians such as auditors are recruited to catch abuse of trust. But what if the guardians are untrustworthy? The only answer can be another layer of guardians above them... But if the n+1th (ultimate) order guardian is corrupt, the whole edifice of assurance can collapse. … (There is…) a simple solution to the puzzle. Arrange guardians in a circle and there is no infinite regress. The logical structure is that everyone becomes a guardian of everyone else.*

Everyone having a guardianship role requires the distribution of power in the "system" to create what Ostrom (2010) refers to as poly-centricity, quoting Ostrom et al. (1961):

> *'Polycentric' connotes many centers of decision making that are formally independent of each other. Whether they actually function independently, or instead constitute an interdependent system of relations, is an empirical question in particular cases. To the extent that they take each other into account in competitive relationships, enter into various contractual and cooperative undertakings or have recourse to central mechanisms to resolve conflicts, the various political jurisdictions in a metropolitan area may function in a coherent manner with consistent and predictable patterns of interacting behavior. To the extent that this is so, they may be said to function as a 'system'.*

A market is also a system in this sense. There is the need to constrain the most powerful and one obvious method is to ensure the presence of many buyers and sellers. Competition regulators could perhaps be more ready to break up large corporations for this reason.

The same principle applies within organizations. The psychological origins of hubris, as explored by Claxton et al (2015), arise from unfettered personal dominance and argue for by institutional structures such as the separation of powers and term limits. At a national level, Smart (1935) summarises the ancient arguments for the separation between executive, legislative and legal powers. In corporate governance, there is the need to separate the roles of chief executive and board chair – at least outside of the USA. This does not obviate the need for personal courage to call out abuses of power, but the costs of such confrontation can be reduced ex ante if other members of governing bodies have their own power bases as well as ex post by whistleblowing protections.

Within organizations, there is the additional principle of subsidiarity. The Oxford English Dictionary defines subsidiarity:

> *as the idea that a central authority should have a subsidiary function, performing only those tasks which cannot be performed effectively at a more immediate or local level.*

Carozza (2003) traces its origins and its place in Catholic social teaching and the European Union treaty. He argues that it is a "structural principle" of human rights law, but his arguments apply more widely to other forms of law. The principle can be recognised in federal systems, the persistence of local governments and the proliferation of independent regulatory agencies – not least central banks. Some regulators have also embraced Braithwaite's

(1982) idea of enforced self-regulation. In corporations, it can be seen in the creation of corporate subsidiaries and the structure of hierarchies, although the principle may not always be present in the latter.

Returning to the views of Friedrich Hayek, Bowles et al. (2017) provide a further discussion of Hayek's explanation of how the price mechanism leads to an effective allocation of information and thus resources in a market. They also point out that he was well aware of the contribution of "social relationships among market participant" and that "he saw hierarchical and collectivist political systems as a threat to individual liberty, not because his economics per se had demonstrated the superiority of unregulated markets." What is proposed below is therefore based on the same principles that he developed in defence against overbearing centralization of government power.

5.2 Parliaments of Peaks and Dissidents

Taking all these into account, the central proposal of this paper is that identifiable markets should be represented by an overarching parliament that includes the voices of all stakeholders. The definition of what constitutes a market would – to some extent – be determined by the peak bodies. The markets for life, general and health insurance might well be nested within an overall insurance market.

The stakeholders would include representative peak bodies – such as industry and professional associations and consumer organisations – and relevant government regulators. The interests of less articulate stakeholders can be represented by think tanks, university-based academics and other self-nominated dissidents who are clearly independent and do not feel represented by any of the peak bodies. A proportion of the seats could be set aside for such dissidents and a voting mechanism designed to allow volunteers to fill these seats. A few commentators on earlier drafts of this paper have suggested that the dissidents could be chosen randomly – as with citizen juries. Wakeford et al. (2015) point out the difficulties in ensuring that such participants are representative, informed and able to participate fully. There is however a growing literature on the development of algorithms to select a group of individuals who will display the necessary expertise and diversity (Wu et al., 2015)

Vested interests are likely to be obstructive in the deliberations of such a body, but their arguments would be subject to greater scrutiny and there would be reduced space for private lobbying of government. The need to personally face people who are – or represent those – being unfairly treated may also lead to a more humane and generous response to issues.

Such a parliament of peaks and dissidents (PPD) would fill a gap in the current regulatory structure of many markets. Regulatory structures differ by industry and country, but in Australia, regulation of the financial sector is divided between the Treasury, the prudential regulator (APRA), the market conduct regulator (ASIC), the competition regulator (ACCC), the Reserve Bank of Australia, the Australian Tax Office, the Australian Human Rights Commission and AUSTRAC, which monitors money laundering. While overlaps in jurisdiction exist, the major problem is that specific expertise in each market is widely spread and the ability to bring resources to identify and respond to opportunities and threats is limited.

The initiative to form a PPD could emerge from efforts of existing peak bodies who might be able to persuade most stakeholders to participate. The work of the task force described in Actuaries Institute (2022) suggests that the professions might play a useful role here. Initially, it would be more practical to focus on a limited set of pressing issues. If significant stakeholders refused to participate, it would be open to the government to convene a PPD while retaining its powers to regulate in line with its own views.

5.3 *Potential functions*

PPDs would be able to fulfil a number of functions, some of which are currently cumbersome and ill-informed while others are largely absent.

5.3.1 Regulatory change

Open face-to-face debates between participants in each market could be a real improvement on the current process of regulatory change. Priorities for change are often subject to ideological and political considerations that may have less urgency to those in the industry. Changes usually involve a request for public submissions, which are prepared largely in isolation from one another and followed by opaque deliberations and internal decisions that pander to better organised groups. Where multiple agencies or departments are involved, differences of opinion can sometimes only be resolved at cabinet level where there is minimal time for deliberation. A PPD should sometimes be able to reach sufficient consensus to make recommendations that could transform markets and amend intrusive and unhelpful regulation.

The PPDs would be able to draw in a deeper level of expertise than available to current regulators and different views would be debated publicly. The national parliament and the government in power would still have the ability to choose policies that enjoyed only minority support in the PPD. It would be

a brave government, however, not to comply with well-argued and widely supported proposals.

Ultimately, PPDs could take over the legislative functions of the regulatory agencies allowing them to focus on the judicial functions of enforcement. The PPDs would function effectively as subsidiary parliaments – with the national parliament retaining its powers but reliant on the PPDs for recommendations and even drafting. This would represent an application of the principle of subsidiarity for the legislature. By increasing the powers of the peak bodies, it would represent a development of poly-centricity.

It cannot be certain that PPDs would be more inclined to recommend less prescriptive regulations. The institutional arrangements would however be more conducive to a mindset where market participants took responsibility for addressing opportunism. With a greater sense of agency, and deeper understanding of the issues, they would be more likely to pursue their self-interest in reducing intrusive regulation. Those more aware of the costs of greater regulation, particularly potential innovators, would also be given a louder voice.

5.3.2 Market design

PPDs would need to be tasked with designing transparent and effective markets. It would therefore be open to a PPD to develop improved methods of doing business that would currently not be permitted by regulators. Addressing the fragmentation of on-line insurance markets could be one such initiative. An insurance PPD could develop a single comparison site for different products – or outsource to an existing site. It would regulate research houses and on-line reviews. The comparison site could reduce promotion costs significantly and encourage participation if it was seen to be exhaustive and trustworthy. One could envisage such a site being managed by an organisation set up by the producers, but subject to appropriate accountability to the PPD. This would involve transparent accounting and reporting standards, probably some standardisation of products, and rules to govern promotion and pricing. For instance, standardised advice on choosing the level of cover and deductibles could be offered, and differential pricing for new and renewed policies could be disallowed.

A single comprehensive site would not need to pay much – if anything – for its position in internet searches. If producers could not agree to the rules, requiring them all to participate involves little extension of government intervention – being analogous to open finance regimes. Alternatively. existing comparison sites and the on-line platforms could be accommodated

providing they also conformed to standards of interoperability and transparency.

5.3.3 Collection, protection and dissemination of data

All companies in Australia must file annual accounts with ASIC, while APRA is currently responsible for the collection of financial sector data. Neither have shown much enthusiasm for extending the scope to industry data beyond their narrow remit. For instance, the ASIC database is not digitised. Since APRA's assumption of the role of prudential regulator, the publication of life insurance industry mortality and disability experience that was the function of the actuarial profession for over half a century has largely fallen by the wayside.

It would be hoped that a PPD concerned with the development of the market, and tasked with improving its effectiveness, would be a proponent of more comprehensive and timely industry statistics.

5.3.4 First line of regulatory enforcement

One would expect that potentially harmful activity would be identified sooner in the PPD than by the regulators. This is because all participants in the industry should be represented in the PPD and there should be some tension between the producer, consumer and dissident representatives. It might be easier to raise issues in the PPD without exposing oneself to whistleblowing penalties. If the PPD is also capable of collecting performance data, one would also expect members to actively interrogate it and identify anomalies and potential harms.

6 Conclusion and consequences for actuaries

We need to move away from current economic regulation if we are to design free and innovative markets that bring out the best in people. The current approach gives too much power to regulators, who are potentially captured, cannot develop the technical capability of market participants, and who have become accustomed to producing regulations that are both excessively detailed and inadequate.

Enhanced collaboration is vital to create the interoperability necessary to take advantage of the power of digital technology. The principles of subsidiarity and poly-centricity identified by institutional economics suggest that some regulatory power should be devolved to representative Parliaments of Peaks and Dissidents (PPDs). They should better understand the need for principles and not prescription.

For actuaries and their profession, this proposal includes a challenge to begin building PPDs. There are many actuaries who already participate in the peak bodies that should be incorporated into PPDs. The initiative could come from any of these individuals or from the actuarial profession as a body. Many of the peak bodies already have formal and informal links with the profession so joint participation in a PPD could seem a natural progression. There will be a need to reach out to others – especially consumer organisations and regulators – and persuade them of the advantages of joining. Structuring the PPDs to give appropriate voice to all participants will require further imagination and energy. There may some merit in making the first initiatives *ad hoc* to address specific issues, of which the engagement model provided by Actuaries Institute (2022) could be a useful starting point. Real advantages are only likely to emerge however as the PPDs grow in capability and are given legislative powers.

The proposals are clearly not limited to Australia nor insurance markets. Future research might identify successful examples of collaboration and reform opportunities in other countries and other markets. Institutional investment markets could be of particular interest to actuaries.

7 References

ACCC (2019) *Digital Platforms Inquiry: Final Report*, Australian Competition and Consumer Commission.

Actuaries Institute (2022) *Individual Disability Income Insurance Task Force Findings and Recommended Actions for Individual Disability Income Insurance*
https://www.actuaries.asn.au/Library/Miscellaneous/2022/DITFREC22.pdf

AFCA (2021) *Complaints Resolution Scheme Rules*, Australian Financial Complaints Authority.

Anifalaje, K (2021) Changing legal perspectives of the requirement of insurable interest in insurance contracts, *Commonwealth Law Bulletin*, 47:2, 363-393.

Annunziata, F. (2020). MiFID II as a template: towards a general charter for the protection of investors and consumers of financial products and services in EU financial law. Chapter 1 in Ed: Dambrosio, R. and Montemaggi, S. *Private and Public Enforcement of EU Investor Protection Regulation*. Quaderni di Ricerca Giuridica della Consulenza Legale. 21-58.

Asher, A., Asher R., Nicholls, R. and Hsu, G. (2021) *Submission on Strategies for developing the Digital Economy, Digital Technology Taskforce*. https://digitaleconomy.pmc.gov.au/sites/default/files/2021-05/submission-clmr-unsw.pdf

Austin, D. A. and Gravelle, J. G. (2008). Does price transparency improve market efficiency? Implications of empirical evidence in other markets for the health sector. In Bartlette, L. A. and Lawson, I. F. (Eds.). *Health Care Policies*. Nova Publishers.

Australian Law Reform Commission and the Companies and Securities Advisory Committee, (1992) *Collective Investment Schemes: Superannuation, Report No 59.*

Austin R.P. (2007) *Opening Speech – Mergers and Acquisitions 2007*. University of New South Wales, Faculty of Law, http://www.supremecourt.justice.nsw.gov.au/Documents/Speeches/austin_speeches.pdf

Beadle, R. and Moore, G. (2006). MacIntyre on virtue and organization. *Organization Studies*, 27(3), 323-340.

Black, Julia (2007) *Principles based regulation: risks, challenges and opportunities*. http://eprints.lse.ac.uk/62814/

Bowles, S., Kirman, A. and Sethi, R. (2017). Retrospectives: Friedrich Hayek and the market algorithm. Journal of Economic Perspectives, 31(3), 215-230.

Braithwaite, J. (1982). Enforced self-regulation: A new strategy for corporate crime control. Michigan Law Review, 80(7), 1466-1507.

Braithwaite, J. (1998). Institutionalizing distrust, enculturating trust. Ch 14 in *Trust and Governance*, ed V. Braithwaite and M Levi. Russel Sage Foundation, NY. 343-375.

Brown, I. (2020). *Interoperability as a tool for competition regulation*. https://doi.org/10.31228/osf.io/fbvxd

Budish, E., Lee, R. S. and Shim, J. J. (2019). *A Theory of Stock Exchange Competition and Innovation: Will the Market Fix the Market?* (No. w25855). National Bureau of Economic Research.

Cabral, L., Haucap, J., Parker, G., Petropoulos, G., Valletti, T. M. and Van Alstyne, M. W. (2021). *The EU digital markets act: A report from a panel of economic experts*. Publications Office of the European Union, Luxembourg.

Callo, R.J.J. (2023) *Life insurance customer value per dollar.* https://www.actuaries.digital/2023/02/10/life-insurance-customer-value-per-dollar/

Carozza, P. G. (2003). Subsidiarity as a Structural Principle of International Human Rights Law. *American Journal of International Law*, 97(1), 38-79.

Claxton, G., Owen, D. and Sadler-Smith, E. (2015). Hubris in Leadership: A peril of unbridled intuition? *Leadership*, *11*(1), 57-78.

Coase, R. H. (1991). Nobel Lecture: The Institutional Structure of Production, reprinted in Williamson, O.E. and Winter, S.G. (ed) *The Nature of the Firm: Origins, Evolution and Development*. Oxford University Press. 227-235.

Costabel, A. M. (2015). The UK Insurance Act 2015: A Restatement of Marine Insurance Law. *St Thomas Law Review* 27, 133-170.

Crémer, J., De Montjoye, Y. A. and Schweitzer, H. (2019). *Competition Policy for the Digital Era*. Report for the European Commission.

Debus, R. (2002). Tort Law Reform in New South Wales: State and federal interactions. *University of New South Wales Law Journal*, 25(3), 825-830.

De Roover, F. E. (1945). Early Examples of Marine Insurance. *The Journal of Economic History*, *5*(2), 172-200.

De Roover, R. (1951). Monopoly Theory prior to Adam Smith: A revision. *The Quarterly Journal of Economics*, *65*(4), 492-524.

Edelman, B. (2017). The market design and policy of online review platforms. Oxford Review of Economic Policy, 33(4), 635-649.

Epstein, R. A. (1981). The Historical Origins and Economic Structure of Workers' Compensation Law. *Georgia Law Review*, *16*, 775.

Findlay, M. (1991). Corruption Control and Monstering: Government Agendas, Community Expectations and the ICAC Solution. *Current Issues in Criminal Justice*, *2*(3), 36-48.

Ford, T. A. (1969). The Insurance Contract: The Conflicts of Interest It Breeds. *Insurance Counsel Journal*, 36, 610-621.

Furman, Coyle, D., Fletcher, A., Marsden P. and McAuley, D. (2019) *Unlocking digital competition*, Report of the Digital Competition Expert Panel. UK Treasury.

Gintis, H. (2007). A framework for the unification of the behavioral sciences. *Behavioral and Brain sciences*, 30(1), 1-16.

Gordley, J. and Jiang, H. (2020). Contract as Voluntary Commutative Justice. *Michigan State Law Review*, 725.

Goyder, D. G. (1965). Public Control of Mergers. *The Modern Law Review*, 28(6), 654-674.

Hayne (2019) *Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry Final Report,* Australian Government, Canberra.

Hirschman, A. O. (1970). *Exit, Voice, and Loyalty: Responses to decline in firms, organizations, and states*. Harvard University Press.

Jorde, T. M. and Teece, D. J. (1990). Innovation and cooperation: implications for competition and antitrust. *Journal of Economic Perspectives*, *4*(3), 75-96.

Keay, A. (2012). The Authorising of Directors' Conflicts of Interest: Getting a Balance? *Journal of Corporate Law Studies*, 12(1), 129-162.

Kent, S. A. (1983) The Quaker Ethic and the Fixed Price Policy: Max Weber and beyond. *Sociological Inquiry*, 53(1), 16-28.

Kirby, M. (2014), Insurance Contract Law Reform – 30 Years on. *Insurance Law Journal*, 26, 1.

Larkin, C. (1995). Uberrima Fides-Quo Vadis-Where to from Here. *Bond Law Review.*, *7*, i.

Lewicki, R. J. and Robinson, R. J. (1998). Ethical and Unethical Bargaining Tactics: An empirical study. *Journal of Business Ethics*, 17(6), 665-682.

Linzer, P. (2001). Rough Justice: A Theory of Restitution and Reliance, Contracts and Torts. *Wisconsin Law Review*, 695-675.

Marsden, Christopher T. and Nicholls, Rob (2022), Who Regulates Our Regulators? Regulating Social Media Platforms' Use of Artificial Intelligence to Regulate Us. https://ssrn.com/abstract=4263700

Mansbridge, J. J. (1990). On the Relation of Altruism and Self-interest. In J. J. Mansbridge (Ed.), *Beyond self-interest* (pp. 133–143). University of Chicago Press.

Michel-Kerjan, E. and Kunreuther, H. (2011). Redesigning Flood Insurance. *Science*, 333(6041), 408-409.

Moser, P. (2013). Patents and Innovation: evidence from economic history. *Journal of Economic Perspectives*, 27(1), 23-44.

Nagarajan, K. V. (2011). The Code of Hammurabi: an economic interpretation. *International Journal of Business and Social Science*, *2*(8).

North, D. C. (1991) Institutions. *Journal of economic perspectives*, 5(1), 97-112.

Ostrom, E. (1998). A Behavioral Approach to The Rational Choice Theory of Collective Action: Presidential address, American Political Science Association, 1997. *American Political Science Review*,92(1), 1-22.

Ostrom, E. (2005). Doing Institutional Analysis Digging Deeper Than Markets and Hierarchies. In *Handbook of New Institutional Economics*, Ménard, C. and Shirley, M. M. (Eds.). Dordrecht: Springer. 819-848.

Ostrom, E. (2010). Beyond Markets and States: Polycentric governance of complex economic systems. *American Economic Review*, 100(3), 641-72.

Ostrom, E. (2011). Background on the Institutional Analysis and Development Framework. *Policy Studies Journal*, 39(1), 7-27.

Ostrom, E. (2014). Do Institutions for Collective Action Evolve? *Journal of Bioeconomics*, 16, 3-30.

Ostrom, V., Tiebout, C. M. and Warren, R. (1961). The Organization of Government in Metropolitan Areas: A theoretical inquiry. *American Political Science Review*, 55(4), 831-842.

Paul, S., Schröder, N. and Schumacher, S. (2019). *MiFID II/MiFIR/PRIIPs Regulation Impact Study: Effectiveness and Efficiency of New Regulations in the Context of Investor and Consumer Protection*. Ruhr-Universität Bochum, 1-28.

Roe, M. J. (1996). Chaos and evolution in law and economics. *Harvard Law Review*, 109(3), 641-668.

Roth, A. E. (2008) What have we learned from Market Design? *Innovations: Technology, Governance, Globalization*, *3*(1), 119-147.

Sadaf, R., McCullagh, O., Sheehan, B., Grey, C., King, E. and Cunneen, M. (2021). Algorithmic Trading, High-frequency Trading: Implications for MiFID II

and Market Abuse Regulation (MAR) in the EU. *High-frequency Trading: Implications for MiFID II and Market Abuse Regulation (MAR) in the EU (May 15, 2021)*.

Scott Morton, F., Bouvier, P., Ezrachi, A., Jullien, B., Katz, R., Kimmelman, G., ... and Morgenstern, J. (2019). *Committee for the study of digital platforms: Market structure and antitrust subcommittee report*. Chicago: Stigler Center for the Study of the Economy and the State, University of Chicago Booth School of Business.

Sharp, M. P. (1935). The Classical American Doctrine of" The Separation of Powers". *The University of Chicago Law Review*, *2*(3), 385-436.

Shelley, M., Arnold, M. and Needleman, P. D. (2002). A review of policyholders' reasonable expectations. *British Actuarial Journal*, *8*(4), 705-728.

Vanberg, V. J. (2014). Collective action, institutional design and evolutionary "blindness." *Journal of Bioeconomics*, *16*, 99-104.

Vogel, S. K. (20 18). *Marketcraft: How governments make markets work*. Oxford University Press.

Von Hippel, W. (2018). *The Social Leap: The new evolutionary science of who we are, where we come from, and what makes us happy*. HarperCollins.

Wakeford, T., Pimbert, M. and Walcon, E. (2015). Re-fashioning Citizens' Juries: Participatory democracy in action. *The Sage handbook of action research*, 229-45.

Warren, S. D. and Brandeis, L. D. (1890). The Right to Privacy. *Harvard Law Review*, 4(5), 193-220.

Wild, D., Fraser, J. and Husek, M. (2017). *Reducing red tape in Australia - 'one in, two out' rule*. Institute of Public Affairs.

Williamson, O. E. (2000). The new institutional economics: taking stock, looking ahead. *Journal of Economic Literature*, 38(3), 595-613.

Wu, T., Chen, L., Hui, P., Zhang, C. J. and Li, W. (2015). Hear the whole story: Towards the diversity of opinion in crowdsourcing markets. *Proceedings of the VLDB Endowment*, 8(5), 485-496.