COMPETITION LAW IN HIGH TECHNOLOGY INDUSTRIES

INSIGHTS FOR AUSTRALIA

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SPEAKER

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Martyn is a corporate and commercial lawyer and a well-known telecommunications, media & technology (TMT), infrastructure, competition and regulatory specialist.

Martyn's practice covers transactional, contentious and advisory matters. He is identified as a leading individual in Chambers Asia-Pacific and is recommended by IFLR 1000 and Asia-Pacific Legal 500. His recent accolades include:

- Finalist - '*Australian Deal Maker of the Year*' - Australasian Law Awards, 2015
- Australian counsel to '*Global Matter of the Year*' - Global Competition Review, 2015
- Winner - '*Telecommunications, Media & Technology Deal of the Year*" – Asia, 2014
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As well as holding a PhD in competition law, Martyn is a qualified economist and he holds a master's degree in corporate finance (M&A, infrastructure, project finance, venture capital). He has published extensively, now over 100 publications. He is the author of the book *International Competition Law* (Cambridge University Press, 2006).

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Competition law in high technology industries – Insights for Australia

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> "The opening up of new markets, foreign or domestic, and the organisational development from the craft shop to such concerns as U.S. Steel illustrate the same process of industrial mutation—if I may use that biological term—that incessantly revolutionises the economic structure from within, incessantly destroying the old one, incessantly creating a new one… It must be seen in its role in the perennial gale of creative destruction."
>
> (*Joseph Schumpeter, 1942)*[1]

1. Introduction

Digital disruption is blowing a Schumpeterian gale of creative destruction throughout the global economy. These winds of change are delivering substantial increases in consumer welfare. The glowing glass screen of a smartphone enables us to access the library of all human knowledge. We can order any imaginable good or service; literally at our fingertips.

Yet competition challenges are arising. Firms bearing the brunt of digital disruption are seeking regulatory protection. Those firms riding the winds of change are achieving concerning levels of global market power. Global debate is occurring regarding the extent to which regulatory intervention is appropriate. The resulting level of political concern is partly evidenced by the inclusion of digital technology in Australia's Harper Competition Review.

This paper considers unique competition issues raised by high technology industries with a particular focus on software-driven digital platforms. This paper argues that Australian competition law strikes an appropriate balance between preserving competition and promoting innovation, but continued prioritisation of high technology markets by Australian regulators and policy-makers is justified. High technology markets are as susceptible to anti-competitive behaviour as any other markets and, in some areas, particularly so.

As part of this analysis, this paper considers global trends and recent developments, particularly in the United States and European Union. In that context, this paper considers how modern competition law is now seeking to address complex questions of dynamic efficiency, innovation markets and cross-border e-commerce. This paper seeks to identify insights for Australian competition law and policy in light of the recent Harper Competition Review. Finally, this paper concludes with a number of observations, including future challenges in regulating digital platforms.

Ultimately, the vision for the 21st century endorsed by this paper is one in which Australian competition law continues to embrace the winds of Schumpeterian change.

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[1] J Schumpeter *Capitalism, Socialism and Democracy*, 1942 (Allen & Unwin, London , 2003 Taylor & Francis e-library reprint).

2. Unique competition issues raised by high technology industries

This chapter considers unique competition issues raised by high technology industries with a particular focus on digital platforms. It considers common features of competition in high technology industries and considers the extent to which digital platforms raise similar or unique issues. It concludes by listing the competition issues commonly arising in the context of digital platforms. This chapter informs the analysis undertaken later in this paper.

(a) Common features of high technology industries

The relevant OECD classification of a 'high technology' industry (**HTI**) refers to one with a high degree of technological intensity, usually corresponding with a high degree of research and development intensity (**R&D**). Key HTI industries include aerospace, robotics, electronics, nuclear physics, biotechnology & pharmaceuticals, telecommunications & media, and computer science.[2]

HTI industries have been pushing the frontiers of competition law for many decades. The competition issues arising in HTI markets are therefore well known, as summarised below; these characteristics vary in magnitude and effect across different technologies:

Characteristics of HTI markets		**Regulatory implication**
High rate of innovation	The HTI business model is based on commercialising new developments in science and technology, so is focussed on achieving a high rate of innovation.	As a result of the pace of innovation, high-tech industries often experience greater dynamic effects than other industries.[3]
High level of R&D	Innovation is often regarded as more important than price-based competition. Accordingly, HTI firms typically have large R&D budgets.	HTI firms compete through product innovation and the introduction of new products, not simply through the pricing of existing products and services.
High sunk costs	HTI firms often have high fixed-costs and low marginal costs; hence have large supply-side economies of scale.	The cost structure of HTI firms favours more concentrated markets due to higher fixed costs.
IP-intensity	HTI firms are intellectual property (**IP**) - intensive. Protection of IP is often critical to recovery of R&D costs.	IP rights enable the appropriation of economic profits from innovation, often as an exception to competition rules.
Imperfect competition	HTI markets feature high sunk costs, regulatory barriers to entry, and often involve strategic bottlenecks.	The industry structure is more likely to be oligopolistic and characterised by a high degree of imperfect competition.
High degree of co-ordination	Due to the costs and risks associated with developing and retaining IP, HTI industries often have a high degree of integration and co-ordination.	Mergers and acquisitions, joint ventures and strategic alliances are common, requiring careful competition scrutiny in concentrated HTI markets.

[2] "ISIC Rev.3 Technology Intensity Definition", OECD, Paris, 7 July 2011.

[3] JB Baker "Can Antitrust Keep Up? Competition policy in high-tech markets", Brookings, Winter 2001.

Justice William Posner (2000) highlights that an important feature of the use of patents in high technology markets is that competition manifests itself as competition *for* the market, rather than competition *in* the market. Posner comments:[4]

> "The more protection from competition the firm that succeeds in obtaining a monopoly will enjoy, the more competition there will be to become that monopolist; and provided that the only feasible or permitted means of obtaining the monopoly are socially productive, this competition may be wholly desirable."

Given the characteristics of HTI firms identified above, the question arises whether software-driven digital platforms are a manifestation of 'high technology', such that these characteristics apply.

Much of the current digital disruption is occurring, for example, at a comparatively low cost without substantial incremental R&D expenditure. Was Marcus Persson, for example, really participating in a 'high technology' market when he developed and sold the game of *Minecraft* for USD 2 billion, particularly as he reputedly coded the software in his bedroom?

(b) Digital disruption arises from a confluence of enabling high technologies

The answer to the *Minecraft* question is that the current wave of digital disruption involves a confluence of enabling 'high technologies' that have been co-ordinated in such a way that they have facilitated low cost commercial exploitation via simplified application software.

In this manner, while the building blocks of digital platforms have involved many billions of dollars of historic R&D, a software developer can now stand on the shoulders of the R&D giants to develop and launch a particular software application. A developer can also use enabling 'building block' software applications. Such applications have opened the ability to create software to non-experts. The author's 8 year old daughter, for example, recently developed her own iPhone game at a holiday 'code camp' using enabling software.

The concept of 'digital disruption' in the 21st century can therefore be viewed as a high technology ecosystem. This ecosystem has involved HTI industries facilitating low cost innovation by creating a digital platform for consumer-friendly, mass-market software. This high technology ecosystem involves a combination of:

- ubiquitous digitalisation of information and content into binary data, using complex coding algorithms;
- affordable pocket supercomputers, in the form of smartphones, that are now available at low cost (even in developing markets) to provide high levels of data processing power;
- broadband Internet communications, enabling high speed transmission of large volumes of digital data between all manner of devices anywhere on the planet;
- sophisticated proprietary 'operating system' software that enables the functionality of sophisticated devices to be readily accessed by simplified application software;

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[4] R Posner "Antitrust in the New Economy" University of Chicago, John M Olin Law & Economics Working Paper No. 106, 2000

- user-friendly application software (known colloquially as 'apps') often now delivered at a very low or no cost to consumers in the form of a 'digital platform', such as Internet search, email, video calling, data storage, product ordering; and

- the use of the 'digital platform' to intermediate and co-ordinate the delivery of content, services, advertising, physical product and logistics using a diverse range of business models, typically facilitated by Internet-access.

The resulting Schumpeterian gale of innovation is now sweeping sector-by-sector, industry-by-industry, market-by-market, across the globe.

(c) Software eats the world – the practical impact of digital disruption

The ecosystem for digital platforms identified above is underpinned by intellectual property, in the form of computer code (i.e., software), rather than physical goods. The centrality of software to digital platforms has a range of important implications, derived from the cost characteristics, replicability and flexibility of software itself.

In August 2011, Silicon Valley venture capitalist and successful Internet entrepreneur Marc Andreessen wrote an article for the Wall Street Journal that provided insights into the future impact of software in the context of digital disruption and digital platforms, titled '*Why Software Is Eating the World*'.[5]

[5] M Andreesson "Why Software Is Eating the World", The Wall Street Journal, 20 August 2011.

Andreessen's four key insights were as follows:

- **Global scalability:** The digital platform required to transform industries through software now works and can be delivered at global scale at an affordable cost. Software is the key that unlocks an addressable global market comprising many billions of smartphone users across the world. Andreessen commented:[6]

  > "Six decades into the computer revolution, four decades since the invention of the microprocessor, and two decades into the rise of the modern Internet, all of the technology required to transform industries through software finally works and can be widely delivered at global scale. Over two billion people now use the broadband Internet, up from perhaps 50 million a decade ago… With lower start-up costs and a vastly expanded market for online services, the result is a global economy that for the first time will be fully digitally wired—the dream of every cyber-visionary of the early 1990s, finally delivered, a full generation later."

- **Low overheads:** Software has traditionally been expensive to create (involving high sunk costs), but inexpensive to replicate (involving a marginal cost near zero). However, once software is deployed, it may create a business without the physical overhead of existing firms, often co-ordinating existing physical resources and distribution systems Programming tools and Internet-based (cloud) services enable the launch of software-powered start-ups without the need to invest in substantial physical infrastructure or employees.

- **Adaptive flexibility:** Software is highly flexible and can be changed rapidly, enabling constant and continuing innovation and adaptation, creating dynamically changing business models. Digital disruption is therefore leading to business model experimentation and an intensification of competition.

- **Disruptive potential:** In industries with a heavy real-world component such as oil and gas, the software revolution is primarily an opportunity for incumbents. But in many industries, new software ideas are enabling software-based start-ups to enter existing industries leading to an intensification of competition. Andreesson commented:[7]

  > "My own theory is that we are in the middle of a dramatic and broad technological and economic shift in which software companies are poised to take over large swathes of the economy. More and more major businesses and industries are being run on software and delivered as online services—from movies to agriculture to national defence."
  >
  > "Many of the winners are Silicon Valley-style entrepreneurial technology companies that are invading and overturning established industry structures. Over the next 10 years, I expect many more industries to be disrupted by software, with new world-beating Silicon Valley companies doing the disruption in more cases than not."

Based on forecasts from Silicon Valley, software-driven digital disruption is likely to next hit the finance, energy, healthcare and logistics sectors. Meanwhile, the Schumpeterian gale is already raging in retailing, telecoms, media and transport, involving digital platforms promoted by Amazon, Microsoft (Skype), Facebook (WhatsApp), Netflix and Uber.

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6 *Ibid.*

7 *Ibid.*

(d) The digital industrial revolution – a cloud computing engine, big data the new fuel

In conjunction with the rise of software-based digital platforms, digital disruption is also being powered by the information revolution – known colloquially as 'big data'.

The term 'big data' has existed for many decades and, likewise, data analytic capabilities have existed for many decades. What has dramatically changed over the last few years is the velocity, variety and volume of data. Some 90% of the world's data has been created in the last few years. As Neelie Kroes, formerly European Commissioner for the Digital Agenda and Vice-President of the European Commission, noted in a key speech in March 2014:[8]

> "Now we stand facing a new industrial revolution: a digital one. With cloud computing its new engine, big data its new fuel. Transporting the amazing innovations of the internet, and the internet of things. Running on broadband rails: fast, reliable, pervasive… Take all the information of humanity from the dawn of civilisation until 2003 - nowadays that is produced in just two days."

Data storage costs have also dropped to the extent that data storage is no longer a significant cost concern for many businesses. Meanwhile, computer processing capability has increased such that it is possible to process 'big data' in order to extract high quality competitive information. Neelie Kroes used the following metaphor in her speech:[9]

> "That is the magic to find value amid the mass of data. The right infrastructure, the right networks, the right computing capacity and, last but not least, the right analysis methods and algorithms help us break through the mountains of rock to find the gold within."

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8 N Kroes "The data gold rush", Speech by the European Commissioner for the Digital Agenda and Vice-President of the European Commission, Europe Data Forum, Athens, 19 March 2014.

9 *Ibid.*

Software-driven digital platforms often involve business models that utilise data processing capability to deliver goods and services that are tailored to the personal needs of particular consumers. In the 21st century, customer information is a strategic business asset and valuable commodity that may give a digital platform a competitive edge over its rivals.

(e) Unique competition issues arising from digital disruption and 'big data'

Bearing the analysis in mind, the question arises whether unique competition issues arise in the context of software-driven digital platforms that may not otherwise arise in other high technology industries. This question is answered by the following table – drawing insights from the economics of networked information industries:[10]

Characteristics of digital platforms		**Regulatory implication**
Unsettling of social norms	Innovative business models may be subject to complaints based on the unsettling of social norms, raising wider societal questions. Many societal issues arising from digital platforms have not yet been fully resolved by policy-makers. For example, to what extent should personal information gathered by smartphones remain private? Should personalised Internet newsfeeds be sacrosanct from commercial or political adjustment and manipulation?	Alex Chisholm, Chief Executive of the United Kingdom's Competition and Markets Authority, commented in a speech in December 2014 as follows:[11] "Until our societal and political processes have digested these questions more fully, competition authorities will have to play a more modest role on these wider questions – shining a light on competition trade-offs and consequences for the quality of the consumer experience".
Regulatory barriers to entry	Extant regulation may create barriers to entry or favour a legacy business model. Taxi licensing sits uneasily with Uber's 'ride sharing' model. Smartphone-based payment systems face a maze of financial market regulation.[12]	Competition policy favours regulation that does not discriminate in favour of particular business models or incumbent technologies. Where regulation impedes legitimate market entry, competition policy promotes deregulation and regulatory reform.
Rent-seeking incumbents	Market entry by disruptive businesses places intense pressure on existing businesses. Rent-seeking and competition complaints are a common response. However, such complaints may also be legitimate.	Regulators must determine whether the market entry is a manifestation of competition or involves anti-competitive conduct. The current allegations against Google raise such challenges, as outlined in detail later in this paper.

10 In 2001, the Nobel prize in economics was awarded to George Akerlof, Michael Spence, and Joseph E. Stiglitz for their analyses of markets with asymmetric information. See "Information and the Change in Paradigm in Economics", Nobel Prize lecture by Joseph E Stiglitz, 8 December 2001.

11 A Chisholm "Giants of digital: Separating the signal from the noise and the sound from the fury" Speech by CMA Chief Executive, CRA Competition Conference, Brussels, 10 December 2014.

12 "UK Payment System to undergo regulation to promote competition", 13 January 2015.

Characteristics of digital platforms		Regulatory implication
Bundling, tying and leveraging	The market entrant may use an entry strategy that utilises existing markets in which it has high market power – effectively leveraging its market power across different markets.	The so-called Internet 'browser wars' between Netscape and Microsoft over the period 1997-2002 are illustrative of a bundling strategy in which a market entrant leverages from other markets.
Amplifying of market power	Proprietary software can be used to deny access to a device or other software functionality, creating strategic bottlenecks.[13] Apple's iStore, for example, has become a key gateway in the utilisation of the iPhone.	Virtual bottlenecks raise the same issues of potential discrimination and excessive pricing as physical bottlenecks. Control of resource bottlenecks can be used to raise rivals' costs or deny functionality.
Multi-sided markets	Disruptive business models often involve the simultaneous matching of buyers (on one side of the market) with sellers (on the other side), creating 'two-sided markets'.[14] In multi-sided markets, the more price-sensitive market may be cross-subsidised by the less price market, potentially increasing barriers to entry.	Multi-sided markets may accentuate network effects and facilitate leveraging of market power. Complications may arise, for example, where one side of the market is fully cross-subsidised so is effectively free. Google's free Internet search product, for example, is cross-subsidised by AdWords advertising revenue.
Disinter-mediation	Internet-based business models have altered the ability of businesses to bundle and unbundle through the value chain, creating significant changes in product offerings and distribution models. Accordingly, business model competition is increasing.	Businesses that historically offered a bundled offering (e.g. pay TV over home cable), are now facing competition from unbundled offerings (e.g, pay TV over any Internet device), and vice versa. Questions of access, exclusivity, foreclosure and bundling may arise.
Network effects and 'winner takes most' tipping	In information-based industries, network effects are common. The more users of a service, the greater the benefit gained by other users, creating demand-side economies of scale. Markets that are subject to network effects may be subject to 'tipping'. A firm with an early advantage may be selected disproportionately by new customers, creating a 'winner takes all' (or 'winner takes most') consequence that tips towards a monopoly.	When faced with network effects, a market entrant would need an innovation of sufficient magnitude to dislodge the industry leader. An example is the rapid demise of SMS phone messaging to WhatsApp. Social media and communications software are particularly susceptible to network effects, including Facebook, LinkedIn, Twitter, WhatsApp and Skype. Network effects are also amplified by compelling 'walled' excusive content.

13 T Wu "In the Grip of the New Monopolists - Do away with Google? Break up Facebook? We can't imagine life without them—and that's the problem" The Wall Street Journal, 13 November 2010.

14 HA Shelanski "*Information, Innovation and Competition Policy for the Internet*" (2013)1 61 University of Pennsylvania Law Review 1663.

Characteristics of digital platforms		Regulatory implication
Global-isation of markets	Internet-based e-commerce is often blind to national borders, enabling a firm in Country A to supply over the internet to a consumer in Country B. As a consequence, markets are becoming more globalised and competitive.[15]	Services are being reconstituted around market segments that have a need for a differentiated product. However, many of those market segments are orders of magnitude larger than they used to be, involving supply into global markets.
Platform-based competition	The owner or operator of the digital platform may own or create only one piece of the ecosystem. Many complementary products may be added to the ecosystem for the digital platform to be popular with consumers.	Digital platform owners and operators may seek to secure access to exclusive content and features (including IP), thereby preventing the establishment of competing platforms. IP rights may be fiercely defended.
High switching costs	Platforms often include disincentives to customer churn, including restrictions on porting digital content. Free cloud storage may act as a 'lock in' to a particular digital platform.	Switching costs for consumers may be high, including forfeiture of existing valuable content. For example, an iPhone is effectively bundled with iTunes purchased digital content.
Path dependency and first mover advantages	High-tech markets are often highly "path dependent"— market winners can be determined by the order in which companies act. A first mover can benefit from 'tipping' and 'winner takes most' network effects. [16]	A company, or a small number of companies, can rapidly obtain and sustain a significant market share that can be hard to reverse. Given tipping effects, there may be substantial 'first mover' advantages.
Standardised products and inter-operability	A standard itself may exhibit path-dependency and tipping effects, such as the QWERTY keyboard. Complications arise where a technology is also protected by IP rights.	Where inter-operability issues arise, the owner of the favoured standard may possess substantial market power, as demonstrated by the historic litigation over access to software source code.
Realisation of synergies	Combining complementary assets enhances innovation capabilities and thus spurs innovation. Complex devices such as an iPhone, for example, incorporate multiple physical components, substantial intellectual property, and sophisticated software.	Pro-competitive mergers and business practices allow for the efficient combination of complementary assets. In the context of digital disruption, a merger could facilitate the realisation of a highly innovative product

A recurrent feature of technology markets over the last few decades has been 'innovation races' in which the winner has achieved a large market share and significant profits, albeit for a limited time until the next winner arrives. Historic winners have included IBM, Netscape, AOL and Microsoft. Current winners include Apple, Google, Facebook and

15 United States Antitrust Modernisation Commission, "Report and Recommendations", April 2007.

16 SJ Liebowitz & SE Margolis "Path Dependence, Lock-in, and History" (1995) 11(1) *Journal of Law, Economics and Organisation* 205-26.

Amazon. In such circumstances, it is apparent that continued innovation is an important feature of competition in high technology markets and, ultimately, may provide a long-term discipline on powerful firms.[17]

However, as can be seen from the tables above, it is also clear that there is a high degree of imperfect competition in technology markets and particularly software-driven digital platforms that gives rise to immediate and medium-term market power. The long-tail of potential competitors may be illusory in markets that are dominated by network effects and only a small handful of powerful brands.[18] In such circumstances, competition law clearly has a continued role. The US Department of Justice (DOJ) has expressed this as follows:[19]

> "While the rapid pace of change in technology markets can sometimes minimise the potential for the accumulation or misuse of market power, other common attributes of high-tech markets counsel careful scrutiny."

The practical application of competition law to software-driven digital platforms is illustrated by recent experiences in the United States (**US**) and European Union (**EU**), as set out below.

3. Global trends and recent developments, particularly in the US and EU

The treatment of digital platforms by competition law is an issue that is at the cutting edge of global trends and recent developments. These trends and developments are manifested in recent academic articles, speeches, papers, regulatory actions and judicial decisions. Moreover, the treatment of digital platforms has been subsumed into questions relating to the manner in which innovation itself should be treated by modern competition law.

Given these issues are still evolving, this chapter undertakes a review of some of the recent literature in the US, before considering the treatment of digital platforms and innovation in recent US decisions. This chapter then moves to Europe to consider the high profile antitrust action against Google, as well as the evolution of EU competition law and policy in the new European 'digital single market'.

(a) United States – applying a greater weighting to dynamic analysis in antitrust law

In the United States, over recent years in particular, there has been increasing recognition that a meaningful analysis of technology markets requires a much richer view of competition law than has historically been the case. A substantial literature has evolved that explores the relationship between competition and innovation.[20] As Professors Sidak and Teece commented in 2009: "*A slow and reluctant awakening to antitrust and innovation issues is now well underway*".[21] Moreover, there appears to be a concerted effort to persuade US courts to adopt a framework that more explicitly recognises dynamic competition.

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17 *United States* v *Microsoft (Microsoft III),* 253 F.3d 34 (D.C.Cir. 2001)

18 A Thierer "The Rule of Three: The Nature of Competition In The Digital Economy", Forbes, 29 June 2012.

19 RB Hesse "At the Intersection of Antitrust & High-Tech: Opportunities for Constructive Engagement", 22 January 2014.

20 C Shapiro "Competition and Innovation: Did Arrow Hit the Bull's Eye?, in J Lerner & S Stern *The Rate & Direction of Economic Activity Revisited* (Chicago University Press, 2010)

21 JG Sidak & DJ Teece "Dynamic Competition in Antitrust Law" (2009) 5:4 *Journal of Competition Law & Economics* 581.

One key historical debate has been whether competition promotes innovation, also known as the 'Schumpeter/Arrow debate'. The so-called 'Schumpeterian argument' states that market concentration (i.e., a lack of competition), is beneficial to innovation activities by facilitating large-scale R&D. Conversely, the so-called 'Arrow argument' is that competition spurs innovation. Modern antitrust economics now recognises that the relationship between innovation and competition is far more nuanced and complex than either of these theories represent. However, it is clear that continued innovation is critical to economic growth.[22]

Of the numerous recent articles on the subject, one of the most insightful was written by Professors Sidak and Teece (2009) on "*Dynamic Competition in Antitrust Law*". Sidak and Teece argue for the United States to move towards a 'neo-Schumpeterian' framework for modern antitrust analysis:[23]

> "The kind of competition embedded in standard microeconomic analysis may not be the kind of competition that really matters if enhancing economic welfare is the goal of antitrust. Rather, it is dynamic competition propelled by the introduction of new products and new processes that really counts. If the antitrust laws were more concerned with promoting dynamic rather than static competition, which we believe they should, we expect that they would look somewhat different from the laws we have today."

The Sidak and Teece article, in conjunction with several other articles in the United States, argue in favour of the following key propositions: [24]

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22 MD Taylor "Is Competition Law Beneficial?" a chapter in MD Taylor *International Competition Law* (Cambridge University Press, Cambridge, 2006), where the author discusses these issues.

23 JG Sidak & DJ Teece "Dynamic Competition in Antitrust Law" (2009) 5:4 *Journal of Competition Law & Economics* 581.

24 *Ibid*.

- **Dynamic competition has greater welfare effects:** Dynamic competition does not merely involve price competition, it may overturn the existing order by product and process innovation. As such, it has the potential to deliver large jumps in consumer welfare, including via the creation of new products and markets. A focus on dynamic competition is particularly relevant to high technology industries.

  Fiona Scott-Morton of the US Department of Justice described the difference between static and dynamic efficiency in 2012 in the following terms, identifying that the 'leap frog' form of dynamic efficiency delivers the greatest welfare gains:[25]

  > "Also important to the analysis are two types of efficiency that drive economic growth: static and dynamic. Static efficiency focuses on the short run and refers to the process of driving marginal prices down to marginal costs (and thus reducing the deadweight loss). Dynamic efficiency involves new products and technical change. Incremental dynamic efficiency refers to the process of reducing costs by refining existing products, processes and capabilities – in other words, shifting the supply curve out. The more important, "leap-frog" form of dynamic efficiency refers to the large gains in consumer welfare that arise from successfully implementing entirely new products (moving the demand curve out to meet a new, unmet demand) and new ways of doing business (moving the supply curve out to create more efficient production)."
  >
  > "It is now well understood that dynamic efficiencies, and, in particular the leap-frog type, account for the lion share of economic growth… leap-frog dynamic efficiency is the primary engine of productivity growth".

- **Innovation may involve complements, not just substitution**: Schumpeter viewed dynamic competition as firms competing to achieve a position of dominance and to *overturn* the existing order, a process based on substitution. However, modern economics also recognises that innovation may enhance the value of a portfolio of complementary products (e.g., iPhones and software), providing further gains.

- **Static analysis may not deliver optimal dynamic outcomes:** A static analysis focuses on the promotion of static efficiency by regulating market power in product markets. Allocative efficiency is promoted by minimising the Harberger (deadweight welfare loss) triangles arising from monopoly. Productive efficiency is promoted by maintaining competitive disciplines on firms to reduce costs. However, a static focus is more concerned with immediate market power outcomes and less concerned with the long-term effects of greater dynamic efficiency.

- **US antitrust law has a bias towards static analysis:** Static analysis has traditionally been given more weight by competition law in the United States, hence "*the federal courts have caused antitrust case law to ossify around a decidedly static view of antitrust*". A framework that favours dynamic over static competition would place less weight on market share and concentration in the assessment of market power and "*more weight on assessing innovation and enterprise-level capabilities*".[26]

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25 F Scott-Morton "Antitrust Enforcement in High-Technology Industries: Protecting Innovation and Competition" Speech to the NYSBA Annual Antitrust Forum on Antitrust in High Technology Markets, 7 December 2012.

26 JG Sidak & DJ Teece "Dynamic Competition in Antitrust Law" (2009) 5:4 *Journal of Competition Law & Economics* 581.

Justice Ginsburg & FTC Commissioner Wright (2012) comment, for example:[27]

> "The static model of competition dominates modern antitrust analysis. The model has served antitrust law well, but it has some familiar drawbacks. In particular, it ignores the impact that competitive activities undertaken today will have upon future market conditions"

- **Dynamic analysis requires a long-term perspective and recognition of IP**: While static analysis is focussed on immediate market outcomes, dynamic analysis also considers the competitive process and the potential for innovation over time. As such, a dynamic approach seeks to preserve and promote mechanisms that drive innovation, such as intellectual property and R&D. A dynamic approach may tolerate some short-run static inefficiencies to enhance dynamic efficiencies.

- **Competition for the market may be as important as competition within it**: In rapidly innovating markets, the concept of market share may be less relevant. Rather, competition *for* the market may be as significant as competition within it. Innovation may be an important non-price dimension of inter-firm rivalry.

Sidak and Teece also highlighted in a sister paper in 2009 that the adoption of a dynamic view of competition would require significant changes to current antitrust law and merger policy in the United States. They complained that the Horizontal Merger Guidelines at the time did not sufficiently address dynamic effects and were not sufficiently nuanced, so proposed a number of changes (some of which were subsequently adopted in 2010):[28]

> "A "neo-Schumpeterian" framework for antitrust analysis that favours dynamic competition over static competition would put less weight on market share and concentration in the assessment of market power and more weight on assessing potential competition and enterprise-level capabilities. By embedding recent developments in evolutionary economics, the behavioural theory of the firm, and strategic management into antitrust analysis, one can develop a more robust framework for antitrust economics."

In the author's view, Sidak and Teece may have overstated some of the bias in US antitrust law towards static analysis. Modern antitrust law does recognise market changes over time and does seek to predict future states of the world, both comprising aspects of dynamic analysis.[29] However, what the Sidak and Teece article (and many other articles) illustrate is the growing concern in the United States that not enough weight is being given by modern antitrust analysis to the benefits of innovation, particularly in high technology markets. The question therefore arises, what can and what has been done to address this to date?

(b) United States – concerns regarding the practical application of dynamic analysis

Currently, in the United States, the debate over dynamic analysis appears to be moving beyond the question whether dynamic analysis is beneficial (which is now widely endorsed), and towards identifying the appropriate method and circumstances of its application.

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27 Justice DH Ginsburg & JD Wright "Dynamic Analysis and the Limits of Antitrust Institutions" (2012) 78(1) *Antitrust Law Journal* 12-48.

28 JG Sidak & DJ Teece "Rewriting the Horizontal Merger Guidelines in the Name of Dynamic Competition" (2009) 16:4 *George Mason Law Review* 885.

29 This is illustrated, for example, by the analysis later in this paper of the manner in which Australian merger analysis already recognises dynamic considerations.

While the debate over the application of dynamic analysis has many dimensions, there are two useful insights that illustrate the complexity of some of the resulting issues, particularly from a pragmatic policy perspective:

- **First, a debate is now occurring over the appropriate means to implement dynamic analysis**: Justice Ginsburg & FTC Commissioner Wright (2012) identify in their article "*Dynamic Analysis and the Limits of Antitrust Institutions*" that an immediate difficulty in the adoption of greater dynamic analysis into US antitrust law is that economic theory itself still remains in a state of flux:[30]

  > "The simple fact is that economics does not yet provide a useful understanding of the relationships among market structure, competition, and innovation. Without such an understanding, let alone empirical support, dynamic analysis in antitrust law remains in a gestational state, driven largely by intuition and the unique stories told by the proponents and opponents of each merger or business practice that comes under scrutiny."

  Ginsburg & Wright highlight that dynamic considerations have already been incorporated into US antitrust law in particular areas (e.g., merger analysis), but in a more primitive form. They highlight that US courts have generally only had confidence to predict the effect that new business arrangements will have upon future market conditions where the predictive fact-finding is based on economic theory, empirical evidence, judicial learning and high quality case-specific evidence.

- **Second, a debate is now occurring over the institutional limitations to any dynamic analysis**: Ginsburg & Wright comment that that institutional considerations are as important as substantive considerations when applying dynamic analysis:[31]

30 Justice DH Ginsburg & JD Wright "Dynamic Analysis and the Limits of Antitrust Institutions" (2012) 78(1) *Antitrust Law Journal* 12-48

31 *Ibid.*

> "The practical value of proposals to increase the use of dynamic analysis must be evaluated with an eye to the institutional limitations that antitrust agencies and courts face when engaged in predictive fact-finding. Were it not for those limitations, further incorporating dynamic analysis into the antitrust calculus would surely be desirable."

Justice Posner (2000) also highlights the practical difficulties faced by courts and antitrust agencies in applying a dynamic analysis in the following terms:[32]

> "The real problem lies on the institutional side: the enforcement agencies and the courts do not have adequate technical resources, and do not move fast enough, to cope effectively with a very complex business sector that changes very rapidly. This problem will be extremely difficult to solve; indeed, I cannot even glimpse the solution."

The key concern of these high profile commentators is associated with the very high level of technical complexity of cases involving digital platforms, in conjunction with the inherent complexities of an economic analysis that involves the application of evolving economic concepts, such as network externalities and dynamic efficiency. Posner comments that the "*trial of a new economy case [is] a daunting challenge to the fact-finding capacity of the judiciary*".[33]

Professor Fiona Scott-Morton, then serving as Chief Economist the US Department of Justice (**DOJ**), responded to this judicial criticism in 2012 in the following terms:[34]

> "That being said, unlike static harms—for which economists have well-developed models to show how a proposed transaction, such as a merger, will affect prices—consensus is still lacking over how to best model future innovation within a specific market. This does not mean that the Division lacks the mandate or institutional capability to identity and appropriately remediate dynamic harms that may occur in the future. However, given the greater degree of uncertainty present when assessing dynamic harms, the Division emphasises the importance of a fact-intensive inquiry into the transaction and the relevant markets and a flexible approach to crafting and supervising remedies. We have very skilled investigators who, through discovery, can understand what drives a firm to innovate, and our economic analyses of these issues continue to increase in sophistication."

Another concern of Justice Posner is the inevitable delay involved in litigation, causing unique difficulties in fast-moving innovation markets. Posner commented:[35]

> "The mismatch between law time and new-economy real time is troubling in two respects. First, an antitrust case involving a new-economy firm may drag on for so long relative to the changing conditions of the industry as to become irrelevant, ineffectual…. Second, even if the case is not obsoleted by passage of time, its pendency may cast a pall over parties to and affected by the litigation, making investment riskier and complicating business planning."

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32 *Ibid*.

33 *Ibid.*

34 F Scott-Morton "Antitrust Enforcement in High-Technology Industries: Protecting Innovation and Competition" Speech to the NYSBA Annual Antitrust Forum on Antitrust in High Technology Markets, 7 December 2012.

35 R Posner "Antitrust in the New Economy" University of Chicago, John M Olin Law & Economics Working Paper No. 106, 2000.

Notwithstanding the pessimism underpinning these articles, it is clear that the various antitrust institutions in the United States are seeking to include dynamic analysis more explicitly in US antitrust analysis. Moreover, the recognition of innovation in antitrust has been a recurrent theme in recent speeches and decisions. In September 2012, the DOJ created a new counsel position for innovation, highlighting the perceived importance of innovation issues and responding to the various criticism.[36]

(c) United States – analysing mergers in innovation markets

In 2015, the intersection of technological and product innovation remains at the forefront of antitrust issues in the United States. Recent decisions have been supplemented by a number of important speeches as well as congressional testimony. In aggregate, this material indicates the significant importance that is now being attributed to innovation issues in the US, particularly in high technology markets.

Responding in part to technology issues, the DOJ and the United States Federal Trade Commission (**FTC**) jointly issued an updated version of the Horizontal Merger Guidelines in August 2010. The new version of the guidelines contains a new section 6.4 titled "Innovation and Product Variety" that seeks to introduce greater dynamic analysis into merger analysis in the United States.

The key points relating to innovation in the new Horizontal Merger Guidelines are as follows:

- **Curtailment of innovation competition:** A merger may diminish "innovation competition" by encouraging the merged firm to curtail its innovative efforts below the level that would prevail in the absence of the merger.
    - Curtailment may involve reduced incentives to continue existing product-development. This may occur if one of the merging firms is seeking to capture substantial revenues from the other.
    - Curtailment may involve reduced incentives to continue existing product-development. This may occur if one of the merging firms has capabilities that are likely to lead it to develop new products in the future that would capture substantial revenues from the other merging firm.
- **Removal of strongest innovators:** A merger may diminish innovation competition by combining two of a very small number of firms with the strongest capabilities to successfully innovate in a specific direction.
- **Removal of inter-firm innovation competition:** The Agencies evaluate the extent to which successful innovation by one merging firm may take sales from the other.
- **Overall effect on innovation:** A merger may enable innovation that would not otherwise take place, by bringing together complementary capabilities that cannot be otherwise combined. Alternatively, post-merger incentives for future innovation may be lower than those in the absence of the merger.

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[36] R Knox "DOJ Creates New Counsel Position for Innovation", Global Competition Review, 25 September 2012.

Recent decisions in US merger cases highlight the application of these concepts to software-based digital platforms, as summarised in the following table:

Merger decision in the United States	Particular points of interest
Bazaarvoice merger (2014)[37] Bazaarvoice's acquisition of its 'closest and only serious competitor' in the market for online product ratings and review platforms was held to substantially lessen competition in violation of section 7 of the Clayton Act. This matter was litigated in front of the US District Court of the Northern District of California, involving arguments based on the dynamic nature of technology markets.	US courts are willing to consider the dynamic nature of high-tech markets – as long as the parties can prove that rapid change means that current market shares are not a good predictor of future market power. Evidence that the merging parties "*operate in a dynamic and evolving field*" is not enough. The parties must prove "*that the evolving nature of the market itself precludes the merger's likely anti-competitive effects*".
Comcast / NBCU (2011)[38] The largest US cable company sought to acquire one of the most successful on-line video distributors. The FTC was concerned that the combined entity could deny access to NBCU's popular programming to potential innovative business models involving online video distributors.	The FTC challenged the proposed merger and succeeded in protecting potential innovation harm by implementing a number of behavioural remedies including: • requirements for non-discriminatory wholesale access to NBCU content; and • a prohibition against restraining any customer from licensing to any competitor.
H&R Block / TaxACT (2011)[39] H&R Block, the second largest 'digital do it yourself' (**DDIY**) tax software provider, entered into an agreement to purchase TaxACT, the third largest provider. The DOJ had concerns over incentives to innovate so blocked the merger.	TaxACT acted as a "maverick" player in the DDIY market by disruptively and aggressively pricing its services. For example, TaxACT led the way with high-quality, free product offerings. Ultimately, the DOJ was successful in blocking the merger, partly due to the perceived adverse effects on product innovation.
AT&T / T-Mobile (2012)[40] AT&T (as largest mobile provider) entered into an agreement to acquire T-Mobile (fourth largest mobile provider). The DOJ was concerned that T-Mobile, while the smallest of the four national providers, had competed aggressively by developing innovative products and services. The DOJ therefore blocked the merger.	Despite AT&T's arguments that the merger would provide substantial new network capacity and leave sufficient competition, the DOJ continued to challenge the merger based on its view that the merger would give rise to likely price increases and would result in a reduction in innovation. Ultimately, AT&T abandoned the proposed acquisition.

37 *United States v Bazaarvoice, Inc*, No. 13-00133, slip op. (ND Cal. 8 January 2014).

38 Final Judgment, *United States* v. *Comcast Corp.*, 808 F. Supp. 2d 145 (D.D.C., 2011).

39 Complaint, *United States* v. *H & R Block, Inc.*, No.11-00948 (D.D.C. May 23, 2011).

40 Complaint, *United States* v. *AT&T, Inc.,* No.11-01560 (D.D.C. Sept. 30, 2011).

Merger decision in the United States	Particular points of interest
Nielsen Holdings NV / Arbitron Inc. (2013)[41] Both firms were developing (but had not yet released into the market) national syndicated cross-platform audience measurement services, which allow audiences to be measured accurately across multiple platforms, such as TV and online. The majority of FTC commissioners (other than FTC Commissioner Wright) noted that competitive effects can be difficult to predict when a product is not yet on the market, but reasoned that "'*certainty about anti-competitive effect is seldom possible and not required for a merger to be illegal*".	Consistent with his comments identified above, FTC Commissioner Wright dissented and pointed to the FTC's "*institutional limitations*" and the "*present inability of economic theory and evidence to support confidential and reliable prediction*" for markets that do not yet exist. FTC Commissioner Wright commented: [42] "It is inherently more difficult in future market cases to define properly the relevant product market, to identify likely buyers and sellers, to estimate cross-elasticities of demand or understand on a more qualitative level potential product substitutability, and to ascertain the set of potential entrants and their likely incentives."
CoreLogic / DataQuick Information Systems (2014)[43] CoreLogic, a national assessor and recorder bulk data business, sought to acquire DataQuick's similar business The FTC alleged that the merger would lessen competition in the market for national assessor and recorder bulk data, which provides information regarding the ownership, status and value of properties.	The FTC alleged that effective competition requires "*several years of national historical data and an ability to provide go-forward national data"*, which posed a barrier because it would be "*cost-prohibitive for a potential entrant to collect the necessary historical and go-forward data*".[44] The decision therefore indicates that 'big data' may be viewed as a barrier to entry. The FTC ultimately accepted a consent agreement to enable the merger to proceed.

As identified above, a range of recent merger decisions therefore highlight the competition issues arising in relation to software-driven digital platforms in the United States. These decisions provide insights that are particularly useful for Australia, as discussed in further detail later in this paper.

(d) European Union – tackling misuse of market power in Internet markets

The European Commission (**EC**)'s competition case against Google will be one of the most important developments in technology antitrust in 2015 and relates specifically to digital platforms. The case has been long in its genesis. In the interests of full disclosure, the author has historically acted both for and against Google at different law firms.

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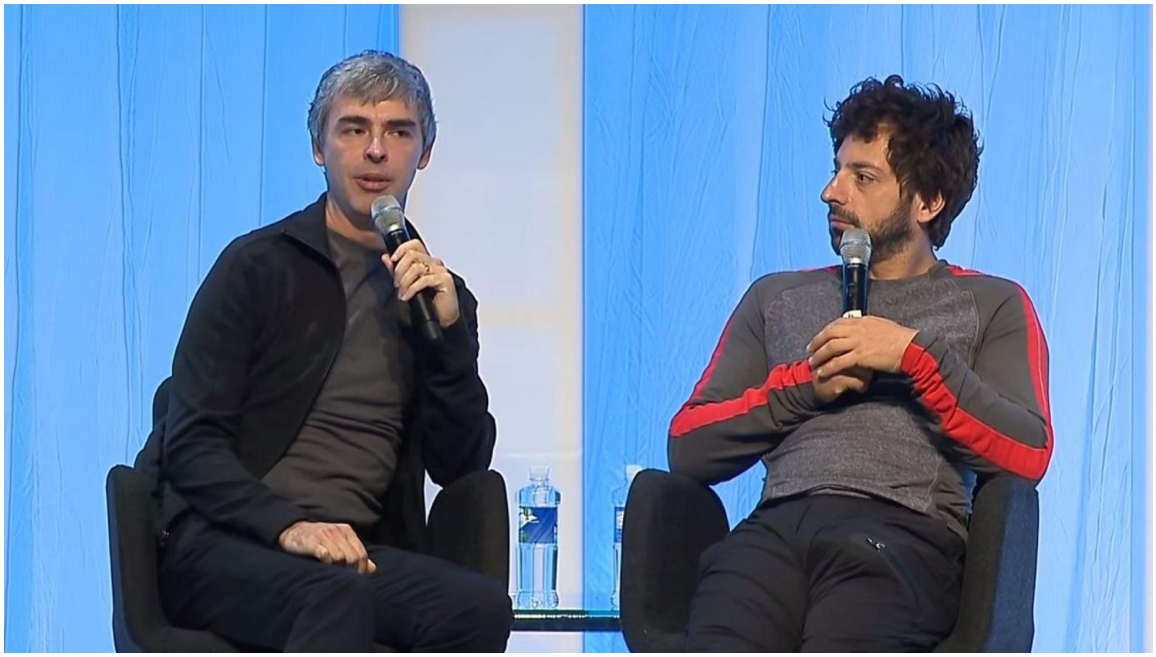
41 "FTC Puts Conditions on Nielsen's Proposed $1.26 billion Acquisition of Arbitron" FTC Press Release, 20 September 2013.

42 Dissenting Statement of Commissioner Joshua D Wright *In the Matter of Nielsen Holdings NV and Arbitron Inc*, FTC File No. 131-0058 (20 September 2013).

43 "FTC Puts Conditions on CoreLogic, Inc's Proposed Acquisition of DataQuick Information Systems", FTC Press Release, 24 March 2014.

44 Analysis of the Agreement Containing Consent Order to Aid Public Comment In the Matter of CoreLogic, Inc., File No. 131-0199 (24 March 2014).



The material in this paper is limited to public domain material and does not express any opinion given the author's involvement. However, the description of the issues arising in the context of Google, as set out below, indicates the manner in which potentially serious competition issues with global implications are arising from digital platforms.

European concerns with the dominance of Google in certain internet markets have become increasingly vocal over the last 12 months. On 27 November 2014, the European Parliament approved a resolution on supporting consumer rights in the digital single market.[45] Among a range of matters, the resolution called for tougher regulation of internet search. The resolution did not mention Google by name but called for the EC to prevent any abuse in the marketing of interlinked services by operators of search engines and to consider proposals with the aim of unbundling search engines from other commercial services, as follows:[46]

> "Notes that the online search market is of particular importance in ensuring competitive conditions within the digital single market, given the potential development of search engines into gatekeepers and the possibility they have of commercialising secondary exploitation of information obtained; calls, therefore, on the Commission to enforce EU competition rules decisively, based on input from all relevant stakeholders and taking into account the entire structure of the digital single market in order to ensure remedies that truly benefit consumers, internet users and online businesses; calls, furthermore, on the Commission to consider proposals aimed at unbundling search engines from other commercial services as one potential long-term means of achieving the aforementioned aims;
>
> Furthermore calls on the Commission to act quickly to consider potential solutions tending towards a balanced, fair and open internet search structure;
>
> Stresses that, when operating search engines for users, the search process and results should be unbiased in order to keep internet searches non-discriminatory, to ensure more competition and choice for users and consumers and to maintain the diversity of sources of

45 European Parliament resolution of 27 November 2014 on supporting consumer rights in the digital single market, 2014/2973(RSP).

46 *Ibid*.

information; notes, therefore, that indexation, evaluation, presentation and ranking by search engines must be unbiased and transparent; calls on the Commission to prevent any abuse in the marketing of interlinked services by search engine operators."

Subsequent to the resolution, the EC has now taken formal action against Google. The central concerns of the EC are articulated in a Statement of Objections of 15 April 2015. The Statement of Objections alleges that:[47]

- Google has a dominant position in providing general online search services throughout the European Economic Area (EEA), with market shares above 90% in most EEA countries. Since 2002, Google has also been active in providing comparison shopping services, which allow consumers to search for products on online shopping websites and compare prices between different vendors.

- Google treats and has treated more favourably, in its general search results pages, Google's own comparison shopping service "Google Shopping" and its predecessor service "Google Product Search" compared to rival comparison shopping services. Specifically, the allegations are that:

    - Google systematically positions and prominently displays its comparison shopping service in its general search results pages, irrespective of its merits. This conduct allegedly started in 2008.

    - Google does not apply to its own comparison shopping service the system of penalties, which it applies to other comparison shopping services on the basis of defined parameters, and which can lead to the lowering of the rank in which they appear in Google's general search results pages.

    - As a result of Google's systematic favouring of its comparison shopping services "Google Product Search" and "Google Shopping", both experienced higher rates of growth, to the detriment of rival comparison shopping services.

- Google's conduct may therefore artificially divert traffic from rival comparison shopping services and hinder their ability to compete, to the detriment of consumers, as well as stifling innovation. The EC alleges that users do not necessarily see the most relevant comparison shopping results in response to their queries, and that incentives to innovate from rivals are lowered as they know that however good their product, they will not benefit from the same prominence as Google's product.

As at the date of this paper (30 May 2015), Google is yet to respond to the Statement of Objections and has 10 weeks to do so. Google may examine the documents in the EC's investigation file, reply in writing and request an oral hearing to present its comments on the case before representatives of the EC and national competition authorities. The EC will make its final decision only after Google has exercised its right of defence.[48]

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47 "Antitrust: Commission sends Statement of Objections to Google on comparison shopping service". European Commission – Fact Sheet, Brussels, 15 April 2015.

48 "Antitrust: Commission sends Statement of Objections to Google on comparison shopping service; opens separate formal investigation on Android", European Commission – Press release, Brussels, 15 April 2015.

The Statement of Objections takes the preliminary view that in order to remedy the conduct, Google should treat its own comparison shopping service and those of rivals in the same way. This would probably not interfere with the algorithms Google applies or how it designs its search results pages. It would, however, mean that when Google shows comparison shopping services in response to a user's query, the most relevant service or services would be selected to appear in Google's search results pages. If Google fails to successfully defend the charges, it could also be fined up to a theoretical maximum amount of USD 6.6 billion.[49]

The Statement of Objections relates to the first of four concerns that the EC previously identified in relation to Google's conduct when it opened a formal antitrust investigation into Google in November 2000. The EC is continuing to investigate a number of other concerns and allegations, including:[50]

- **search bias:** alleged more favourable treatment of Google's own services;
- **scraping:** alleged copying by Google of rivals' web content;
- **advertising data:** suspected restrictions by Google on the portability of online campaign data to competing online advertising platforms; and
- **exclusive deals:** alleged imposition of exclusivity obligations on advertising partners, preventing them from placing certain competing ads on their web sites, as well as on computer and software vendors, with the aim of excluding competing search tools.

The EC has also formally opened a separate antitrust investigation into Google's conduct for the mobile operating system Android.[51] The investigation will focus on whether Google has entered into anti-competitive agreements or abused a possible dominant position in the field of operating systems, applications and services for smart mobile devices. The EC will focus on whether Google has breached EU antitrust rules by hindering the development and market access of rival mobile operating systems, applications and services to the detriment of consumers and developers of innovative services and products.

An interesting twist to the Google investigation involves the different paths taken by US and EU competition regulators. The FTC investigated Google in the period to 2013 and ultimately entered into a settlement with Google without bringing any charges. This decision was somewhat controversial at the time.

In March 2015, the Wall Street Journal published a 160-page FTC internal staff report from 2012 that FTC staff had inadvertently disclosed.[52] The staff report identified a number of areas of concern in relation to Google's conduct and ultimately concluded (at page 118):[53]

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49 The actual amount would most likely be substantially less given that the highest fie ever imposed by the EC to date was a fine of USD 1.44 billion against Intel.

50 "Antitrust: Commission probes allegations of antitrust violations by Google", IP/10/1624, Brussels, 30 November 2010.

51 "Antitrust: Commission sends Statement of Objections to Google on comparison shopping service; opens separate formal investigation on Android", European Commission – Press release, Brussels, 15 April 2015.

52 A copy of the Wall Street Journal article is available at: http://www.wsj.com/articles/inside-the-u-s-antitrust-probe-of-google-1426793274?mod=e2fb

53 A copy of the FTC internal staff report is available at: http://graphics.wsj.com/google-ftc-report/

> "Staff concludes that Google's conduct has resulted – and will result – in real harm to consumers and to innovation in the online search and advertising markets. Google has strengthened its monopolies over search and search advertising through anticompetitive means, and has forestalled competitors' and would-be competitors' ability to challenge those monopolies, and this will have lasting negative effects on consumer welfare".

In response to media commentary relating to an apparent inconsistency between the FTC staff report and the FTC's decision, the FTC issued a media statement, as follows:[54]

> "Today's Wall Street Journal article "Google Makes Most of Close Ties to White House" makes a number of misleading inferences and suggestions about the integrity of the FTC's investigation. The article suggests that a series of disparate and unrelated meetings involving FTC officials and executive branch officials or Google representatives somehow affected the Commission's decision to close the search investigation in early 2013. Not a single fact is offered to substantiate this misleading narrative."

In April 2015, the US Senate Judiciary Subcommittee on Antitrust, Competition Policy and Consumer Rights (chaired by Republican Senator Michael S Lee) stated that he would undertake a preliminary inquiry into the FTC's decision in relation to Google.[55] The Google antitrust issue has therefore become highly politicised in both the EU and US – and will likely continue to play out over the remainder of this year.

A graphic published by the Wall Street Journal is set out below:

Searching for the Answer

The Federal Trade Commission's conclusions about Google's business practices were softer than some findings by key staff members.

	Search Bias	Scraping	Advertising Data	Exclusive Deals
Question	Did Google illegally favor its own shopping, local, travel and finance sites over rivals?	Did Google illegally copy content from rival sites to improve its own?	Did Google illegally restrict advertisers' ability to run campaigns on rival search engines?	Did Google illegally restrict other websites that publish its search results from working with rival search engines?
Staff Comments	Google practices caused 'harm to many vertical competitors,' but its desire to improve search results made it difficult to justify filing suit.	Yes. Google threatened to remove sites from its search engine unless they allowed Google to use their content in its specialized results.	Yes, by making it more costly for advertisers that might want to run campaigns on other search engines.	Yes, Google's contract restrictions blocked rivals like Microsoft's Bing from winning business.
Commission Finding	Evidence indicated Google's changes improved the quality of search results.	Three commissioners had 'strong concerns' about Google's behavior.	Two commissioners had 'strong concerns' about Google's behavior.	One commissioner cited lack of evidence.
Google's Response	Google made no commitments to change its policies. It has continued its strategy to promote specialized search services over rivals.	Google gave websites an option to opt out of special search results but remain in the core search engine.	Google revised its policy to give advertisers more control over their own ad-campaign data.	Google made no commitments to change its policies.

Sources: Federal Trade Commission documents

THE WALL STREET JOURNAL.

Beyond the US and EU, a number of other competition regulators around the world now have active investigations into Google, illustrating the potential far-reaching global impact of alleged anti-competitive behaviour in digital platforms.

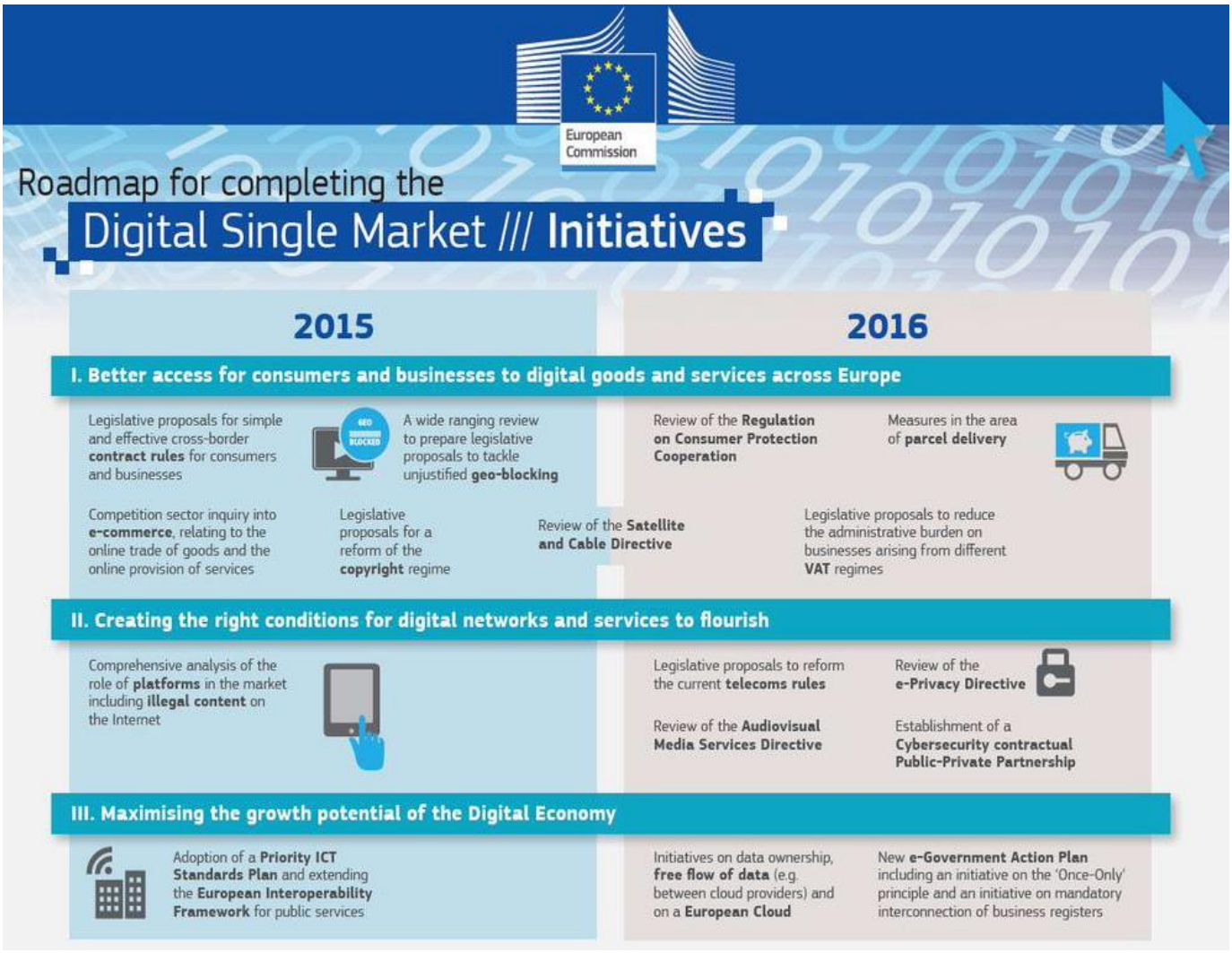
54 https://www.ftc.gov/news-events/press-releases/2015/03/statement-chairwoman-edith-ramirez-commissioners-julie-brill

55 "Key Senator to Take Closer Look at FTC-Google Meetings", The Wall Street Journal, 30 March 2015.

(e) European Union – implementing the digital agenda

Earlier this month, on 6 May 2015, the European Commission adopted a new strategy known as the 'Digital Single Market' (**Strategy**).[56] The Strategy is a policy framework that is intended to build upon the pre-existing EU single market to create a borderless digital economy among the various nations of the EU. The EC commented:[57]

> "It's time to make the EU's single market fit for the digital age – tearing down regulatory walls and moving from 28 national markets to a single one. This could contribute €415 billion per year to our economy and create 3.8 million jobs."



As illustrated by the infographic above, the Strategy is based on three policy pillars that will be progressively implemented over 2015 and 2016:[58]

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56 "A Digital Single Market Strategy for Europe", Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, (SWD(2015), COM(2015), 6 May 2015.

57 See http://ec.europa.eu/priorities/digital-single-market/

58 *Ibid.*

- **improved access:** removing existing barriers to the digital economy to ensure better access for consumers and businesses to digital goods and services across Europe;

- **adjustment of regulation:** ensuring simple and effective sector rules are adopted across the EU that are appropriate for the digital age and that create the right conditions for digital networks and services to flourish; and

- **maximising growth:** maximising the growth potential of the EU digital economy.

With each policy pillar are a set of key policy initiatives, including such initiatives as harmonisation of laws, addressing geoblocking, updating EU telecoms and media regulation, promoting cross-border data flows, harmonising taxation, and upskilling the workforce.

Of particular relevance to this paper, these key policy initiatives are not only directed at public sector barriers to the realisation of a single digital market, but also at private sector barriers. For this reason, two specific initiatives involve the application of EU competition law to software-driven digital platforms, as follows:

- **First, the EC has now launched a formal competition inquiry into e-commerce:**

  A formal competition inquiry into e-commerce was announced by the EC on 6 May 2015 at the time of the announcement of the Strategy. The EC expects to publish a preliminary report for consultation in mid-2016.

  Under the EU Antitrust Regulation, the EC has the power to conduct inquiries into a particular sector of the EU economy (or a particular type of agreements across various sectors) where the level of trade between EU Member States, rigidity of prices or other circumstances suggest that competition may be distorted within the internal market.[59] In the course of a sector inquiry, the EC can request information from businesses and carry out inspections. Fines may be imposed on businesses that supply incorrect or misleading information.

  The EC's concerns in relation to e-commerce are focussed on exclusive dealing arrangements that are restricting market entry and cross-border online trade within the EU. A report in 2015 identified that 32% of European retailers cited contractual territorial restrictions in their distribution agreements as the reason for refusing to supply services cross-border.[60] In another 2015 survey, some 20-30% of companies identified that suppliers' restrictions affecting sales on online platforms constituted a problem when selling online.[61]

- **Second, the EC will launch an assessment of the role of on-line platforms in the EU:**

  The assessment will be launched before the end of 2015 and will cover all aspects of online digital platforms including search engines, social media, e-commerce, app stores, sharing services, on-line intermediaries, and price comparison websites.

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59 Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty.

60 ECC Net report on the application of Articles 20.2 and 21 of the Services Directive, 2013. Available at: http://ec.europa.eu/consumers/ecc/docs/ecc-services_directive_en.pdf

61 Flash Eurobarometer 413.

The EC has indicated that the assessment will analyse a range of matters including, for example, transparency in search results (including treatment of advertisements) and usage of private data. The assessment will also consider artificial barriers to inter-platform churn and illegal content on the Internet. A key focus of the assessment will be the market power of digital platforms. The EC comments:[62]

> "Although their impact depends on the types of platform concerned and their market power, some platforms can control access to online markets and can exercise significant influence over how various players in the market are remunerated. This has led to a number of concerns over the growing market power of some platforms. These include a lack of transparency as to how they use the information they acquire, their strong bargaining power compared to that of their clients, which may be reflected in their terms and conditions (particularly for SMEs), promotion of their own services to the disadvantage of competitors, and non-transparent pricing policies, or restrictions on pricing and sale conditions."

In summary, both the US and EU are now examining the regulation of digital platforms. The US has been more tolerant of certain market conduct by digital platforms, particularly where the conduct has occurred within the context of innovations that have delivered substantial welfare gains to consumers. While also recognising the substantial benefit from gains in innovation and implementing its own initiatives, the EU has been less tolerant. The differences in approach between the US and EU are likely to create trans-Atlantic frictions over the remainder of 2015.

The question then arises, what are the implications from the current approaches of the US and EU for Australia?

4. Insights for Australia in the 21st century – competition law and policy

The final chapter of this paper focusses on the treatment of digital platforms by Australian competition law. This chapter first considers how dynamic efficiency and innovation are treated by Australian competition law, particularly in merger analysis. This chapter then considers how market definition is being refined to better address the globalisation of markets. Finally, this chapter considers some key recommendations made by the Harper Competition Review in 2015 regarding the treatment of digital platforms and big data.

(a) Treatment of dynamic efficiency and innovation by Australian competition law

Economists recognised at an early stage that the future prosperity of an economy crucially depends on its success in promoting technological progress. As early as 1912, Joseph Schumpeter emphasised the significance of innovation to economic growth.[63] Dynamic and allocative efficiency in markets create the necessary conditions for continued realisation of productive efficiency gains that, when compounded over time, deliver economic growth.[64]

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62 "A Digital Single Market Strategy for Europe", Communication from the Commission to the European Parliament, (SWD(2015), COM(2015), 6 May 2015.

63 R Solow, 'Technical Change and the Aggregate Production Function' (1957) 39 *Rev Econ Stat* 312; G Cameron, "Innovation and Economic Growth", LSE Centre for Economic Performance Discussion Papers, No 277, 1996.

64 The quote from Fiona Scott-Morton of the US Department of Justice earlier in this paper identified the difference between static and dynamic efficiency.

Given the importance of dynamic efficiency and innovation, the question arises as to how such issues are currently addressed in Australian competition law. While dynamic efficiency issues have only been expressly considered in a small handful of Australian cases, the importance of the concept has clearly been identified and recognised. The Australian Competition Tribunal commented in the *Fortescue Metals* decision in 2010, for example:[65]

> "Dynamic efficiency arises because rivalry between firms encourages innovation to develop new and improved products. Schumpeter, with whom the dynamic efficiency principle is most closely associated, acknowledged the advantage of large firms to finance substantial research and development, but held that new firms would also be a constant source of supply of new ideas and innovations. Some economists contend that innovative efficiency provides the greatest enhancement of social wealth, suggesting it is the single most important factor in the growth of real output in industrial countries." (emphasis added)

On appeal, the High Court of Australia quoted from the previous Australian Competition Tribunal decision in *Duke Eastern Gas Pipeline*: [66]

> "Productive efficiency is production at least cost. Allocative efficiency occurs when services are provided to those who value them most highly. Dynamic efficiency involves preserving incentives for innovation and investment… On the basis of many studies and long experience, economists have concluded that the main virtue of competition is that it provides a very powerful means of securing important gains in allocative and especially dynamic efficiency" (emphasis added)

Australian courts and regulators also clearly recognise that market power derived from innovation is a legitimate part of the competitive process. The chairman of the Australian Competition and Consumer Commission (**ACCC**), Rod Sims, commented in September 2014, for example:[67]

> "To be clear, although it should not be necessary to say this, conduct such as a corporation gaining an advantage through R&D and innovation, or as a result of economies of scale, would not be regarded by the ACCC, or the courts, as a substantial lessening of competition, even if the conduct caused competitors harm or forced them to exit the market. These activities are part of the competitive process"

Against this background, the provisions of Australian competition law otherwise have largely implicit regard to considerations of dynamic efficiency and innovation, depending on the particular provision and market context.

Of the various provisions of Australian competition law, the most explicit consideration of dynamic efficiency and innovation issues has arisen in a merger context. This is not surprising - a decisive objective behind mergers is the attainment of economic efficiencies:

- **Clearances:** The Australian approach to mergers involves the application of section 50 of the *Competition and Consumer Act 2010 (Cth)* (**CCA**). An entity must not directly or indirectly acquire shares or assets if the acquisition would have the effect, or be likely to have the effect, of substantially lessening competition in any market. Conceptually, this approach does not trade-off efficiency gains against efficiency

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65 *In the matter of Fortescue Metals Group Limited* [2010] ACompT 2 (30 June 2010).

66 *The Pilbara Infrastructure Pty Ltd* v *Australian Competition Tribunal* [2012] HCA 36 (14 September 2012); quoting from *Re Duke Eastern Gas Pipeline Pty Ltd* [2001] ACompT 2; (2001) 162 FLR 1.

67 "Enhancing competition policy", Competition & Consumer AGM, Law Council of Australia, 12 September 2014.

losses, but rather asks where the efficiency losses alone from a merger are likely to be material, as evidenced by a substantial lessening of competition.

- **Authorisations:** Under the Australian approach, the net efficiency gains from a merger may be considered under a separate authorisation process based on net public benefit. Conceptually, the Australian authorisation process may be viewed as trading off productive efficiency and dynamic efficiency gains, as against allocative efficiency and dynamic efficiency losses. A wide range of non-economic societal benefits may also be considered.

Three recent merger clearance decisions provide some insights into the Australian approach to innovation in the context of competition issues arising from software-driven digital platforms:

Merger decision in Australia	**Particular points of interest**
Expedia, Inc – proposed acquisition of Wotif.com Holdings Limited (2015) Expedia is a global online travel agency (**OTA**) and was seeking to acquire Wotif, an ASX-listed global OTA. The ACCC defined the geographic market to be the distribution/booking of Australian accommodation, encompassing bookings made by Australian residents and inbound bookings from overseas residents. The ACCC concluded that the acquisition was unlikely to substantially lessen competition.	The market for online distribution/booking was a two-sided market with positive network effects. Global OTA are not a close substitute for most consumers that frequent bricks and mortar travel agents. Expedia and Wotif compete with other forms of online distribution including the accommodation providers' own websites. The pace and breadth of the introduction of new methods and the fact that new products continue to be developed, strongly suggests that this it is a dynamically competitive market.
iSentia Pty Limited - proposed acquisition of Australian Associated Press Pty Limited's media monitoring business (2013) iSentia acquired the assets of AAP's media monitoring division, Newscentre. The assets principally comprised AAP's media monitoring contracts with its existing monitoring client	The ACCC's preliminary view was that, due to the growth of online media content and the convergence of news media being delivered through multiple channels (print, broadcast and online), it may no longer be appropriate to define the product market according to the historic separate forms of media (print, broadcast and online).
Carsales.com Ltd – proposed acquisition of assets associated with Trading Post from Telstra Corporation Ltd (2012) Carsales is the largest online automotive classifieds business in Australia, through its carsales.com.au and carpoint.com.au sites. The Trading Post provides online classified advertising at its website tradingpost.com.au. The ACCC expressed concern that the proposed acquisition may substantially lessen competition. Telstra abandoned the acquisition as a result.	Markets for online classified advertising are two-sided. There are large sunk costs relating to investing in technology and marketing to build brand awareness. In order to overcome barriers arising from these network effects, a new entrant will need to spend large amounts on marketing to attract both advertisers and consumers, and even this is no guarantee of success. The ACCC gave little weight to innovation considerations and identified high entry barriers.

A more detailed analysis of the treatment of dynamic efficiency and innovation in the context of Australian merger analysis is set out below. Many of these concepts can be applied to other aspects of Australian competition analysis, subject to the nuances of the particular provisions.

(b) Consideration of dynamic efficiency and innovation in Australian merger analysis

The ACCC's Merger Guidelines address dynamic considerations implicitly and explicitly in at least six distinct ways:

- **First, implicitly when applying a temporal concept to market definition:**

  Dynamic considerations are incorporated into market definition via a temporal dimension. On the supply-side, the ACCC identifies potential market entrants in the foreseeable future, including disruptive entry. On the demand-side, the ACCC identifies substitutable products and services over the foreseeable future, aided by the Hypothetical Monopolist Test. The ACCC comments in the Merger Guidelines:[68]

  > "Consistent with the forward-looking nature of merger analysis, the ACCC focuses on the foreseeable future when considering the likely product and geographic dimensions of a market."

  However, there are limits on the extent to which the ACCC would predict future events at the market definition stage. The Australian Competition Tribunal has commented on the appropriate time horizon in the following terms:[69]

  > "…given the policy objectives of the legislation, it serves no useful purpose to focus attention upon a short-run, transitory situation. We consider we should be basically concerned with substitution possibilities in the longer run. This does not mean we seek to prophesy the shape of the future – to speculate upon how community tastes, or institutions, or technology might change. Rather, we ask of the evidence what is likely to happen to patterns of consumption and production were existing suppliers to raise price or, more generally, offer a poorer deal." (emphasis added)

  In pharmaceutical mergers, the ACCC considers products in the R&D pipeline and seeks to determine competitive effects by an analysis of products that are *"not yet on the market but are at an advanced stage of development*".[70]

- **Second, implicitly and explicitly when applying a future counterfactual analysis:**

  The counterfactual approach used in Australian merger analysis is forward-looking, requiring a comparison of longer-term competitive outcomes in markets with and without the merger. In theory, this analysis could identify any developments that are casually derived from the merger, including dynamic effects. In practice, evidential uncertainty limits the appropriate time horizon. The ACCC comments:[71]

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68 "Merger Guidelines", Australian Competition and Consumer Commission, Canberra, November 2008.

69 *Re Tooth & Co Ltd and Tooheys Ltd* (1979) 39 FLR 1, 38-39.

70 *Novartis AG - proposed acquisition of oncology products from GlaxoSmithKline plc*, Informal Review, completed 20 February 2015, Ref 55722.

71 "Merger Guidelines", Australian Competition and Consumer Commission, Canberra, November 2008.

> "When considering how a merger will influence future competition in a dynamic market, the ACCC places more weight on robust evidence about likely future developments in the relevant market. The ACCC will give significantly less weight to predictions about the future state of competition that are speculative or have little chance of developing for some considerable time in the future."

- **Third, implicitly in the concept of a 'maverick' competitor:**

The US Merger Guidelines from 2010 define a maverick firm as a firm that "*plays a disruptive role in the market to the benefit of customers*".[72] A disruptive role includes threatened disruption of market conditions with a new technology or business model. In contrast, the Australian Merger Guidelines equate the concept of a maverick with the wording of section 50(3)(h) of the CCA which refers to a "*vigorous and effective competitor*". However, the ACCC's Merger Guidelines interpret this concept to include disruptive effects associated with innovation:[73]

> "Vigorous and effective competitors may drive significant aspects of competition, such as pricing, innovation or product development, even though their own market share may be modest".

When assessing whether a firm is a maverick competitor, the ACCC identifies that it will consider a number of factors relevantly including "*past and expected innovation, for example in design or production technology*".

- **Fourth, explicitly as a merger factor in section 50(3)(g) of the CCA:**

Under section 50(3)(g) of the CCA, a matter that must be taken into account when assessing a merger in Australia is "*the dynamic characteristics of the market, including growth, innovation and product differentiation*". In practice, section 50(3)(g) is normally conflated with the future counterfactual analysis identified above, hence the ACCC takes into account future market developments. The ACCC identifies that it will adopt two perspectives:

- the extent to which the dynamic features of the market affect the likely competitive impact of the merger; and
- whether the merger itself impacts on the dynamic features of the market.

Importantly, the ACCC recognises that "*markets that are characterised by rapid product innovation may be unstable so that any increased market power gained through a merger is transitory*".

- **Fifth, implicitly to the limited extent that efficiencies can be recognised in a merger:**

The ACCC will not normally recognise efficiencies in a merger clearance analysis, instead preferring that such issues are addressed by authorisation. However, the efficiencies may be relevant in a merger clearance where they involve:

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72 B Morawetz "Identifying and evaluating mavericks in Australian and US merger analysis" (2014) 42 *Australian Business Law Review* 292.

73 "Merger Guidelines", Australian Competition and Consumer Commission, Canberra, November 2008.

> "…a significant reduction in the marginal production cost of the merged firm and there is clear and compelling evidence that the resulting efficiencies directly affect the level of competition in a market and these efficiencies will not be dissipated post-merger".[74]

The ACCC recognises that a merger can result in "*greater innovation yields from combining investment in research and development*".[75]

- **Last, both implicitly and explicitly as a factor in any merger authorisation decision:**

If an applicant were to seek authorisation rather than clearance, the focus will be on net public benefits, including a balancing of efficiencies. A New Zealand decision provides useful guidance on dynamic efficiency in the context of authorisation decisions.[76] The New Zealand Commerce Commission commented in relation to the quantification of dynamic efficiency losses from a proposed merger:[77]

> "Loss of innovative efficiency is potentially a factor making for significant welfare losses in industries that are otherwise technologically dynamic, particularly as the growth induced by innovation may tend to compound over time. However, such losses are not easy to estimate, and in the past the Commission has not attempted to incorporate the compounding factor into its estimates. Assessment has often tended to be based on the following considerations:
>
> - A consideration of the technological progressiveness (or innovative potential) of the industry in question, since industries vary widely in their scope for progressiveness, and hence in the potential for losses of innovative efficiency.
> - An evaluation of the past innovation performance of the companies that are parties to the acquisition, and what residual competitive pressures may encourage innovation post-acquisition.
> - A separate assessment where feasible of the scope for 'product' and 'process' innovations.
> - Recognition that innovations not developed or implemented result in a cost saving, which reduces the magnitude of the loss from innovative inefficiency."

The same considerations would presumably apply to dynamic efficiency gains arising from a proposed merger.

Again, evidential considerations are a relevant practical constraint on the ability to which dynamic efficiency considerations can be taken into consideration. The Australian Competition Tribunal commented in the *Fortescue Metals* decision:[78]

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74 *Ibid.*

75 *Ibid.*

76 ICN Merger Guidelines Project, Chapter 6 – Efficiencies, April 2004.

77 The New Zealand approach is effectively the same as that applied in Australia, although there have been suggestions that Australia may, in practice, give greater weighting to efficiency gains that are passed to consumers. See *Air New Zealand Limited and Qantas Airways Limited*; Decision No. 511 [2003] NZComComm 27 (23 October 2003)

78 *In the matter of Fortescue Metals Group Limited* [2010] ACompT 2 (30 June 2010).

> "A good example is dynamic efficiency considerations which involve speculation about the future path of technology in the iron ore industry or rail industry. In part the difficulty of quantification arises because many of the alleged costs and benefits of access are esoteric or qualitative in nature. Another reason is that many of the alleged costs and benefits depend upon the occurrence of future events which are necessarily uncertain. Hence, the cost-benefit analysis that the Tribunal performs will not be purely quantitative, and will have significant qualitative aspects".

As well as the six distinct ways identified above, dynamic effects may influence the consideration of other factors in a merger analysis in various indirect ways. A disruptive technology may eliminate a structural barrier to market entry, hence increase market contestability. Digital disruption involving supply over the internet may be taken into consideration when assessing the extent of import competition (as discussed below).

However, the process of innovation is highly stochastic. Whereas static effects are straightforward to determine, the identification of dynamic effects is inherently uncertain.[79] Dynamic effects require speculation regarding potential future states of the world. As a consequence, the above analysis indicates that a key constraint on recognising greater dynamic efficiency considerations into Australian competition law is an evidential one.

In summary, Australian competition law already gives significant consideration to dynamic effects both implicitly and explicitly in a number of different ways. While Australia does not use the more explicit approach to considering 'innovation competition' set out in the US Horizontal Merger Guidelines, Australia does consider the impact of a merger on innovation in the manner identified above, subject to evidential limitations.

This then raises the thesis of this paper: does Australian competition law strike an appropriate balance between preserving competition and promoting innovation? To some extent this is a trick question. As identified earlier, the 'Schumpeterian argument' is that more concentrated markets promote innovation; but the 'Arrow argument' is that competition itself promotes innovation. On either view, Australian competition law would appear to strike an appropriate balance given the current state of economic theory.

(c) Globalisation of markets and e-commerce – impact on market definition

Most digital platforms in the 21st century utilise the Internet to deliver services to consumers, often involving cross-border supply. A relevant question is how Australia's approach to market definition will address the increasing use of cross-border modes of supply.[80] As Stephen Corones commented in 2010:[81]

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79 CR Fackelman "Dynamic Efficiency Considerations in EC Merger Control: An Intractable Subject or a Promising Chance of Innovation?" Working Paper 09/06, The University of Oxford Centre for Competition Law and Policy, 2006.

80 A number of recent articles have grappled with these issues. See, for example, A Sundakov "What Do National Boundaries Mean for Markets?" (2012) 20 *Australian Journal of Competition and Consumer Law* 74; D Clarry "Contemporary approaches to market definition: Taking account of international markets in Australian competition law" (2009) 37 *Australian Business Law Review* 143; S Corones "Market Definition in the Age of the Internet" (2010) 38 *Australian Business Law Review* 309; A Duke "The Empire Will Strike Back: The Overlooked Dimension to the Parallel Import Debate" (2014) 37:3 *Melbourne University Law Review* 585.

81 S Corones "Market Definition in the Age of the Internet" (2010) 38 *Australian Business Law Review* 309.

> "Markets are constantly changing over time as technologies and modes of delivery change. We need to be cognisant of these changes and take account of them in defining markets for the purposes of competitive analysis if they make a real difference to the status quo."

The starting point for geographic market definition in Australian competition law is section 4E of the CCA, which provides:

> "For the purposes of this Act, unless the contrary intention appears, market means a market in Australia and, when used in relation to any goods or services, includes a market for those goods or services and other goods or services that are substitutable for, or otherwise competitive with, the first-mentioned goods or services." (emphasis added)

In *Riverstone Computer Services Pty*, Hill J of the Federal Court reasoned in the context of a section 46 (misuse of market power) claim that a global market which includes Australia may be a market in Australia "*if sales are made here*": [82]

> "A global market which includes Australia (and the inference is that any global market did) is arguably a market in Australia if sales are made here… even if that market might also exist in the United States, Japan, China or any country which was a member of the European Union".

Subsequently, global market issues have been extensively litigated in the various air cargo cartel proceedings. In *Emirates,* Middleton J of the Federal Court held that "*the place of contracting is not determinative of the geographic locality of the relevant market*".[83] Middleton J commented that the market concept refers to the full field of rivalry between buyers and sellers, not just the location where the supply contract is concluded.

Based on this analysis, whether a 'market in Australia' arises is not simply concerned with demand-side substitution, it may also be concerned with supply-side substitution and hence the point-of-delivery. Middleton J's analysis would suggest that the central issue is to establish the location of the field of rivalry.

However, some uncertainty has been created regarding the application of the concept of a 'market in Australia' in the context of supply-side substitution in the recent *Air New Zealand Limited* decision.[84] Perram J of the Federal Court held that "*there was no evidence of supply side substitution*" in the transport of cargo to airports in Australia from Hong Kong such that a market existed in Australia. Perram J reasoned that in markets for directional carriage from point A to point B, supply-side substitution also requires a service that involves carriage from point A to point B. Perram J reasoned that the mere fact that carriage ends at point B does not necessarily extend the geographic market to point B or, for that matter, any other point on the route.

What does this analysis mean for cross-border supply over the Internet from a foreign digital platform? The reasoning from these cases is helpful, but not conclusive. The cases suggest that an Australian consumer acquiring a product over the Internet for receipt in Australia could potentially still be participating in a "market in Australia", notwithstanding that the point-of-contracting occurred, for example, in the United States. However, complexities still arise when attempting to define the field of rivalry by reference to supply-side and demand-side substitution.

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82 *Riverstone Computer Services Pty Limited v IBM Global Financing Australia Limited* [2002] FCA 1608.

83 *Emirates* v *Australian Competition and Consumer Commission* (2009) 255 ALR 35.

84 *Australian Competition and Consumer Commission* v *Air New Zealand Limited* [2014] FCA 1157 (31 October 2014.

Moreover, this analysis may still be too simplistic in the e-commerce world. A useful insight into cross-border e-commerce issues is provided by international trade law, which has long grappled with complex issues of cross-border supply when demarcating the field of rivalry between foreign and domestic service suppliers. In the World Trade Organisation (**WTO**) decision *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services* (***US–Gambling***), the WTO Disputes Panel expressly considered conceptual issues of cross-border supply involving the supply of services over the Internet.[85] The Panel's decision was later upheld on appeal to the WTO Appellate Body.[86]

By way of context, the WTO General Agreement on Trade in Services (**GATS**) defines four modes of supply by foreign suppliers into domestic markets, as follows:[87]

	Criteria (applied to Australia)	**Supplier Presence**
Mode 1: Cross-border supply	Service delivered in Australia, to an Australian consumer, by a foreign supplier located in another country (e.g., Internet services)	Service supplier is not present in Australia
Mode 2: Consumption abroad	Service delivered outside Australia, to an Australian consumer, by a foreign supplier located in another country (e.g., Australian tourist)	
Mode 3: Commercial presence	Service delivered in Australia, to an Australian consumer, through the commercial presence of a foreign supplier in Australia (e.g., branch offices)	Service supplier is present in Australia
Mode 4: Presence of a natural person	Service delivered in Australia, to an Australian consumer, through a natural person of the foreign supplier present in Australia (e.g., fly-in-fly-out services)	

Where a consumer in Australia orders a product over the Internet by visiting a US website and the product is couriered by the US website owner to the consumer's home in Australia; this would appear to be mode 1. The supply of the product is bundled with the supply of a cross-border delivery service. Supply is occurring into a market in Australia.

Where a consumer in Australia orders a product over the Internet by visiting a US website and it is collected by the consumer (or the consumer's agent) in the US from the US website owner; this would appear to be mode 2. Supply is not occurring into a market in Australia - the Australian consumer is participating in a US domestic market.

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85 *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services,* Report of the WTO Disputes Panel, WT/DS285/R, 10 November 2004.

86 *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services,* Report of the WTO Appellate Body, WT/DS285/AB/R, 7 April 2005. See S Wunsch-Vincent "The Internet, cross-border trade in services, and the GATS" (2006) 5:3 World Trade Review 319.

87 General Agreement on Trade in Services, as part of the Final Act and Agreement Establishing the World Trade Organisation, Marrakesh, Morocco, 15 April 1994.

However, complexities arise where the product or service is electronic and is delivered over the Internet, essentially 'over the top' (**OTT**) – such as downloaded content or software. The carriage service for Internet access is independently acquired by the consumer from a local Internet service provider (ISP) in Australia, not from the US website owner. The US website owner may arguably just be delivering Internet protocol packets to a router in the US. The Australian ISP, arguably, then delivers those packets to the consumer's home in Australia, not the US website owner. Is this then mode 1 or mode 2?

The *US-Gambling* decision suggests that the OTT service identified above is still mode 1; hence would involve supply into a market in Australia. Notwithstanding that the Internet carriage service is delivered by an Australian ISP, the supply of the service is occurring "through telecommunications" (i.e., OTT) with the intention of delivery into Australia. On this basis, it is no different to a bundled delivery service. The Disputes Panel commented:[88]

> "The Panel concludes that mode 1 under the GATS encompasses all possible means of supplying services from the territory of one WTO Member into the territory of another WTO Member. Therefore, a market access commitment for mode 1 implies the right for other Members' suppliers to supply a service through all means of delivery, whether by mail, telephone, Internet etc., unless otherwise specified in a Member's Schedule. We note that this is in line with the principle of "technological neutrality", which seems to be largely shared among WTO Members."

However, WTO decisions are, at best, useful conceptual points of reference for an Australian court. The extent to which an Australian court would consider adopting a similar analysis in an Australian competition law context remains unknown.

The ACCC adopts another way of addressing this issue in the context of merger analysis that avoids some of the conceptual gymnastics identified above, namely by applying the concept of import competition. Import competition analysis focuses on the mere existence of imports in the domestic Australian market when identifying the market power of a local supplier, so would avoid any need to consider whether the foreign digital platform was competing in an Australian market or not. The ACCC comments:[89]

> "The ACCC's view is that this does not preclude it from analysing a merger proposal in the context of a geographically broader market—for example, a trans-Tasman market or even a global market—provided that at least some part of it is located in Australia. In most cases the ACCC will define the relevant market to be Australia or a part of Australia, and take full account of any competitive constraint provided by suppliers located outside Australia when considering import competition".

Imports may be included in market share calculations to dilute market concentration, if the conditions in the Merger Guidelines are met. Moreover, if the ACCC is satisfied that actual or potential import competition will provide an effective constraint on domestic suppliers, the ACCC will likely determine that the merger would not result in a substantial lessening of competition. However, this approach does not necessarily assist if the focus is on whether the foreign digital platform *itself* had market power.

Unfortunately, the complexity does not end there if one is seeking to identify the market power of a foreign digital platform. Another issue that remains unresolved relates to a

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88 *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services,* Report of the WTO Disputes Panel, WT/DS285/R, 10 November 2004.

89 "Merger Guidelines", Australian Competition and Consumer Commission, Canberra, November 2008.

proposition made by Singapore Airlines in a submission to the Full Federal Court in 2009. Singapore Airlines submitted that "*if, as is contended by the ACCC, the market is global, not all trade or commerce that occurs within the global market can be regarded as occurring in a market in Australia*".[90] Arlen Duke of the University of Melbourne highlights the resulting complications in applying sections 46 (misuse of market power) and section 47 (exclusive dealing) as follows:[91]

> "As a result, s 46 only applies to businesses that can be said to have a substantial degree of power in a market in Australia. What does that mean when the manufacturer supplies its products in what is most accurately described as a global market? Is it necessary to show that the business is dominant in that part of the market that falls within Australia's borders? Or, will it suffice that the business is dominant in the global market and that the global market includes Australia? Similar questions are raised when it comes to s 47's requirement that the conduct have the purpose, effect or likely effect of substantially lessening competition in a market in Australia. Unfortunately, the courts are only just beginning to work out the answers to these questions and, as a result, the extent of the territorial restraint imposed by the words 'market in Australia' remains unclear." (emphasis added)

Even if this issue were resolved in favour of finding that a foreign digital platform could have substantial market power in a market in Australia by reason of cross-border supply into an Australian market, the jurisdictional requirements of the CCA would still need to be satisfied. While section 47 of the CCA applies to foreign persons supplying to persons in Australia, the ACCC may not otherwise have jurisdiction over that person if they do not fall within the limited extended extra-territoriality contemplated by section 5 of the CCA.

Partly for this reason, the recent Competition Policy Review headed by Professor Ian Harper ("**Harper Competition Review**") has given specific consideration to issues of market definition and extraterritoriality in globalised markets. The Final Report of the Harper Competition Review has recommended that the concept of a 'market in Australia' should be retained, but:[92]

> "…the current definition of competition in section 4 should be amended to ensure that competition in Australian markets includes competition from goods imported or capable of being imported, or from services rendered or capable of being rendered, by persons not resident or not carrying on business in Australia"

The Final Report has also recommended in favour of an extended concept of extra-territoriality in section 5 of the CCA so that the CCA applies to overseas conduct insofar as the conduct relates to trade or commerce within Australia or between Australia and places outside Australia.[93]

If adopted, both recommendations would assist to clarify that 'mode 1' supply is caught by the CCA and within the jurisdiction of the ACCC. The recommendations of the Harper Competition Review would assist to resolve many of the conceptual issues identified above.

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90 *Singapore Airlines Ltd* v *Australian Competition and Consumer Commission* (2009) 260 ALR 244. The Full Federal Court reasoned that it did not need to address the issue and that previous authorities "*do not address the proposition based upon the extra-judicial observations of Heydon J, namely that the Court would apply the Act only to so much of the global market as falls within Australia*".

91 A Duke "The Empire Will Strike Back: The Overlooked Dimension to the Parallel Import Debate" (2014) 37:3 *Melbourne University Law Review* 585.

92 Competition Policy Review, Commonwealth Government of Australia, March 2015.

93 *Ibid.*

(d) Treatment of digital disruption and big data by the Harper Competition Review

The final report of the Harper Competition Policy Review, released on 31 March 2015, has opened the way for deregulation of many Australian industries subject to digital disruption, as well as greater consumer control of personal information to inform purchasing decisions. The review also adopts European and US trends regarding consumer access to big data.

It is clear that the technology sector has been singled out for special attention. The Competition Policy Review Panel – led by eminent economist Professor Ian Harper – was asked to consider whether existing rules adequately addressed competition issues in new technologies and emerging markets, particularly e-commerce.

The terms of reference sought to promote entrepreneurship and innovation, as part of a wide-ranging review into Australian competition law and policy over the previous 12 months. The context to the review, and inherent in the 56 final recommendations, is a desire to reinvigorate competition and bolster Australia's waning productivity.

By addressing the potential deregulation of some industries currently subject to disruption, the panel is seeking to ensure that regulation strikes the right balance between promoting innovation and entrepreneurship, while preserving consumer safeguards and preventing anti-competitive behaviour. The final report of the Competition Policy Review panel concludes:[94]

> "New technologies are 'digitally disrupting' the way many markets operate, the way business is done and the way consumers engage with markets. The challenge for policymakers and regulators is to capture the benefits of digital disruption by ensuring that competition policy, laws and institutions do not unduly obstruct its impact yet still preserve expected safeguards for consumers."

94 Competition Policy Review, Commonwealth Government of Australia, March 2015.

Not only has the Panel focussed on the simplification of Australian competition regulation, it has also focussed on identifying those sectors where existing regulation may be outdated or unjustified.

Of particular interest are the panel's comments on taxi regulation and licensing. The global taxi industry has been one of the most vocal opponents of internet-based disruptive business models over the last 12 months, leading to regulatory and industrial action, and intense lobbying in many countries. While transport is by no means the only sector subject to disruption, it is a sector historically subjected to intense government regulation.

The final report recommends that taxis and ride sharing should be a priority area for regulatory review in Australia. Ride-sharing apps such as Uber, and booking apps such as GoCatch and Ingogo, are each mentioned. The panel expressly comments that the "*longstanding failure to reform taxi regulation has undermined the credibility of governments' commitment to competition policy more broadly*".[95] The final report makes similar observations in relation to other sectors.

The panel also recommends that consumers be given access to their personal information to inform their purchasing decisions. The panel is seeking to efficiently deliver to consumers the detailed information captured by business about their consumption behaviour, empowering consumers to better identify their optimal provider and to confidently exercise their switching choice. The panel refers to its recommendations as "Informed Choice".

Australia's privacy legislation already enables consumers to request their personal information in an ad hoc manner. The essence of the panel's recommendation is a standardised platform for efficient data sharing that provides consumers with relevant, trusted and accurate information. Examples include comparator websites, such as energymadeeasy.com.au and iSelect.com.au. The panel recommends that the proposed new Australian Council for Competition Policy establish a working group that is tasked with developing a partnership agreement.

Interestingly, Informed Choice uses competition policy to justify the sharing of the big data increasingly captured by innovative techniques and applications. The panel's recommendations are novel for Australia, but reflect recent developments in the US and UK.

The US government has established a "Smart Disclosure" agenda to drive the release of public and private sector data to assist consumers in energy, healthcare and finance. The UK Government is similarly promoting "Midata" as a voluntary program between government, businesses, consumer groups, regulators and trade bodies. Such programs seek to leverage modern information technology to stimulate competition and innovation.

In summary, the Harper Competition Review has therefore sought to identify key areas where structural barriers to market entry may impede digital disruption and the deployment of future digital platforms and has recommended reforms. The Harper Competition Review has also sought to promote the greater sharing of 'big data' to facilitate further innovation and the deployment of further disruptive business models, thereby pre-empting the potential hoarding of personal data by other digital platforms. However, when placed side-by-side with the EU's initiative for a Digital Single Market, it is apparent that more can be done to promote technological innovation in Australia and hence more work is required.

95 *Ibid.*

5. Conclusions

The thesis of this paper has been that Australian competition law is striking an appropriate balance between preserving competition and promoting innovation, but continued prioritisation of high technology markets by Australian regulators and policy-makers is justified. While the analysis in this paper demonstrates that this thesis is correct, it is also clear that Australia should have regard to current international developments.

The first chapter of this paper commenced by considering unique competition issues raised by high technology industries with a particular focus on software-driven digital platforms. This paper identified that high technology markets are as susceptible to anti-competitive behaviour as any other markets and, in some areas, particularly so. While high technology industries experience a high rate of innovation and have high levels of R&D, they are also subject to imperfect competition derived from such feature as high sunk costs and high IP-intensity. Co-ordinated behaviour is common, but often requires careful scrutiny given the existence of concentrated markets.

The next part of this paper identified that digital disruption arises from a confluence of enabling high technologies. These technologies have enabled the creation of a digital platform or ecosystem that can be activated at low cost by enabling application software. As a consequence, entrepreneurs can now utilise software to access global markets at a relatively low cost, leading to an intensification of competition and software-based disruption. This disruptive potential is being exaggerated by the ability of digital platforms to process significant information volumes in order to deliver goods and services that are tailored to the personal needs of particular consumers.

The first chapter of this paper concluded by identifying the many unique competition issues arising in the context of software-driven digital platforms, extending well beyond the competition issues faced by high technology industries alone. These competition issues are generally associated with network information economics and include such features as multi-sided markets, network effects, 'winner takes most' tipping, path dependency, high switching costs, interoperability and platform based competition. The nature of these competition issues suggests that digital platforms are highly susceptible to potential anti-competitive behaviour, even though they remain subject to continued third party disruption.

The second chapter of this paper commenced by considering the current trend in the US to give greater weight to considerations of innovation and dynamic competition in antitrust analysis. This trend is affecting case law in the US and has resulted in a greater focus on innovation effects in merger analysis. However, reservations have been expressed regarding the practical ability of greater dynamic effects to be recognised in US antitrust law in circumstances where the underlying economic theory remains in a state of flux. Moreover, the current means of recognising dynamic efficiency considerations requires an analysis of future outcomes, hence raises significant evidential concerns.

The US appears to have been more tolerant of dubious behaviour by digital platforms, particularly where the conduct has occurred within the context of innovations that have delivered substantial welfare gains to US consumers. However, the EU is manifestly less tolerant. The EC's competition case against Google will be one of the most important developments in technology antitrust in 2015 and relates specifically to digital platforms. Many of the competition issues arising in the context of digital platforms identified above are now the subject of active investigation by the EC and may well be tested in litigation.

Meanwhile, the EC is looking to competition law more generally to support its strategy of realising a Digital Single Market. The EC is focussed on reducing private barriers to the realisation of a Digital Single Market caused by anti-competitive conduct. The European Parliament has effectively given the EC a mandate to progress its investigation of alleged anti-competitive behaviour in the context of Internet search. The EC has also launched a formal competition inquiry into e-commerce, focussed on exclusive contracting. The EC will soon undertake an assessment of the role of on-line platforms, focussed on market power.

Bearing all of the above in mind, the last chapter of this paper sought to identify insights for Australia, starting with an analysis of the manner in which dynamic efficiency and innovation are addressed by Australian competition law. Generally, Australia compares favourably with the US and EU. Australia clearly recognises the importance of innovation and dynamic efficiency. Australia recognises the benefits of digital disruption and digital platforms. The ACCC's analysis is sophisticated and discerning, alert to the risk of imperfect competition.

As with the US and EU, Australian innovation and dynamic efficiency issues have been most considered to date in merger analysis. In the ACCC's Merger Guidelines, dynamic competition considerations are considered in a variety of different ways, including temporal market definition, future counterfactual analysis, maverick competition, dynamic market characteristics and efficiencies (including in an authorisation context). However, Australia faces the same evidential difficulties as the US and EU. The process of innovation is highly stochastic, hence analytical processes are bounded by inherent evidential uncertainties.

In the context of globalised markets, Australian courts are still grappling with the potentially complex application of the simple black letter words "market in Australia". Notwithstanding some apparent inconsistencies in judicial analysis, current case law may allow cross-border supply into Australia to be regulated, but there are significant conceptual and jurisdictional complications in regulating foreign digital platforms. The Harper Competition Review has recommended extending the concept of a market in Australia and similarly extending extra-territoriality. If these recommendations are adopted, they will certainly assist.

Finally the Harper Competition Review has sought to identify key areas where structural barriers to market entry may impede digital disruption and the deployment of future digital platforms and has recommended reforms. The Harper Competition Review has also sought to promote the greater sharing of 'big data' to facilitate further innovation and the deployment of further disruptive business models, thereby pre-empting the potential hoarding of personal data by other digital platforms. However, when placed side-by-side with the EU's initiative for a Digital Single Market, it is apparent that more can be done to promote technological innovation in Australia and hence more work is required.

In light of the above, Australian competition law currently does strikes an appropriate balance between preserving competition and promoting innovation. However, continued prioritisation of high technology markets by Australian regulators and policy-makers is justified given the concerns identified in this paper, particularly given current international developments. It is clear that high technology markets are as susceptible to anti-competitive behaviour as any other markets and, in some areas, particularly so.

Ultimately, the vision for the 21st century endorsed by this paper is one in which Australian competition law continues to embrace the winds of Schumpeterian change.