

Synopolies: The use of cryptographic technologies to impede competition in multiple jurisdictions

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Abstract

*"It is not enough to succeed. Others must fail."*¹

Many jurisdictions have developed mature infrastructures, both administratively and legislatively, to promote competition. Substantial funds have been expended to monitor activities that are anticompetitive and many jurisdictions also have adopted a form of "Cartel Leniency Program", first developed by the US Federal Trade Commission, to assist in cartel detection. Further, some jurisdictions are now criminalizing cartel behaviour so that cartel participants can be held criminally liable with substantial custodial penalties imposed. Notwithstanding these multijurisdictional approaches, a new form of possibly anticompetitive behaviour is looming.

Synergistic monopolies (*'synopolies'*) involve not competitors within a horizontal market but complimentors within separate vertical markets. Where two complimentary corporations are monopolists in their own market they can, through various technologies, assist each other to expand their respective monopolies thus creating a barrier to new entrants and/or blocking existing participants from further participation in that market. The nature of the technologies involved means that it is easy for this potentially anti-competitive activity to enter and affect the global marketplace. Competition regulators need to be aware of this potential for abuse and ensure that their respective competition frameworks appropriately address this activity. This paper discusses how new technologies can be used to create a *synopoly*.

Part I – Introduction

Modern technology is rarely developed in a vacuum.² That is, only in exceptional circumstances is a technology developed that is not dependent upon or related to an existing technology.³ More commonly new technology builds on, adds to, or compliments existing technologies. Intellectual property ('IP') laws generally are designed to give legal protection to the development of new technologies. In light of the exponential advancement of digital technologies, copyright laws have been substantially altered in recent time to provide extensive ancillary monopolistic protection through the recognition of technological

¹ Gore Vidal, US author & dramatist (1925 -) as referenced at The Quotations Page (undated) <<http://www.quotationspage.com/quote/164.html>>.

² For a consideration of 30 years of development in the computer industry [from the mid-1960s to 1990s] see – Timothy F. Bresnan and Shane Greenstein, 'Technological Competition and the Structure of the Computer Industry', *The Journal of Industrial Economics*, Volume XLVII, March, 1999, at 1.

³ Leonard I. Nakamura, *Economics and the New Economy: The Invisible Hand Meets Creative Destruction*, Federal Reserve Bank of Philadelphia *Business Review*, July/August (2000) at 21 – referred to by that author as "*leapfrogging competition*."

protection measures ('TPM').⁴ Despite these recent changes to copyright laws and, in view of the ease by which digital materials may be copied,⁵ authors and copyright owners are increasingly looking toward a technological solution to provide additional 'security' for their investment.⁶

In seeking this extra 'security' it is not uncommon for modern technology (which is not limited to information technology but can extend to other forms of technology such as genetically modified foods or chemical compositions) to be packaged in some form of 'black box' structure.⁷ That is whilst the technology's functionality (the 'what' of its workings) is evident, the method of achieving that functionality (the technology design or the 'how' of its workings) is not. For the purpose of this paper, where any technology is packaged in such a way that the details of the technology design is not available (and thus requires some form of reverse engineering⁸ to achieve the same functionality), that technology will be referred to as *black box technology*.⁹

Further, it is not uncommon for complementary organisations to want to link their respective products, which opens up or expands the marketability of each party's product. In the high technology environment the interoperability of the complementary organisations' combined product set may be linked through some *black box technology*.

There has been much academic research undertaken regarding the relationship

⁴ Lucy Craddock and Adrian McCullagh 'Designing Copyright – TPM: A Mutant Digital Copyright' International Journal of Law & Information Technology, (2005) Vol. 13 No. 2, 155.

⁵ *Ibid.*

⁶ For example, Sony's 'access protection' chip. See - *Stevens v Kabushiki Kaisha Sony Computer Entertainment* [2005] HCA 58 (High Court of Australia).

⁷ A 'black box' is commonly understood to be –

(a) *A device or theoretical construct with known or specified performance characteristics but unknown or unspecified constituents and means of operation.*

(b) *Something that is mysterious, especially as to function.*

(undated) <<http://www.answers.com/topic/black-box-theater?cat=biz-fin>>

The most notable black box is the in-flight recorder that is carried by all commercial aircraft. Even though the object is known as a black box it is usually orange or bright red in colour so that it can readily be located.

⁸ See *NEC Corp v. Intel Corp* 10 U.S.P.Q.2d (BNA) 177 (N.D. Cal., 1989) ('NEC Case').

⁹ Other authors have referred to similar technologies as "*technological compatibility constraints*". See Oren Bar-Gill, 'Bundling and Consumer Misconception', *The University of Chicago Law Review*, 73:XX 2006, 1at 2.

between complementary organisations. The research of relevance to this paper is in respect of the concept of co-opetition,¹⁰ whereby competitors both compete and cooperate so as to better provide market penetration for each participant. This paper however expands the concept of co-opetition by considering the legal position of two or more organisations, with a substantial degree of market power in their individual market, which are not necessarily in competition with each other and where each commercialises some technology that is complementary to the other's technology.

Issues relevant to the linking of technology products have previously been considered by the courts. For example, the consequences of illegal bundling and/or tying were thoroughly examined by the European Union ('EU') and United States ('US') in their respective Microsoft cases.¹¹ Whilst the conduct complained of was, *inter alia*, in relation to the failure by Microsoft to appropriately disclose 'interface information' to its competitors, those cases raise separate and unaddressed issues. That is, the structuring of the Microsoft products was such that they, and the interoperability codes, were not separately protected by any *black box technology*. What impact if any would this extra layer of technology protection have meant to the result? Is it possible that the regulators would have failed? Would regulators need to lobby the legislative body to extend/alter the law to ensure that such situations did not arise?

This paper will analyse the potentially anti-competitive impact of *black box technology* when used by complementary organisations to protect their individual

¹⁰ For example see - Adam M. Brandenburger and Barry J. Nalebuff, *Coopetition*, (Currency Doubleday Publishing 1998); Yadong Lao, *Coopetition in International Business*, (Copenhagen Business School Press 2004); Tom R. Eikenbrokk and Dag H. Olsen, 'Co-opetition and e-Business Success in SMEs: An Empirical Investigation of European SMEs', Proceedings of the 38th Hawaii International Conference on System Sciences – 2005; and Giovanna Padula and Giovanni Battista Dagnino, 'On the Nature and Drivers of Coopetition', International Studies in Management and Organization, Forthcoming Available at SSRN: <http://ssrn.com/abstract=791667> (14 March 2008).

¹¹ Commission of the European Communities, *Commission Decision of 24.03.2004 relating to a proceeding under Article 82 of the EC Treaty (Case COMP/C-3/37.792 Microsoft)*, C(2004)900 final (IP/04/382) ('EU Microsoft Case'). <http://ec.europa.eu/comm/competition/antitrust/cases/decisions/37792/en.pdf> (06 March 2008). *US v Microsoft Corp* 87 F Supp 2d 30; 97 F Supp 2d 59 (US District Court for the District of Columbia) <<http://www.dcd.uscourts.gov/opinions/misc/microsoft/ms-final2.pdf>> (9 January 2008). ('US Microsoft Case').

technologies and to further advance the market penetration of the so-called ‘bundled’ product¹² in circumstances where the commercialisation of one product positively impacts on the commercialisation of the other. In this paper such activity is referred to as being ‘*synopolistic*’¹³ and the relationship created is referred to as a ‘*synopoly*’.¹⁴

In 1993 Hammer and Champy identified the three ‘Cs’ that companies must address to progress as ‘*Customers, Competition and Change.*’¹⁵ This paper will consider these three Cs by means of analysing the impact of *black box technology* (‘change’) on the market (‘customers’) and competition frameworks (‘competition’) and in so doing will address whether a *synopoly* is possibly illegal within the US, EU and Australia jurisdictions.¹⁶

The paper commences in Parts II and III with a consideration, albeit brief, of the underlying economics and strategies that support the need for the creation of new technologies and business methods.¹⁷ Part IV then identifies a technology that could be used to create a *synopoly*;¹⁸ and Part V reviews relevant IP laws, focussing mainly on copyright laws. Part VI considers the behaviours by which *synopolies* are created and Part VII then establishes the framework for a *synopoly*. Part VIII considers relevant competition laws and policies and how these are impacted by *synopolies*. That is, a legal analysis is undertaken so as to determine if such activity is illegal and under what circumstances it may be so. The results of this paper will provide details of the characteristics of a *synopoly* and a structural

¹² The authors are not referring to ‘bundled’ products in the traditional sense, where one producer joins together two or more products it only has created. The ‘bundling’ referred to in this paper is the product of a *synopoly* – where two or more organisations have created the underlying products.

¹³ This term was first coined by Dr. Adrian McCullagh through various discussions between the authors.

¹⁴ Refer to the discussion at Parts VI and VII.

¹⁵ Michael Hammer and James Champy, *Reengineering the Corporation: A Manifesto for Business Revolution*, (Nicholas Brealey Publishing Limited 1994), at 17.

¹⁶ It is beyond the scope of this paper to extrapolate the economics that may be involved in the possible affects of *synopolistic* behaviour though the authors intend to develop some material that will be investigated and reported on in further papers covering this area. In particular, the authors are intending to investigate under what possible circumstances such activity should be accepted within a market and how regulators can better monitor such activity and address such activity if it does have an anticompetitive effect as compared to any economic benefits that may arise.

¹⁷ An in-depth consideration of these areas is beyond the scope of this paper.

¹⁸ A detailed technical analysis of the *black box technologies* that could be used to create a *synopoly* is beyond the scope of this paper and is proposed to be addressed by the authors in a subsequent paper.

example of what a *synopoly* could look like.¹⁹

This paper does not seek to offer solutions to synopolies, as this requires further investigation of both legal and economic issues and a consideration of other possible *synopolistic* structures. rather this paper seeks to open the dialogue for regulatory consideration. This paper concludes in Part IX with suggestions as to what further research is required and how regulators may work toward addressing the issue of *synopolistic* behaviour. Due to constraints as to size, this paper assumes a basic understanding of economics; IP laws; jurisdiction;²⁰ and antitrust law and policy.

Part II – The Economic Perspective

‘High technology industries’ are arguably central to the world economy²¹ as without the advancement of technology the economic benefits most western societies have seen would not have eventuated.²² Schumpeter developed an economic theory, which, simplistically, provides that creativity is a principal influencer in a modern economy and that profits are an essential aspect that fuels creativity.²³ Essentially, Schumpeter argued that in a capitalistic environment rewards change by allowing those who create new products and processes to capture some benefits of their creations in the form of short term monopolies.²⁴ It is generally understood that the adoption of new technologies, which provide new commodities, depend

¹⁹ The authors will consider other possible *synopolistic* structures in a later paper.

²⁰ For a recent consideration of the term of “jurisdiction” see - Steve Coughlan, Robert J. Currie, Hugh M. Kindred and Teresa Scassa, ‘Global Reach, Local Grasp: Constructing Extraterritorial Jurisdiction in the Age of Globalization’ Report prepared for the Law Commission of Canada, June 23, 2006, at 4 <<http://www.library.dal.ca/law/Guides/FacultyPubs/Joint/GlobalReachFinal.pdf>> (26 August 2006).

²¹ Nicholas Economides, ‘Public Policy in Network Industries’, New York University School of Law, New York University Law and Economics Working Papers, Year 2006, Paper 78, at 4.

²² Nakamura *supra* note 3. Joseph E. Stiglitz, Daniel McFadden and Sam Peltzmann, ‘Technological Change, Sunk Costs and Competition’, Brookings Papers on Economic Activity, V.1987, No.3, ‘Special Issue on Micro-economics’, 1987, 883-947.

²³ Joseph A. Schumpeter, *Capitalism, Socialism and Democracy*, (Harper, New York, 1942).

²⁴ See also Joseph Stiglitz, *Technological Change, Sunk Costs and Competition*, Brookings Papers on Economic Activity, Vol 1987, No.3, Special Issue on Micro Economics, (1987), 883-947, at 884.

upon whether those new commodities provide a benefit that exceeds their cost.²⁵ That is, if the benefit obtained from the use of the new technology exceeds its costs, then consumers are willing to acquire the new technology.

Of consideration for technology developers is the cost and ease to industry/consumers of the adoption of new technologies.²⁶ It is important for developers of new technologies to note that this cost includes both the actual acquisition costs of the technology itself and post-acquisition costs. Post-acquisition costs may, for example in the acquisition of new Information Technology('IT'), include such items as the cost of data migration to the new IT system; the adoption of a new procedures, and, in the case of a business, the cost of educating both employees and customers in the use of the new IT system.

Whilst post-acquisition costs may be classed as indirect costs, as they may not involve the outlay of funds to the supplier,²⁷ it is not unusual for the post-acquisition costs to greatly exceed the acquisition cost and thus factor against the adoption of the new IT. Alternatively, once the IT system has been implemented, the 'capturing' of the client can be achieved due to the substantial sunk costs invested in that system. That is, some consumers are reluctant to migrate to a new IT system because they have expended substantial funds in their existing system, which makes it uneconomic for them to change to a new IT system. This was highlighted during the Y2K period where it was identified that, despite the technology available, there existed a substantial number of legacy systems that still operated archaic computer languages such as COBOL.²⁸

Markets involving technology include both goods or services and substitutes for those

²⁵ Vincent H. Smith, *The Economic of Technology*, Monograph Series of the Liberal Arts Program, Research Foundation of the State University of New York, 1990, at 4. <<http://www.math.dartmouth.edu/~mqed/NLA/EconomTech/EconomTech.phtml>> (16 March 2008).

²⁶ For a consideration of the affects of 'switching costs' on consumer behaviour see – Iain Ramsey, *Consumer Law and Policy* (2nd Ed, Hart Publishing, Oxford and Portland, Oregon, 2007) at 7.

²⁷ Which may also be referred to as "implicit costs", see – Smith *supra* note 25 at 3.

²⁸ During the 1990s due to its out datedness, and despite its continued use by some businesses, it was identified that there was a scarcity of *Cobol* programmers to undertaken some of the rectification work for Y2K.

goods or services.²⁹ The availability of substitutes is a concern by itself for developers as, when organisations embark upon a research and development ('R&D') program for a new improved technology, there is the possibility that a solution will not be found or, if found, that the solution (the new technology) will not be adopted by the market in lieu of one of the existing technologies.³⁰ An organisation embarking upon a R&D project therefore, in order to justify the project, will try to predict that a favourable result/solution will be found and also will try to predict the economic benefits that can be attained if a successful solution is found.³¹

If it is possible to better determine these factors then organisations are better placed to determine whether or not to undertake the R&D in the first place. As will be discussed below, some of the guesswork usually associated with the development and launch of new technologies can, as a result of *synopolistic* behaviour, be substantially reduced and thus give the providers of the new technology a better chance of success. This success however, as is discussed below, can come at a greater hidden price to the consumers of the new technology.

Another issue for the developer of new technologies is that the benefits derived from their introduction usually lag substantially behind the incurring of R& D costs.³² If it is possible to reduce the timeframe between the incurring of the costs and the reaping of benefits, then an organisation is more likely to undertake R&D in the first place. One of the factors that may delay the reaping of benefits is whether the developer has to convince the market of the product's benefits before it is able to sell the product. Is there a market for the product³³ or

²⁹ US Department of Justice and US Federal Trade Commission, 'Antitrust Guidelines for the Licensing of Intellectual Property', April 1995 ('US Antitrust Guidelines') at 8. Although, arguably, not all substitutes are 'perfect' see – Stiglitz *supra* note 24 at 916.

³⁰ Jimme A. Kei and Jan-Peter Vos, 'Diagnosing Risks in New Product Development', Eindhoven Centre for Innovation Studies, The Netherlands, Working Paper 03.11.

³¹ Smith *supra* note 25 at 9.

³² Smith *supra* note 25.

³³ For a discussion of issues relevant to product development because of the lack of a market see – Susumu Ogawa and Frank T. Piller, 'Reducing the Risks of New Product Development', *Management of Technology and Innovation*, Winter 2006, Vol. 47, No. 2, 65-71.

is an awareness campaign required or other expenditure of funds, i.e. by means of an investment in capital, required? Morse, for example, had to make substantial outlays in terms of time, effort and construction of a wire network for the introduction of the telegraph before a single dollar could be recouped.³⁴ Any arrangement whereby limited marketing was required could reduce the time between the incurring of R&D costs and the reaping of benefits.

Nakamura³⁵ identified that monopoly profits create a means for entrepreneurs to:

- (a) fund creative activities in response to perceived opportunities;
- (b) override the natural conservatism of other parties who must cooperate with the new product's launch as well as the opposition of those whose markets may be harmed by the new product; and
- (c) widen and deepen sales networks so that new products are quickly made known to a large number of customers.

If, as considered below, a *synopolistic* product offers better interoperability between its component products than a non-*synopolistic* one, such that the post-acquisition cost to consumers is substantially reduced, this could influence consumers to transfer to the *synopolistic* product and thus increase monopoly profits to those developers. From a developer's perspective, a *synopolistic* product can offer greater public awareness for reduced marketing costs and a reduction in the time a developer has to wait after incurring R&D costs to recoup profit.

Further, if the developers of *synopolistic* products have captured the market, then switching to new IT may require the consumer to replace two or more products as opposed to a single product. Due to the extra sunk costs involved with the initial acquisition of multiple

³⁴ Smith *supra* note 25 at 9.

³⁵ Nakamura *supra* note 3.

products, the consumer may be economically captured and thus less likely to adopt any new products. Therefore whilst a *synopoly* could offer economic benefits to both developers and consumers, there may be a detriment to consumers in that sunk costs are increased.

Part III – The Strategic Perspective

In 1994 Hammer and Champy defined, clarified and systemized³⁶ the process of reengineering corporations. They identified that the way forward for companies was essentially internal restructuring supported by developing and maintaining efficient and effective external relations with their suppliers.³⁷ At the same time various authors were exploring the need for corporations to both compete and cooperate with their competitors in order to succeed,³⁸ such behaviour being termed ‘coopetition’.³⁹ The need for the establishment of global business alliances in response to the changing business environment and client expectation also was identified⁴⁰ and new organizational structures were established which relied on a high degree of external collaboration.⁴¹

Despite other industries’ methods of operation, in the IT field at least, the practice of working external collaboration to ensure future prosperity and growth has been used since the early 1970s when the Intel Corporation began working collaboratively with its clients to develop products incorporating Intel processors.⁴² Intel since has developed long standing relationships built on years of working together with clients; and the trust and understanding that arises from such relationships.⁴³

³⁶ Hammer and Champy *supra* note 15 at 217 – the authors themselves declined to be credited with inventing reengineering, stating that “*At most, we discovered it, which is altogether different.*”

³⁷ Hammer and Champy *supra* note 15 at 136 – 43; 60-61; and 90.

³⁸ Brandenburger and Nalebuff *supra* note 10.

³⁹ It is acknowledged that there is no fixed definition of ‘coopetition’ see – Padula and Dagnino *supra* note 10.

⁴⁰ Robert Bruce Shaw, *Trust in the Balance*, (Jossey-Bass Inc., 1997) at 6.

⁴¹ Shaw *supra* note 40.

⁴² David Yoffie, *Intel Capital, 2005 (A)*, Harvard Business School Cases, No. 705-408 (<http://www.hbsp.harvard.edu>) (20 March 2006).

⁴³ Although AMD alleges now that these relationships were in fact built on bullying and coercion. See - *Advanced Micro Devices, Inc and Anor v Intel Corporation and Anor* Civil Action No.05-441-JJF, United States

However, with the increasing globalization of world markets,⁴⁴ in order to both survive and to compete effectively,⁴⁵ a corporation's historical strength and relationships may no longer be an advantage. Corporations must build new alliances and find new strengths in order to beat emerging threats and to take advantage of opportunities.⁴⁶ It is suggested that this means more than just effective internal operations and cooperative behaviour. It means the strategic use of IT itself, in particular the optimisation of strategic alliances⁴⁷ by means of the bundling of goods and services⁴⁸ and licensing of products⁴⁹ to enable corporations to take advantage of both existing and potential markets.

Over a decade ago it was realised that developments in technology would break existing and yet-to-be-established business conduct rules⁵⁰ and subsequently there was recognised that a confrontation existed between IP rights and competition demands.⁵¹ It is imperative that competition regulators continue to be concerned as, supported by the protections offered by the various IP laws⁵² and the difficulties of appropriate contract drafting,⁵³ IT's ability to manipulate markets through the use of *black box technologies* is a real and present danger to the antitrust framework. This is particularly so in view of the cut-

District Court for the District of Delaware ('AMD v Intel Complaint') <http://www.amd.com/us-en/assets/content_type/DownloadableAssets/AMD-Intel_Full_Complaint.pdf> (27 March 2006).

⁴⁴ For example see - Paul Schiff Berman, 'From International Law to Law and Globalization', Columbia Journal Transnational Law, 43:485 at 530.

⁴⁵ As Macey discussed, technological change is one of the factors that has "...increased global competition by making it easier for distant companies to compete with local businesses.". See Jonathan R. Macey, 'Regulatory Globalization as a Response to Regulatory Competition', Emory Law Journal, Vol 52. 2003, 1353 at 1355.

⁴⁶ Shaw *supra* note 40 at 3.

⁴⁷ Thomas M. Jorde and David J. Teece, 'Innovation, Dynamic Competition, and Antitrust Policy', Regulation Magazine (2006) 12(3) at 6 (<http://www.cato.org/pubs/regulation/regv13n3/reg13n3-jorde.html>) (3 January 2006).

⁴⁸ Barry J. Nalebuff, 'Bundling as a Way to Leverage Monopoly', Yale SOM Working Paper No. ES-36. (2004) (<http://ssrn.com/abstract=586648>) (22 May 2008).

⁴⁹ US Antitrust Guidelines *supra* note 29 at 5.

⁵⁰ Hammer and Champy *supra* note 15 at 99.

⁵¹ John H. Barton, 'Competition and Competitive Uses of Intellectual Property', Stanford Technology Law Review (1999) at [8] (http://stlr.stanford.edu/STLR/Symposia/Antitrust/99_VS_1/articles_txt.txt) (11 October 2004).

⁵² Copyright Amendment (Digital Agenda) Act 2000 (Aust); Digital Millennium Copyright Act of 1998, Pub. L. No. 105-304, 112 Stat. 2860 (US).

⁵³ Brandenburger and Nalebuff *supra* note 10.

throat nature of IT markets.⁵⁴ Whilst competition laws address matters such as third-line forcing⁵⁵ and non-horizontal mergers;⁵⁶ *synopolistic* conduct could cause problems for competition authorities as it appears not to be addressed by the existing regimes.

Part IV – Black Box Technology

*"Technological progress has merely provided us with more efficient means for going backwards."*⁵⁷

Most commercial software is not commercialised by way of the source code the application is written in, but is only commercialised via the object code that is derived from the original source code.⁵⁸ The object code is one form of *black box technology* as, generally, the lay person, or non-technical person, is not in a position to reverse engineer the object code so as to derive in human readable form the full functionality of the particular application.

In dealing with software, it is possible to understand the functionality of a product simply by using the software and documenting what happens when certain commands are used. This however will not necessarily expose how the software actually works, that is it will not reveal the special features embedded in the software that make it work efficiently and effectively. These aspects are hidden from the consumer and require the application of some reverse engineering processes to understand how the software actually operates.

The same is true of computer chips or integrated circuits. The latest chip designs have many million instruction sets embedded in them. These instructions sets are the core to the functionality of the modern integrated circuit and yet are hidden from the eye or inquisitive

⁵⁴ Andrew Stewart, *Information security technologies as a commodity input*, Information Management & Computer Security Vol. 13 No. 1, 2005 pp. 5-15, at p. 14 <<http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published/EmeraldFullTextArticle/Pdf/0460130101.pdf>> (22 January 2007).

⁵⁵ In Australia this is a *per se* breach – see Sections 47(6) & (7) *Trade Practices Act 1974* (Aust).

⁵⁶ For example see the US Department of Justice, *Non-horizontal Merger Guidelines* <<http://www.usdoj.gov/atr/public/guidelines/2614.pdf>> (22 May 2008).

⁵⁷ Aldous Huxley (1894-1963) novelist <http://www.brainyquote.com/quotes/quotes/a/aldoushux1101185.html> (16 March 2008).

⁵⁸ This has changed due to the increasing usage of open source code and other forms of open technologies.

mind. In the NEC case⁵⁹ for example the structure of the instruction set for the Intel designed 8086 and 8088 chips was embedded in the silicone chips itself. The only way for NEC to better understand how the Intel chips operated was for NEC to reverse engineer the chips.⁶⁰

An essential feature of *black box technology* is that the consumer relies principally upon ‘layman’s trust’,⁶¹ that is that the technology will work as it should to achieve the consumers’ desired outcome (i.e. a printed letter) without the consumer knowing or understanding exactly ‘why this is so’.⁶² Sometimes the software is protected by patents but more commonly developers rely on copyright protection to prevent the unauthorised duplication of their code.

Part V – Intellectual Property Laws

Increasing globalization and the ease of disseminating information over the Internet means that IT has become more important for corporations in both their internal and external activities⁶³ and as a means of property in its own right under IP laws. Due to the ease of use of IT, the need to protect IP rights, whether digital or otherwise, correspondingly is highly important.⁶⁴

The grant of a patent gives to the patent owner a legal monopoly,⁶⁵ which enables him

⁵⁹ NEC Case.

⁶⁰ An interesting aspect of the NEC Case was that NEC used clean reverse engineering to achieve their goal. This approach involves one team of investigators who analyse the functionality of the target of evaluation so as to define a functional specification; and a second independent team who uses the functional specification to build the relevant ‘cloned’ technology. In the NEC Case the ‘cloned’ technology was a new computer chip that performed exactly the same functions as the INTEL 8086 and 8088 computer chip.

⁶¹ Anthony Giddens, *The Consequences of Modernity*, (Stanford University Press 1990).

⁶² This is borrowed from the great 20th century physicist Professor Julius Sumner Miller who frequently used this phrase.

⁶³ For a recent discussion of issues relevant to globalization and intellectual property protection in relation to technology standards see – Christopher S. Gibson, ‘Globalization and the Technology Standards Game: Balancing Concerns of Protectionism and Intellectual Property in International Standards’, Suffolk University Law School, Suffolk University Law School Faculty Publications, Year 2007, Paper 43 (<http://lsr.nellco.org/suffolk/fp/papers/43>) (14 December, 2007).

⁶⁴ Kamil Idris, *Opening Address*, WIPO Conference on the International Patent System, March 25 – 27 March, 2002 at 1.

⁶⁵ Mathias Strasser, ‘A New Paradigm in Intellectual Property Law? The Case Against Open Sources’ (2001) *Stan. Tech. L. Rev.* 4 at p 12.

or her to charge monopoly prices, resulting in a transfer of wealth from consumers to the patent owner. The patent system seeks to maintain the balance between rewarding the inventor and public interest⁶⁶ by providing to the inventor a monopoly over the invention for a limited period of time only, in return for public disclosure of the invention.⁶⁷

Arguably this legalised monopoly is justified as a fair return for endeavour as the process of obtaining patent rights is uncertain, as it is both lengthy and subject to challenge. Whilst limitations on patent holders' rights are imposed both by domestic laws and international treaties,⁶⁸ patents still may affect competition as they impose "*limits on competition.*"⁶⁹ However, the fact of ownership and enforcement of patent rights does not by itself either establish monopoly power⁷⁰ or evidence unfair competition.⁷¹

Patent rights are particularly relevant for the protection of drugs and genetically modified plants. On the other hand, it is suggested that copyright is more appropriate to use for the protection of digital technologies, particularly software, for as soon as a 'work'⁷² is created, the 'work' has the benefit of copyright's protection without the need for the creator to do anything further to gain that protection.⁷³ Further, modern copyright law has an added advantage over patent law as, in addition to protecting against direct infringement of a work,⁷⁴

⁶⁶ Intellectual Property and Competition Review Committee, 'Review of intellectual property legislation under the Competition Principles Agreement - Final Report of September 2000', at 134. <<http://www.ipaustralia.gov.au/pdfs/ipcr/finalreport.pdf>> (22 May 2008).

⁶⁷ Section 40(2)(a) *Patent Act 1990* (Cth).

⁶⁸ Aura Soininen, 'The Software and Business-Method Patent Ecosystem: Academic, Political, Legal and Business Developments in the U.S. and Europe' *IPR University Center Publications*, IPR Series B, No 1/2005 at 16.

⁶⁹ Derek Bambauer, 'Legal Responses to the Challenges of Sports Patents', *Harvard Journal of Law & Technology*, (Spring 2005) Vol. 18, No. 2, 401 at 432.

⁷⁰ *Illinois Toolworks, Inc., v Independent Ink, Inc.*, 547 U.S., 28, 42-43 (2006).

⁷¹ *General Cellulose Co. v Whitestone Products Co.* (1956, DC NY) 20 FRD 101, 112 USPQ 102.

⁷² In Australia as defined by Section 4 of the *Copyright Act 1968*.

⁷³ *The Berne Convention for the Protection of Literary and Artistic Works of 1886* (as amended) provides that copyright exists in literary and artistic works (i.e. music) as soon as the work is created.

⁷⁴ Adam Mossoff, 'What Is Property? Putting The Pieces Back Together', *Arizona Law Review* 2003, Vol. 45:371 at 427.

it provides specific protections to digital works.⁷⁵ The discussion of *synopolies* therefore will focus on copyright protection.⁷⁶

Mossoff argues that the law should both recognize that the continuing evolution of technology results in changes to the “... *uses of ... property...*” and “...*continue protecting the fundamental possessory rights of the property holder.*”⁷⁷ In recent years copyright laws were amended such that, in addition to protecting against infringing copies, protection was given to *technological protection measures* (‘TPM’).⁷⁸ The new copyright laws’ purpose was to combat the easy and illegal distribution of copyright material over the Internet.⁷⁹ These amendments however have been subject to criticism as some argue that it has led to an inappropriate broadening of copyright.⁸⁰

The challenge facing the owner of a digital work is that due to its very nature it is easy to duplicate and, as a copy does not suffer any loss of quality as a result of the copying process, is indistinguishable from the original.⁸¹ Protection for digital works was provided by WIPO’s⁸² Copyright Treaty (‘WCT’),⁸³ which reserved certain rights to the copyright owner⁸⁴

⁷⁵ The authors note industry’s concerns that these measures may have side effects, for example see – Telford Tendys, *Submission to the Digital Agenda Review (2003) – Circumvention Devices, Technical Protection Measures and Management Information*, September 2003, at 1 and 9. (http://www.phillipsfox.com/whats_on/Australia/DigitalAgenda/DigitalAgenda.asp) (2 February 2004). Other than in respect of the possible creation of a *synopoly*, such matters are beyond the scope of this paper.

⁷⁶ For those interested in a recent discussion of issues relevant to patents and antitrust see – Nicholas Economides and William N. Herbert, ‘Patents and Antitrust: Application to Adjacent Markets’, New York University School of Law, New York University Law and Economics Working Papers, Year 2007, paper 107 <<http://lsr.nellco.org/nyu/lewp/papers/107>> (14 December 2007).

⁷⁷ Mossoff *supra* note 74 at 426.

⁷⁸ For example as defined in Australia by Section 10(1) *Copyright Act 1968* (Cth). Briefly a *TPM* is a device, product or component incorporated into a process that in the ordinary course of its operation prevents or inhibits the infringement of copyright in, or in some cases access to, a ‘work’ or other subject-matter.

⁷⁹ Frank Ahrens, ‘Digital copyright law can trip up manufacturers’, *The Washington Post on Redding.com*, 17 November 2003; Commonwealth Government Discussion Paper: Copyright Reform and the Digital Agenda, July 1997 at 4.

⁸⁰ Robin Wright, *Response to Digital Agenda Review*, 26 September 2003, at 1 (http://www.phillipsfox.com/whats_on/Australia/DigitalAgenda/DigitalAgenda.asp) (2 February 2004); and see Cradduck and McCullagh *supra* note 4.

⁸¹ See Cradduck and McCullagh *supra* note 4 at 165 “...*digitized material is that it comprises “bits” which are represented as “0”s and “1”s by computers. The reproduction of these “0”s and “1”s results in a copy that is completely indistinguishable from the so-called original.*” Also see – Kevin Zhu and Bryan MacQuarrie, ‘The Economics of Digital Bundling: The Impact of Digitization and Bundling on the Music Industry’, *Communications of the ACM*, September 2003 / Vol. 46, No. 9ve, 265.

⁸² *The World Intellectual Property Organization.*

and makes it a breach of copyright for a third party to exercise those reserved rights without the copyright owner's permission.⁸⁵

The WCT is not prescriptive in that, in recognizing there are various possible approaches to protect digital materials, it left power to determine the exact nature of the protection granted by each Member State with the relevant State.⁸⁶ The WCT was implemented in the US in 1998;⁸⁷ in Australia in 2000⁸⁸ and in the EU in 2001.⁸⁹ Key provisions of the new copyright laws are that they provide protection to TPM⁹⁰ by prohibiting the 'distribution' and, in some jurisdictions, the use of 'circumvention devices'.⁹¹ The legislative definition of TPM also can extend to cover both devices that protect against unauthorised copying and devices that protect against unauthorised access or use.⁹² The protection provided by copyright laws is however limited by certain exceptions regarding interoperability requirements.⁹³

The protection granted by copyright law has long been linked to market creation and power in that by granting its protection, copyright assists in creating markets for the works of

⁸³ WIPO, *Diplomatic Conference on Certain Copyright and Neighboring Rights Questions*, Geneva, December 2 to 20, 1996.

⁸⁴ The WCT updated the Berne Convention regarding digital works - "*authors...shall enjoy the exclusive right of authorizing any communication to the public...by wire or wireless means, including the making available to the public of their works in such a way that...the public may access these works from a place and at a time individually chosen by them.*" - See Articles 6(1) and 8.

⁸⁵ William W. Fisher, '*Digital Music: Problems and Possibilities*', Harvard Law School's Berkman Centre for Internet and Society, October 10, 2000.

⁸⁶ Fernando Zapata López, *The Right of Reproduction, Publishing Contracts and Technological Protection Measures in the Digital Environment*, Copyright Bulletin, Vol. XXXVI, No. 3, July-September 2002, 11.

⁸⁷ *Digital Millennium Copyright Act of 1998*, Pub. L. No. 105-304, 112 Stat. 2860 (US) ('DMCA').

⁸⁸ *Copyright Amendment (Digital Agenda) Act 2000* (Aust).

⁸⁹ European Union Directive on *The Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society* (Directive 2001/29/EC) ('Copyright Directive').

⁹⁰ For a more detailed consideration of the insidious nature of TPM and their ability to inappropriately control copyright - Craddock and McCullagh *supra* note 4.

⁹¹ *Id.* Section 116A.

⁹² For example, the Australian TPM protection provisions were amended as a consequence of the US-Aust Free Trade Agreement which required Australia also to give protection to access control provisions - see Section 116N *Copyright Act 1968* (1) '*An owner or exclusive licensee of the copyright in a work or other subject-matter may bring an action against a person if: (a) the work or other subject-matter is protected by an access control technological protection measure; and (b) the person does an act that results in the circumvention of the access control technological protection measure; and (c) the person knows, or ought reasonably to know, that the act would have that result.*'

⁹³ For example see - DMCA 17 USCS § 1201 (f) re computer programs.

authors.⁹⁴ Mossoff argues, “...the copyright holder should have the right to dictate and control the use of his property, regardless of the purpose for or manner in which it is used by third parties.”⁹⁵ In acting to protect copyright a copyright owner can influence market operations.⁹⁶ Copyright’s impact on markets arguably has changed with the advent of digital technologies, with some authors suggesting that it now influences market economics.⁹⁷

However, whilst Sterling asserts, economics may provide the answer⁹⁸ regarding the appropriateness of copyright’s protection⁹⁹ testing the impact of TPMs on markets ultimately requires a legal, not an economic, interpretation. The starting point being that the protections granted by copyright laws do not necessarily limit the application of competition laws.¹⁰⁰

Part VI – What Is A *Synopoly*?

Whilst competition regulators are attuned to detecting collusive conduct, i.e. cartels; and are fully conversant of restrictive covenants that are generally designed to have some anticompetitive affect,¹⁰¹ a *synopoly* is far more subtle and thus, it is suggested, could readily escape the competition regulators’ attention entirely or not come to their attention until some substantial harm has already occurred in the relevant market.

Instead of solely using some contract, arrangement or understanding between various competitors or in a supply chain environment, a *synopoly* achieves a similar result through the

⁹⁴ Paul Geller, *Toward an overriding norm in copyright: sign wealth*, Paul Geller’s Home Page, 1994 at 4 ; and Mark Rose, *Authors and Owners: The Invention of Copyright*, 71-84 (1993) referred to in Paul Geller, *Toward an overriding norm in copyright: sign wealth*, Paul Geller’s Home Page, 1994 at footnote 22 (<http://www-ref.usc.edu/~pgeller/norm.htm>) (9 February 2004).

⁹⁵ Mossoff *supra* note 74 at 427.

⁹⁶ López *supra* note 86 at 8.

⁹⁷ López *supra* note 86 at 8.

⁹⁸ J. A. L. Sterling, *World Copyright Law*, (Sweet & Maxwell, 1999) at p 57; Wright *supra* note 80 at 5.

⁹⁹ Elouise Dellit, and Christopher N. Kendall, *Technological Protection Measures and Fair Dealing: Maintaining the Balance Between Copyright Protection and the Right to Access Information*, Digital Technology Law Journal, Vol 4 No 1, 2003 at p8 (http://wwwlaw.murdoch.edu.au/dtlj/2003/vol4_1/dellitkendall.pdf) (accessed 22/1/2004); Sherif El-Kassas, *Study on the Protection of Unoriginal Databases*, WIPO Standing Committee on Copyright and Related Rights Seventh Session, Geneva, May 13 – 17 2002, at 2 (http://www.wipo.int/documents/en/meetings/2002/sccr/doc/sccr7_3.doc) (19 September 2004).

¹⁰⁰ For example see – *Chamberlain Group, Inc. v Skylink Technologies, Inc.* 381 F3d 1178 (Fed. Cir. 2004); Case 262/81 *Cotidel v Cine-Vog* [1982] ECR 3381.

¹⁰¹ See for example S 47 of the *Trade Practices Act 1974* (Cth).

technological design of two or more products from different markets or sub-markets, such that the products operate more efficiently or synergistically together than they do separately; and agreements in respect of IP rights. As considered below, it is not that consumers are forced to buy any or all *synopoly* components; nor that those *synopoly* components will not work with non-*synopoly* products it is simply that *synopoly* components work more effectively and efficiently with other *synopoly* components.

For the purpose of this paper a *synopoly* is established when:

- a) two or more organisations are not in competition with each other; and
- b) each organisation has market dominance or substantial market power for their product or service set within a given market; and
- c) each organisation's product is complementary to the products of the other organisation/s; and
- d) by their respective cooperative effort the aggregate of the combined product set achieves synergistic market dominance when compared to the sum of the individual product sets.

Connecting products together is not new and is referred to by antitrust law as either the 'tying'¹⁰² or 'bundling'¹⁰³ of products. These practices, simplistically, are concerned with a party seeking to leverage its market power from one market into another market.¹⁰⁴ A

¹⁰² For example see – Alain Egli, 'On Holders, Blades and Other Tie-In Sales', University of Bern, Department of Economics, Discussion Papers, July 2004 ([http:// ideas/repec.org/p/ube/dpvwib/dpo417.html](http://ideas.repec.org/p/ube/dpvwib/dpo417.html)) (24 October 2005); Stephen Coronos, 'Technological Tying in the Computer Industry: When Does it Contravene s 46 of the Trade Practices Act?' QUT Law and Justice Journal (2003) Vol 3, No. 1; and Alian Egli, 'On Stability in Competition: Tying and Horizontal Product Differentiation', University of Bern, Faculty of Economics and Social Sciences, Department of Economics, Discussion Papers, January 2005 ([http:// ideas/repec.org/p/ube/dpvwib/dpo501.html](http://ideas.repec.org/p/ube/dpvwib/dpo501.html)) (24 October 2005).

¹⁰³ For definitions and examples, as well as a consideration of 'bundling' cases in the US and Europe, see – Ian Wylie, 'When is bundling illegal in Australia under S46 of 47 of the Trade Practices Act 1974 (Cth)?', (2005) 33 ABLR 190, 1902-192. Also see – William James Adams and Janet L. Yellan, 'Commodity Bundling and the Burden of Monopoly', The Quarterly Journal of Economics, Vol. 90, No. 3 (Aug., 1976), 475; and Hamming Feng and Peter Norman, 'To Bundle or Not to Bundle,' Micro Theory Working Papers norman-05-06-10-08-19-02, Microeconomics.ca Website, revised (<http://ideas.repec.org/p/ubc/pmicro/norman-05-06-10-08-19-02.html>) (24 October 2005). For a consideration of bundling in a competitive market see – Bar-Gill *supra* note 9.

¹⁰⁴ Nalebuff *supra* note 48.

synopoly however is neither a traditional bundling nor tying of goods.

Firstly, each *synopoly* component is owned by a separate entity and may only be bought separately. Secondly, whilst as part of a R&D agreement limited IP licences may be granted by each *synopoly* participant to other participants to ensure the interoperability code is effective, the *synopoly* participants do not prevent their components from working with other products, nor are their product's performance with those other products in anyway diminished from previous performance with those products. It is just that one *synopoly* component performs better with other *synopoly* components than it does with non-*synopoly* products. Thirdly, the owner of *synopoly* component seeks to protect their IP by means of the use of a TPM, or other *black box technology*, and not by restrictive licensing covenants with consumers.

The issue with *synopolies* is that, through the use of *black box technologies*, it may be possible to extend the period by which organisations can maintain this monopolistic effect. The effect of *synopolies* on the creation and maintenance of a monopoly is that:

- (a) the *synopolistic* product may in a shorter period to be quickly known by a large proportion of the consumers within the 'combined' market. There is no need therefore to embark upon a market awareness program as it is likely that the market is already familiar with each product set;
- (b) the consumers within the 'combined' market may be more likely to see an advantage in the *synopolistic* solution than in separate approaches to each type of technology; and
- (c) the likely end result is an increase in productivity for each *synopoly* participant.

From the consumers perspective products that work better together will be more likely to reduce the post-acquisition costs to consumers thus making the *synopolistic* product

more attractive.

Possible negative effects include 1. if a consumer only wants to acquire one component from the *synopoly* product package the consumer may find that its completed package, with only one *synopoly* product, works less efficiently than the technology it has replaced; or 2. the true sunk costs of the *synopoly* product will may not be known/realised until a consumer seeks to replace one *synopoly* component only and finds that, as the new component will not work as efficiently as the consumer needs it to unless all *synopoly* components are replaced, the consumer is not able to afford the cost of full component replacement.

Part VII – Example Of A *Synopoly*

This paper will consider a *synopoly* in respect of certain computer component markets. The fact that there may or may not be a separate market¹⁰⁵ for the end product, being a completed computer¹⁰⁶ will not affect the legal considerations detailed in this paper. For the purpose of simplicity,¹⁰⁷ it is assumed that there are only three component parts to a computer – the hardware (integrated circuit), operating system, and software (application programmes), each with a separate market.

The assumption is made that without hardware, the operating system is not required, and without the operating system software is not required, such that:

- the hardware enables the operating system; and
- the hardware and the operating system enable the software application.

Further the assumption is made that each company operates in one market only such that the relevant markets for this scenario can be represented in the following table:

¹⁰⁵ By this the authors mean market in the sense required by antitrust laws.

¹⁰⁶ For issues relevant to whether a tied product is a new product or multiple products packaged together (i.e. one product or more) see – *Jefferson Parish Hospital District No 2 v Hyde* 466 U.S. 2 (1984) 21-22.

¹⁰⁷ This is obviously a very simplistic position, as a ‘completed computer’ is a more involved product.

Hardware market

Company	Product	Mkt share
1	HC ₁	5%
2	HC ₂	85%
Others	HC ₃	10%

Operating system market

Company	Product	Mkt share
3	OC ₄	80%
4	OC ₅	10%
Others	OC ₆	10%

Software market

Company	Product	Mkt share
5	SC ₇	85%
6	SC ₈	7%
Others	SC ₉	8%

Table 1 – relevant markets

Where, in respect of the hardware market for example, HC₁ is the product of Company 1 with the market share of 5%; HC₂ is the product of Company 2 with the market share of 85%; and HC₃ represents the combined market share of the remaining participants.

Considering productivity only through the eyes of the technology developers, if all was equal¹⁰⁸ in all markets then the productivity position of the markets' participants could be represented as follows:

$$\begin{array}{r}
 HC_1 + OC_4 + SC_7 = P_1 \\
 \cdot \quad \cdot \quad \cdot \quad \cdot \\
 \cdot \quad \cdot \quad \cdot \quad \cdot \\
 HC_3 + OC_6 + SC_9 = P_{27}
 \end{array}$$

And where, all being equal, any natural fluctuations in productivity should occur equally across all markets.

Consider however the position if, through the use of R&D agreements, certain companies agreed to insert specific code, protected by a *black box technology* such as a TPM,

¹⁰⁸ Where 'equal' means *equal* distribution and *equal* cooperation between each market such that companies in one market do not cooperate with other companies in the same market (no collusion), but do cooperate with companies in all other markets. For example, all companies in the operating system market equally use products from the other markets with no preference and equally share information with those markets.

into their products, which enable those products to perform better with other specific products.

The following diagram is illustrative as to how its separate components could work together:

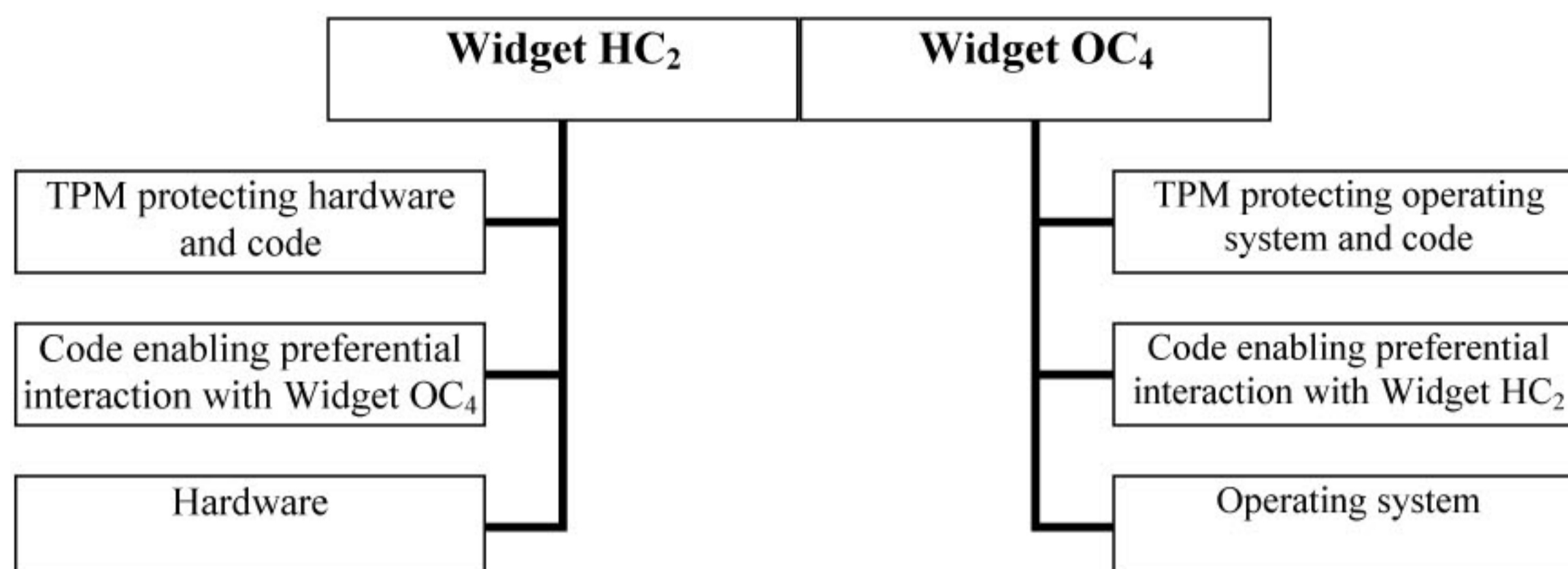


Diagram 1 – Synopolistic components

As can be seen from this example, Company 2 and Company 3 each have a substantial share of their respective markets and correspondingly will have substantial market power. Prior to the establishment of the *synopoly*, it is likely that whilst some consumers use Company 2's widget they do not use Company 3's widget. Instead these consumers may use Company 4's widget. If Company 2 and Company 3 enter into a joint R&D arrangement whereby they ensure better interoperability of their respective widget with the other's widget, and where the interoperability code and widget are protected by *black box technology* to prevent unauthorised use and/or copying; then a *synopoly* would result.

The effect of a *synopoly* is that Company 4's consumers may migrate to Company 3's widget due to the efficiencies gained from the combination of Company 3's widget with Company 2's widget; with Company 2 and Company 3 thus strengthening their position within their own markets at the expense of the other participants. Likewise it is possible that within the other markets, participants could become aware of the increased efficiency such that those participants may either seek to join the *synopoly* or may be persuaded to promote only the *synopoly* components to their customers knowing that the more efficient operation of the *synopoly* components will mean that their product will operate more efficiently.

In effect, a potentially anti-competitive environment results with damage to the respective competitors of Company 2 and Company 3. This can be explained as follows:

Let us identify the productivity of the synopoly as P_S . Assuming that Company 5 joins in the synopoly, then P_S is represented as follows:

$$HC_2 + OC_4 + SC_7 = P_S$$

Assuming increased consumption of the synopoly components, as P_S increases there will be, it is suggested, either a corresponding decrease in all other productivity or at least a maintaining of productivity such that:

$$P_S \uparrow \equiv \downarrow \text{ or } == (P_I - P_N)$$

Whilst consumers are not forced to buy any particular component, the incentive to market participants to join the *synopoly* is that every time a consumer buys HC_2 it will be more likely to buy OC_4 , and SC_7 as these work better with HC_2 , thus ensuring the consumer's post-acquisition costs are optimised. Further if the consumer desires to change any synopolistic component then the consumer will not retain the benefits that pre-existed and thus may be economically required to change all components, which may be substantially uneconomical in the circumstances. The issue is whether this type of activity is illegal and under what circumstances could it be legal or illegal. It is suggested that the extent to which *synopolies* will flourish will depend, to a great extent, on the protections IP laws provide to *black box technologies*, and any exemptions granted by antitrust/competition laws to IP.

Part VIII – An Antitrust Analysis

‘Competition brings out the best in products and the worst in people.’¹⁰⁹

Anticompetitive behaviour can restrict competition to the detriment of the market, other participants and consumers. Competition on the other hand can give rise to value for

¹⁰⁹ David Sarnoff, Russian-born American Inventor (1891-1971) <http://thinkexist.com/quotation/competition_brings_out_the_best_in_products_and/177116.html> (16 March 2008).

consumers;¹¹⁰ economic efficiency and growth.¹¹¹ Competition laws are justified on the basis that “...maintenance of competition has an important contribution to make to economic efficiency”¹¹² with competition policy ensuring that “...consumer choice is not restricted.”¹¹³

Coopetition may be said to be beneficial to the economy as it encourages competition, which in turn encourages performance as innovation and technical advances can mean increased profit.¹¹⁴ Technology by itself therefore is not an issue for competition law or regulators; rather the issue to be addressed is the ways in which technology may be used to impact on business operations as many of these potential uses, previously having not been possible, are not addressed by existing policies or laws.

As the then Acting Chairman of the Australian Competition and Consumer Commission observed in respect of the US Microsoft litigation¹¹⁵ “competition laws apply everywhere, with an obviously warranted focus on the high technology arena.”¹¹⁶ This observation is highlighted by the fact that TRIPs¹¹⁷ grants powers to its signatories to regulate licensing abuses.¹¹⁸ Whether competition is protected at the expense, and to the detriment, of innovation and new technologies is a concern¹¹⁹ but regrettably one that is beyond the scope

¹¹⁰ European Commission, *Citizen's Guide to Competition Policy, – Antitrust and Cartels* at Note 11 (http://europa.eu.int/comm/competition/citizen/index_en.html) (26 October 2004).

¹¹¹ L Fullerton, *Competition Policy: Frequently Asked Questions*, 2000, U.S.-Vietnam Trade Council <http://www.usvtc.org/Documents/Vietnam%20Laws/FAQS%20on%20Competition%20Policy%20July%202000.pdf> (5 November 2004).

¹¹² Stephen Corones, *Competition law in Australia*, (3rd Ed., Lawbook Co., Sydney, 2004) 14.

¹¹³ Ramsey *supra* note 26 at 85.

¹¹⁴ Bundeskartellamt (2002) 'The Bundeskartellamt and its tasks' <http://www.bundeskartellamt.de/wEnglisch/download/pdf/Broschure_engl.Jan02.pdf> (5 November 2004).

¹¹⁵ US Microsoft Case.

¹¹⁶ Acting Chairman Allan Asher, 'Microsoft monopoly split', ACCC NewsRelease, 9 June 2000, Release #MR122/00 <http://www.accc.gov.au/content/index.phtml/itemId/323029> (28 February 2008)

¹¹⁷ *Agreement on Trade Related Aspects of Intellectual Property Rights* <http://www.wto.org/english/tratop_e/trips_e/t_agm3d_e.htm#8> (2 March 2008).

¹¹⁸ Part II, Section 8, Article 40 – “2. Nothing in this Agreement shall prevent Members from specifying in their legislation licensing practices or conditions that may in particular cases constitute an abuse of intellectual property rights having an adverse effect on competition in the relevant market.”

¹¹⁹ Alan Greenspan, 'Antitrust', *Capitalism: The Unknown Ideal*, (New American Library, 1967) 63 - "No one will ever know what new products, processes, machines, and cost-saving mergers failed to come into existence, killed by the Sherman Act before they were born. No one can ever compute the price that all of us have paid for that Act which, by inducing less effective use of capital, has kept our standard of living lower than would otherwise have been possible."

of this paper. It is the uses to which a *synopoly* may put *black box technology*, and whether these infringe any antitrust law, that this paper will now consider.

Domestic Conduct

For the purpose of analysis, this Part assumes that Companies 2, 3, and 5 form a *synopoly* as described in Part VI with the *synopolistic* product referred to D and enter into a R&D agreement regarding their respective IP rights. The R&D agreement *inter alia* requires each 1. to act to protect their respective IP rights; 2. to ensure maximum interoperability with the others' technology; and 3. to grant the other companies a limited license to use the relevant IP. The interoperability code itself could be as simple as a communications protocol that is tagged so that each *synopolistic* product can differentiate *synopoly* communications from communications derived from non-*synopolistic* products and the *synopoly* products could be structured as per Diagram 1.

This Part also assumes that in order to better secure its position in the market, Company 4 looks to make its product work more efficiently with HC₂ and SC₇. In order so to do, Company 4 acquires products HC₂ and S₇ and, by means of reverse engineering, attempts to affect a similar high level of interoperability as is found in D. In order to undertake the reverse engineering, Company 4 needs to circumvent the TPMs protecting products HC₂ and SC₇ resulting in Companies 2 and 5 issuing proceedings to protect their copyright. Company 4 defends these claims asserting anticompetitive behaviour by the other companies. Also it is assumed that there is no refusal by any participant to deal with Company 4.¹²⁰

Legal competition will inevitably mean that profits move from one participant to the

¹²⁰ In practice it is acknowledged that Company 4 would more than likely have requested the required information and would only have looked to circumvent the TPMs if their request was refused or if unreasonable terms were imposed.

other, this does not however mean that a competitive market operates perfectly,¹²¹ or that competitors will not suffer harm,¹²² as “*competition by its very nature is deliberate and ruthless*”.¹²³ The issue for consideration therefore is - are Companies 2, 3 and 5 being merely competitive, even if vigorously so,¹²⁴ or are they breaking the law? This issue will now be considered individually for the relevant jurisdictions. In so doing the assumption is made, initially, that all companies operate only within the jurisdiction under consideration.

United States of America

The ‘logic’ behind US antitrust law is stated to be “*to guard against restrictions and impediments to competition that are not likely to be naturally corrected by competitive forces.*”¹²⁵ For the purpose of this analysis, the relevant antitrust law provisions considered are Sections 1¹²⁶ and 2¹²⁷ of the *Sherman Antitrust Act 1890*. Section 1 prohibits unreasonable restraints of trade and section 2 prohibits the unreasonable¹²⁸ creation or maintenance of

¹²¹ Sumantra Ghoshal and Christopher A. Bartlet, *The Individualized Corporation*, (William Heinemann 1997) at 275 – “*if there is genuine, free competition, companies can make no profits above the market value of their resources.*”

¹²² *Boral Besser Masonry Ltd v ACCC* (2003) 195 ALR 609 (High Court of Australia) - per Gleeson CJ and Callinan J – “*...successful competition is bound to cause damage to some competitor.*”

¹²³ *Old Wire Industry Pty Ltd v Broken Hill Pty Co Ltd* (1989) 167 CLR 177; 63 ALJR 181; 83 ALR 577; ATPR 40-925 (High Court of Australia).

¹²⁴ *Cargill, Inc. v Monfort of Colorado, Inc.*, 479 U.S. 104 (1986) at 116; and *Boral Besser Masonry Ltd v ACCC* (2003) 195 ALR 609 [160] per Gaudron, Gummow and Hayne JJ .

¹²⁵ Economides *supra* note 21 at 4. This is a similar position to that of the European Union. Also note - *Northern Pacific Railway Co. et al v United States*, 356 U.S. 1 (1958) at 4 – “*The Sherman Act was designed to be a comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade*”; and *Spectrum Sports, Inc. v McQuillan*, 506 U.S., 447 (1993) at 458 – the Sherman Act does “*...not protect businesses from the working of the market ...[but]...the public from the failure of the market...*”.

¹²⁶ **Section 1. Trusts, etc., in restraint of trade illegal; penalty**

Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal. Every person who shall make any contract or engage in any combination or conspiracy hereby declared to be illegal shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not exceeding \$10,000,000 if a corporation, or, of any other person, \$350,000, or by imprisonment not exceeding three years, or by both said punishments, in the discretion of the court.

¹²⁷ **Section 2. Monopolizing trade a felony; penalty**

Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not exceeding \$10,000,000 if a corporation, or, if any other persons, \$350,000, or by imprisonment not exceeding three years, or by both said punishments, in the discretion of the court.

¹²⁸ *Nynex Corp. v Discon, Inc.*, 525 U.S. 128 (1998).

monopolies,¹²⁹ although monopolies *per se* are not illegal.¹³⁰

Unlike Australia, there is no exemption granted regarding IP, although guidance is provided regarding the licensing of IP.¹³¹ The mere fact of the existence of IP by itself is not held to presume that market power exists or that there is an abuse of market power.¹³²

The relevant conduct that requires consideration is:

- a. The making of the Company 2, 3 and 5 R&D agreement; and
- b. The litigation by Companies 2 and 5 to enforce their IP rights; and
- c. Whether this conduct constitutes either a breach of section 1 as an unreasonable restraint on trade or a breach of section 2 as unreasonably maintaining a monopoly.

In order to prove a breach of section 1, Company 4 must prove that there exists a conspiracy; that there was unreasonable restraint of trade; and that the trade was interstate or international. For the purpose of this discussion it is assumed that the third element is satisfied.

Company 4 it is suggested would fail on the first element of section 1, as the *synopoly* participants arguably have a legitimate, as opposed to an unlawful,¹³³ purpose in seeking to both protect their IP and promote their products and therefore have not ‘conspired’. Assuming however that this element is satisfied then consideration needs to be given as to whether there is a restraint of trade that is ‘unreasonable’. The *synopoly* agreement is not one to which a *per se* prohibition applies, as it does not fix prices, allocate markets, group boycotts or tie products etc.

¹²⁹ *United States v. Grinnell Corp.* 384 U.S. 563, 570–71 (1966) - Monopolization is the “wilful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.”

¹³⁰ *Standard Oil Co of New York v United States* 221 U.S. 1, 50 (1911).

¹³¹ US Antitrust Guidelines *supra* note 29.

¹³² US Antitrust Guidelines *supra* note 29 at 6. Also see – *Independent Ink, Inc. v Illinois Tool Works, Inc.*, 126 U.S. S.Ct 1281 (2006).

¹³³ *Pearl Brewing Co. v Anheuser-Busch, Inc.* (S.D. Tex. 1972) 339 F Supp 945; *Sunny Hill Farms Dairy Co, v Kraftco Corp.*, 381 F.Supp. 845 (E.D. Mo. 1974).

Applying then the ‘rule of reason’ test,¹³⁴ the Court would need to consider all conduct of the parties, which would include the parties motivation in acting to protect their IP. In this regard the Guidelines starts from the basis that IP licensing is “*generally procompetitive*”¹³⁵ but otherwise in respect of a *synopoly* scenario offers little guidance. Assuming that under the rule of reason test the pro-competitive benefits of allowing copyright owners to enforce rights granted by the DMCA outweigh any potential anticompetitive effects, there would be no breach of section 1.

With regards to section 2, assuming that each *synopoly* participants is a monopolist; that is they each have monopoly power¹³⁶ in their respective markets,¹³⁷ the element that requires consideration is their conduct with regards to maintenance of those monopolies. That is, have they maintained their monopolies through anticompetitive conduct?¹³⁸ It is suggested that as the motivation for the *synopoly* participants’ behaviour is the protection of their IP,¹³⁹ this is a valid business justification for their behaviour.¹⁴⁰ Further, there is not an obligation

¹³⁴ *National Society of Professional Engineers v. United States*, 435 U.S. 679 (1978):

One problem presented by the language of §1 of the Sherman Act is that it cannot mean what it says. The statute says that "every" contract that restrains trade is unlawful. But, as Justice Brandeis perceptively noted, restraint is the very essence of every contract; read literally, §1 would outlaw the entire body of private contract law. Yet it is that body of law that establishes the enforceability of commercial agreements and enables competitive markets -- indeed, a competitive economy -- to function effectively. Congress, however, did not intend the test of the Sherman Act to delineate the full meaning of the statute or its application in concrete situations. The legislative history makes it perfectly clear that it expected the courts to give shape to the statute's broad mandate by drawing on common-law tradition. The Rule of Reason, with its origins in common-law precedents long antedating the Sherman Act, has served that purpose. It has been used to give the Act both flexibility and definition, and its central principle of antitrust analysis has remained constant. Contrary to its name, the Rule does not open the field of antitrust inquiry to any argument in favor of a challenged restraint that may fall within the realm of reason. Instead, it focuses directly on the challenged restraint's impact on competitive conditions.

¹³⁵ US Antitrust Guidelines *supra* note 29 at 2.

¹³⁶ As to the degree of market share necessary to constitute market power see, for example, – *United States v Dentsply Int'l, Inc.*, 399 F.3d 181 (3rd Cir. 2005) at 188; *Image Tech. Servs. V Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997) at 1206; and *Heattransfer Corp., v Volkswagenwekr, A.G.*, 553 F.2d 964 (5th Cir. 1977) at 981.

¹³⁷ For a definition of ‘product market’ see – *United States v E.I. DuPont de Nemours & Co.*, 351 U.S. 377 (1956) at 404.

¹³⁸ *Broadcom Corp. V Qualcomm inc.*, 501 F. 3d 297 (3rd Cir. 2007) at 308 citing *Verizon Communications, Inc. v Law Offices of Curtis V. Trinko, LLP*, (2004) 540 U.S. 398 at 407.

¹³⁹ For a consideration of the potential application of Section 2 to refusals to licence IP, see – Michael A. Carrier, ‘Of Trinko, Tea Leaves and Intellectual Property’, *Journal of Corporation Law*, Vol. 31, 2005, 101.

¹⁴⁰ *General Indus. Corp., v Hartz Mountain Corp.*, 810 F.2d 795 (8th Cir. 1987); *United States v Dentsply Int'l, Inc.*, 399 F.3d 181 (3rd Cir. 2005) at 187.

for any of the *synopoly* participants to deal with Company 4.¹⁴¹

As the *synopoly* components work so much better together, it could be argued that any maintenance of the monopoly positions of the *synopoly* participants occurs only as a consequence of superior products and business acumen and not illegal activity.¹⁴² If a court accepts these arguments there is no breach.

European Union

The relevant provisions of European law governing competition are Articles 81¹⁴³ and 82¹⁴⁴ of the EC Treaty, which “*have as their objective the protection of competition in the market.*”¹⁴⁵ Article 81 prohibits agreements that may affect trade between Member States and

¹⁴¹ *Verizon Communications, Inc. v Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398 (2004) at 407-409.

¹⁴² *LePage’s Inc. v 3M*, 324 F.3d 141 (3rd Cir. 2003) at 152; *Aspen Skiing Co. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985) at 605.

¹⁴³ **Article 81 (Ex Art. 85)**

1. The following shall be prohibited as incompatible with the common market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market, and in particular those which:

- (a) directly or indirectly fix purchase or selling prices or any other trading conditions;*
- (b) limit or control production, markets, technical development, or investment;*
- (c) share markets or sources of supply;*
- (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;*
- (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.*

¹⁴⁴ **Article 82 (Ex Art. 86)**

Any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market in so far as it may affect trade between Member States.

Such abuse may, in particular, consist in:

- (a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;*
- (b) limiting production, markets or technical development to the prejudice of consumers;*
- (c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;*
- (d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.*

¹⁴⁵ 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, 32003R001 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003r0001:en:not> (14 December 2007). Also see Art. 3(1)(g) EC Treaty – competition rules ensure “... *that competition in the internal market is not distorted.*”

have as their object or effect the restriction or distortion of competition (i.e. anticompetitive agreements or traditional cartel behaviour). Article 82 prohibits abuses of market power between Member States. Similar to the US there is no exemption for IP however guidance is given as to what is permitted and what is not permitted conduct.¹⁴⁶

The relevant conduct that requires consideration is:

- a. Whether the making of the R&D agreement breaches Article 81; and
- b. Whether the litigation by, and the R&D agreement requiring that, Companies 2 and 5 to act to enforce their IP rights breaches Article 82.

Regarding Article 81 the elements that must be satisfied are 1. that there is a relevant ‘agreement’¹⁴⁷ between independent/unrelated¹⁴⁸ parties; 2. that it affects trade between member states; and 3. that it has the object or effect of distorting competition – that is does the agreement restrict actual or potential competition that would exist but for the agreement? Assuming that first two elements are satisfied in that the R&D agreement is made between ‘undertakings’ and that the trade is between Member States, the issue requiring consideration is what is the relevant object or effect.

It is suggested that the purpose of the R&D agreement is essentially to promote innovation by enabling the parties to protect their IP; any evidence would not be likely to show any illegal object. It is unlikely therefore that the *synopoly* participants would be in breach of Article 81. However, if the effect was in fact that competition is restricted – that is that there is a likely anticompetitive effect - then, even without any illegal object, there is a breach.

¹⁴⁶ For example see - *Commission Regulation (EC) No 772/2004 of 27 April 2004 on the Application of Article 81(3) of the Treaty to Categories of Technology Transfer Agreements (2004)*; and Commission Notice, *Guidelines on the application of Article 81 of the EC Treaty to technology transfer agreements (2004/C 101/02)*.

¹⁴⁷ This includes “gentlemen’s agreements” – see Case 48/69 *Imperial Chemical Industries Ltd. v Commission of the European Communities* (1972).

¹⁴⁸ Joined Cases C-159/91 and C- 160/91 *Poucet v. AGF and Camulrac and Pistre v. Cancava*, [1993] ECR I-637.

Concerning Article 82, assuming that the *synopoly participants* were deemed to have a dominant position¹⁴⁹ in their relevant markets,¹⁵⁰ if the protection and enforcement of IP rights was deemed to be a refusal to licence,¹⁵¹ it is suggested that there is no breach as – 1. The refusal seeks to attain a legitimate goal in that is the protection of copyright; 2. The conduct is effective to achieve that legitimate goal – the conduct is directly related to the R&D agreement provision requiring the participants to act to protect their IP, and is not directed specifically to Company 4; 3. The conduct is necessary to achieve a procompetitive goal; and 4. The enforcement of the IP rights is proportionate – Company 4 has in fact breached the TPMs and as such is in breach of copyright law, which justifies the litigation by Companies 2 and 5.

In any event, this scenario is unlikely to breach Article 82, as there is no suggestion that there was refusal to licence or deal with Company 4¹⁵² and if there was it is unlikely that the *synopoly* product D would qualify as an ‘essential facility’¹⁵³ and, in any event it is suggested that if it did, as any position of dominance arises through the skills necessary to create and own IP rights, it is unlikely that the doctrine would be applied to find a breach.¹⁵⁴

Australia

The sections of the *Trade Practices Act 1974* that may affect the operation of a *synopoly* are sections 45,¹⁵⁵ 45B,¹⁵⁶ 46(1)¹⁵⁷ and 47.¹⁵⁸ The focus of this analysis will be on

¹⁴⁹ Case C-27/76 *United Brands Company and United Brands Continentaal BV v Commission of the European Communities* (‘United Brand’); Case C-62/86 *Akzo Chemie BV v Commission of the European Community*.

¹⁵⁰ *United Brands*; Case C-333/94 *Tetra-Pak International SA v Commission of the European Community*.

¹⁵¹ Robert O’Donoghue, Maurits Dolmans and Paul-John Loewenthal ‘Article 82 EC and Intellectual Property: The State of the Law Pending Judgment in *Microsoft v Commission*’, *Competition Policy International*, Vol. 3, No. 1, Spring 2007, at 107, 125 and 134.

¹⁵² Cf. *Radio Telfis Eireann v EC Commission* (‘Magill’)[1995] ECR 743; Case C-418/01 *IMS Health v NDC Health GmbH & Co KG* (European Court of Justice, 29 April 2004); EU *Microsoft* Case.

¹⁵³ Case IV/34.689 *Sea Containers v Stena Sealink*, 1994 O.J. (L15) 8, 16 – “a facility or infrastructure, without access to which competitors cannot provide services to their customers.”

¹⁵⁴ Mats A Bergman, ‘The Role of the Essential Facilities Doctrine’, 46 *Antitrust Bulletin*, 403, at 409.

¹⁵⁵ **45 Contracts, arrangements or understandings that restrict dealings or affect competition**

(2) A corporation shall not:

(a) make a contract or arrangement, or arrive at an understanding, if:

(i) the proposed contract, arrangement or understanding contains an exclusionary provision; or

section 46(1) only for a variety of reasons. Firstly, the IP exemption in section 51(3)¹⁵⁹ applies to sections 45, 45B and 47, and as such it is submitted the *synopoly* participants would more than likely be successful in maintaining an argument that, as they were acting to protect their IP, and relying on the fact that aggressive competition is permitted, the section 51(3) exemption will cover their behaviour. Secondly, although section 45 is the section that applies

(ii) a provision ...has the purpose, or would have or be likely to have the effect, of substantially lessening competition; or

(b) give effect to a provision ..., if that provision:

(i) is an exclusionary provision; or

(ii) has the purpose, or has or is likely to have the effect, of substantially lessening competition.

¹⁵⁶ **45B Covenants affecting competition**

(1) A covenant ... is unenforceable in so far as it confers rights or benefits or imposes duties or obligations on a corporation or on a person associated with a corporation if the covenant has, or is likely to have, the effect of substantially lessening competition in any market in which the corporation or any person associated with the corporation supplies or acquires, or is likely to supply or acquire, goods or services or would, but for the covenant, supply or acquire, or be likely to supply or acquire, goods or services.

(2) A corporation or a person associated with a corporation shall not:

(a) require the giving of a covenant, or give a covenant, if the proposed covenant has the purpose, or would have or be likely to have the effect, of substantially lessening competition in any market in which:

(i) the corporation, or any person associated with the corporation ... supplies or acquires, is likely to supply or acquire, or would, but for the covenant, supply or acquire, or be likely to supply or acquire, goods or services; or

(ii) any person associated with the corporation ... supplies or acquires, is likely to supply or acquire, or would, but for the covenant, supply or acquire, or be likely to supply or acquire, goods or services, being a supply or acquisition in relation to which that person is, or would be, under an obligation to act in accordance with directions, instructions or wishes of the corporation;

(b) threaten to engage in particular conduct if a persondoes not comply with... the covenant; or

(c) engage in particular conduct by reason that a person ... has failed to comply, or proposes or threatens to fail to comply, with the terms of the covenant.

¹⁵⁷ **46 Misuse of market power**

(1) A corporation that has a substantial degree of power in a market shall not take advantage of that power in that or any other market for the purpose of:

(a) eliminating or substantially damaging a competitor of the corporation or of a body corporate that is related to the corporation in that or any other market;

(b) preventing the entry of a person into that or any other market; or

(c) deterring or preventing a person from engaging in competitive conduct in that or any other market...

¹⁵⁸ **47 Exclusive dealing**

(1) Subject to this section, a corporation shall not, in trade or commerce, engage in the practice of exclusive dealing...

¹⁵⁹ **51 Exceptions**

(3) A contravention of a provision of this Part other than section 46, 46A or 48 shall not be taken to have been committed by reason of:

(a) the imposing of, or giving effect to, a condition of:

(i) a licence granted by the proprietor, licensee or owner of a patent, of a registered design, of a copyright or of EL rights within the meaning of the Circuit Layouts Act 1989, or by a person who has applied for a patent or for the registration of a design;

(4) This section applies in determining whether a provision of a contract is unenforceable by reason of subsection 45(1), or whether a covenant is unenforceable by reason of subsection 45B(1), in like manner as it applies in determining whether a contravention of a provision of this Part has been committed.

to traditional cartels,¹⁶⁰ *synopoly* participants are not competitors, nor are *synopolies* a traditional form of cartel.

Thirdly, as a consumer may acquire any of the *synopoly* products individually without the requirement to purchase any other product, the exclusive dealing prohibition in section 47 is not applicable for this analysis.

The relevant conduct that requires consideration is:

- a. The making of the R&D agreement by Companies 2, 3 and 5 and whether this constitutes a breach of section 46(1); and
- b. The litigation by Companies 2 and 5 to enforce their IP rights and whether this constitutes a breach of section 46(1).

Briefly, the elements that need to be satisfied in order to prove a breach of section 46(1) are: 1. that the corporation had a substantial degree of market power¹⁶¹ in a market¹⁶² (which is assumed for the purpose of this analysis); 2. that it took advantage of that market power in the same market or in another market;¹⁶³ and 3. that it did so for one of the purposes specified in subparagraphs (a) to(c).¹⁶⁴

An essential question to be asked is - what would the parties have done if they did not

¹⁶⁰ Although not defined by legislation, the elements necessary for a cartel to exist were articulated in a recent decision of the Australian Federal Court, see - *ACCC v Visy Industries Holdings Pty Limited (No 3)* [2007] FCA 1617. See also – Peter McDonald, 'Spilling the Beans on Cartels: A new recipe for dealing with the ACCC?' FindLaw (2004)– typical cartels involve price fixing; market sharing including bid-rigging or customer sharing; and production or sales quotas <<http://www.findlaw.com.au/article/11876.htm>> (5 November 2004).

¹⁶¹ Section 46 is concerned only with 'actual' market power. See - *Australian Competition & Consumer Commission v Boral Ltd* [1999] FCA 1318 – Heerey J [137] '*Section 46 is concerned with actual market power which presently exists. It does not speak of potential or latent power or a firm's own subjective perceptions of power. Power of course may not need to be exercised. The stronger the power, the less need for its actual exercise. As President Theodore Roosevelt said, one may 'Speak softly and carry a big stick'.*' That IP rights can be a source of market power is clear, see – *NT Power Generation P/L v Power and Water Authority* [2004] HCA 48, (2004) ATPR42-021, per McHugh ACJ, Gummow, Callinan and Heydon JJ at [125].

¹⁶² Section 4E *Trade Practices Act 1974* – 'market' means market in Australia.

¹⁶³ Section 46(1) *Trade Practices Act 1974* was amended in late 2007 by the *Trade Practices Legislation Amendment Act (No. 1) 2007*. The amending Act inserted the words "or any other" before the word "market" in order to confirm that a breach of section 46(1) would occur irrespective of the market in which the advantage of power was taken. '*Trade Practices Legislation Amendment Bill (No. 1) 2007: Explanatory Memorandum*', [3.18] <<http://parlinfoweb.aph.gov.au/piweb/Repository/Legis/oldEms/Linked/31100708.pdf>> (10 January 2008).

¹⁶⁴ Cf. the 'effects' test within EU and US laws.

have market power?¹⁶⁵ If without market power the court finds that a party would have acted differently this may indicate that the party has acted as they did only because of their market power and therefore they have abused that power. It is suggested however that if a party lacked market power, and an IP asset was the core of its business operations, then it is suggested that it is even more important for the company to act to protect its IP assets. In the case of this *synopoly* it is suggested that the parties are acting to protect IP assets is merely normal commercial practice and not related to the exercise of market power.¹⁶⁶

Assuming however that the court finds that the parties took advantage of their market power, the court must then consider for what purpose/s the parties acted. Proof of purpose may be drawn from inference without the need for direct evidence to be presented to the court.¹⁶⁷ A ‘purpose’ as proscribed by section 46(1) does not have to be the sole purpose for the conduct, merely a substantial one.¹⁶⁸ It is essential however that a required purpose¹⁶⁹ be found and it is suggested that if the only purpose found is the protection of an IP asset then an action is likely to fail. Further, Companies 2 and 5 have a legitimate purpose to act to protect their copyright irrespective of any provision in the R&D agreement requiring them so to act.

In view of the number of market participants, it would seem obvious that these companies would be aware that their conduct, particularly the R&D agreement, would have an effect on the market. Whether such awareness would satisfy the requirements of section 46(1) as relates to ‘purpose’ is unlikely.¹⁷⁰ As the ACCC itself realises, it is very difficult to

¹⁶⁵ *Old Wire Industry Pty Ltd v Broken Hill Pty Co Ltd* (1989) 167 CLR 177; 63 ALJR 181; 83 ALR 577.

¹⁶⁶ *Melway Publishing Pty Ltd v Robert Hicks Pty Ltd (t/as Auto Fashions Australia)* (1999) 90 FCR 128, 134 per Heerey J (dissenting) - supported by the majority in the High Court.

¹⁶⁷ Section 46(7) *Trade Practices Act 1974*.

¹⁶⁸ Section 4F(1)(b) and see *Melway Publishing Pty Ltd v Robert Hicks Pty Ltd (t/as Auto Fashions Australia)* (2001) 178 ALR 253.

¹⁶⁹ That is a ‘purpose’ that satisfies the elements of Section 46(1) *Trade Practices Act 1974*.

¹⁷⁰ For example see - *ACCC v Kokos International Pty Ltd (No 2)* [2008] FCA (10 January 2008) [67] – in that case however the relevant respondents, being respondents 1 to 4, had reached a consensus with the ACCC as to the nature of their contraventions and this was not an issue that court was required to decide.

find a proscribed purpose exists without what they refer to as a ‘smoking gun’.¹⁷¹ If the court finds that the companies’ motives are pure and that the conduct is pro-competitive there will not be any breach of section 46(1). If the court finds that a proscribed purpose exists then the fact that the companies are acting to protect IP assets will not shield them from section 46(1).

Global Conduct

Let us now assume that each of Companies 2, 3 and 5 are based in separate jurisdictions, with no assets or physical presence in any other jurisdiction, and that consumers are only able order products over the Internet.¹⁷² Let us also assume that Company 4 operates in yet another jurisdiction, again over the Internet, such that a global *synopoly* could be structured as represented in Diagram 2 below:

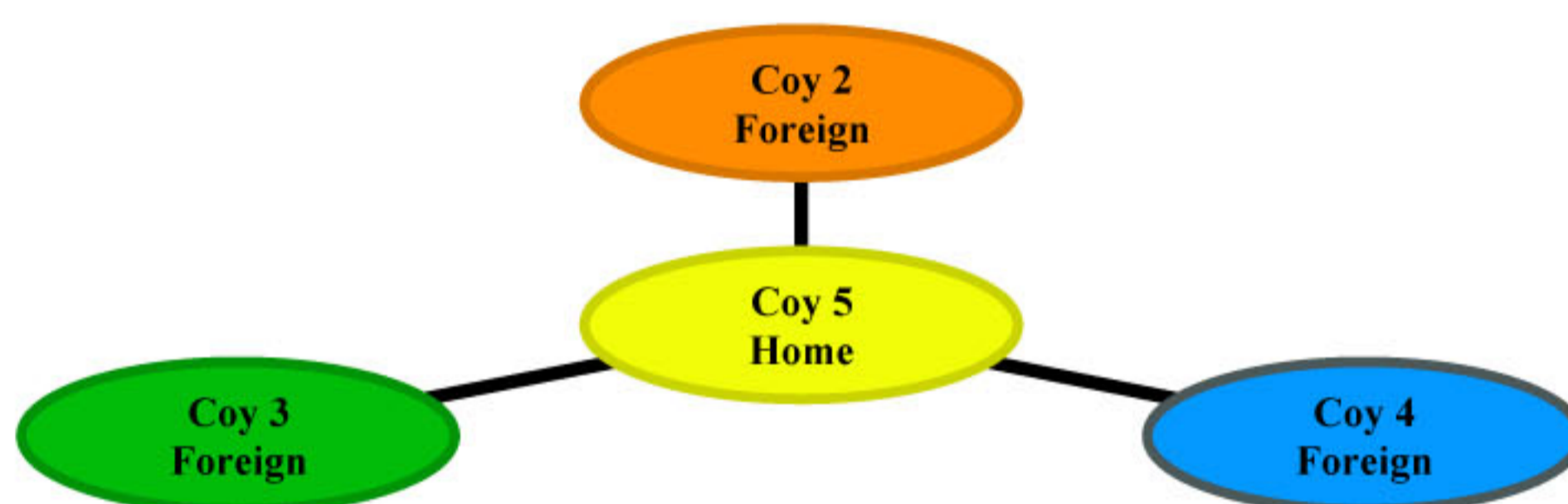


Diagram 2 - Global *synopoly*

A global *synopoly* may appear at first glance to be merely a type of “international cartel”.¹⁷³ This is not correct however as, whilst the global *synopoly* operates internationally,

¹⁷¹ ACCC, Submission to the Senate Economics References Committee Inquiry into the Effectiveness of the *Trade Practices Act 1974* in Protecting Small Business, 12 December 2003 http://www.aph.gov.au/SENATE/COMMITTsaEE/economics_ctte/completed_inquiries/2002-04/trade_practices_1974/submissions/sub030.pdf (2 March 2008).

¹⁷² Although no assumption is made as to whether or not this location of parties occurs as a consequence of ‘regulatory arbitrage’ – that is competitors locating in jurisdictions which they consider have the “...most attractive set of regulations”. See *Macey supra note 45* at 1362.

¹⁷³ A cartel is generally understood to be an illegal agreement between two or more parties which are otherwise competitors to structure the market to their benefit and to the detriment of consumers and other existing or potential competitors. See - See *International Competition Network, ‘Anti-Cartel Enforcement Template – Subgroup 2: Enforcement Techniques – Australia, 6 December 2005’, 3, 2* <http://www.accc.gov.au/content/index.phtml/itemId/779417> accessed 9 January 2008; and Peter McDonald, ‘Spilling the Beans on Cartels: A new recipe for dealing with the ACCC?’ FindLaw (2004) – typical cartels

synopoly participants operate in separate, not the same, markets and are not in competition with each other. In the following analysis, the conduct of the global *synopoly* will be examined from the perspective of the home jurisdiction as depicted in Diagram 2. The issues that must be addressed before the global *synopoly* can be regulated are – In which territory does the potentially anticompetitive conduct occur? And which country or court has the sovereignty to regulate that conduct?¹⁷⁴

It is suggested that the profit from the global *synopoly* accruing in the home market includes both revenue generated outside its jurisdiction, which is brought into the home jurisdiction from foreign jurisdictions; and income from consumers in the home jurisdiction.¹⁷⁵ However, any negative “impact” from the global *synopoly*’s behaviour occurs essentially in the foreign jurisdiction of Company 4, as no profit is generated there from the activities of the *synopoly* participants.¹⁷⁶

Assuming that the home jurisdiction was the US, whilst a global *synopoly* may have a direct effect on the US economy it is suggested that it would be a positive, not an adverse, effect and therefore it is doubtful that the conduct within the US would be deemed anticompetitive. This leaves only foreign potentially anticompetitive behaviour for the Court’s consideration.

The *Foreign Trade Antitrust Improvements Act 1982* requires a “*direct, substantial*

involve price fixing; market sharing including bid-rigging or customer sharing; and production or sales quotas <<http://www.findlaw.com.au/article/11876.htm>> accessed 5 November 2004.

¹⁷⁴ *Island of Palmas Cases* (1928) 2 R.I.A.A. 829 at 838 – A State has the right to regulate conduct within its territories to the exclusion of other States.

¹⁷⁵ The global *synopoly* also must be distinguished from an ‘export cartel’ because, unlike the ‘export cartel’, the *synopoly* participants are located in different jurisdictions; and further they operate in separate markets and thus are not in competition with the other *synopoly* participants. For a consideration of issues relevant to ‘export cartels’ see – Brendan Sweeney, ‘Export Cartels: Is there a need for Global Rules?’ , *Journal of International Economic Law*, 10(1), 87 at 89 – “*export cartels are agreements between exporter to act collusively in respect of some aspects of their export activity.*” And at 90 “*...the members of an export cartel are from the same country.*”

¹⁷⁶ In regards to profit making, a global *synopoly* is similar to an ‘export cartel’, in that profit is taken from one jurisdiction. The difference is that whereas the ‘export cartel’ participants are located within one jurisdiction, *synopoly* participants are located in several jurisdictions with profit shared amongst those jurisdictions.

*and reasonably foreseeable effect*¹⁷⁷ on the US economy/market and that the effect is anticompetitive¹⁷⁸ before the *Sherman Act* will apply to regulate the related conduct. As recently as 2004 the US Supreme Court refused to regulate anticompetitive conduct occurring extraterritorially between purely foreign parties,¹⁷⁹ a position confirmed by the Antitrust Modernization Commission's Report.¹⁸⁰ Therefore, if there is not an adverse effect in the US the US courts would not have jurisdiction over the conduct.

If the home jurisdiction was the EU, if an agreement or extraterritorial conduct restricted competition in the EU, or affected trade between Member States, EU law could be applied to that conduct. However, in the above scenario if the home jurisdiction was a Member State of the EU, then, assuming Company 4 was located outside the EU, because there would not be a negative economic effect in the EU but a positive one, it is unlikely that the courts would find jurisdiction existed to hear any dispute.

Finally, if the home jurisdiction was Australia it is unlikely even with recent amendments that, without a negative impact in Australia, section 46(1) would extend its reach to enable the court to take into account behaviour occurring within either Company 4's home jurisdiction.¹⁸¹ It is also unlikely that, without a negative impact in Australia, the court would consider the purely foreign conduct of the foreign *synopoly* participants as this would be subject to challenge by those participants.¹⁸² Whether section 6(2)¹⁸³ would assist in

¹⁷⁷ 15 U.S.C. §6a.

¹⁷⁸ *F. Hoffman-La Roche Ltd v Empagran S.A.* 542 U.S. 155 (2004) at 162.

¹⁷⁹ *Id.*

¹⁸⁰ Antitrust Modernization Commission, 'Report and Recommendations' April 2007, 215 – "42. *As a general principle, purchases made outside the United States from a seller outside the United States should not be deemed to give rise to the requisite effects under the Foreign Trade Antitrust Improvements Act.*" <http://www.amc.gov/report_recommendation/toc.htm> (31 May 2007).

¹⁸¹ This position may however be different if Company 4 itself was located in Australia. If it could prove that it had suffered damaged wholly or partly in Australia as a consequence of the foreign breach of section 46(1) then, in reliance on Order 8, Rule 2(12) of the *Federal Court Rules*, Company 4 may be able to sustain an action. Whether or not it would be successful in actual recovery of damages, if awarded, is another matter.

¹⁸² *Armacel Pty Limited v Smurfit Stone Container Corporation* [2007] FCA 1928.

¹⁸³ "(2) *This Act, other than Parts IIIA, VIIA and X, has, by force of this subsection, the effect it would have if:*
(b) *sections 45, 45B, 45D to 45EB (other than section 45DB), 46, 46A, 53B, 60 and 61, subsections 64(3) and (4), sections 75A, 75AU, 75AV, 75AW, 75AX, 75AY, 75AZE, 75AZN, 75AZO, subsections*

extending the application of section 46(1) to global conduct is unclear as the extraterritorial application of the *Trade Practices Act 1974* is still developing.¹⁸⁴

The ability to regulate conduct occurring purely within one jurisdiction is one thing. Where the market is a global market,¹⁸⁵ it is clear that in addition to the lack of “...*one correct theory of competition policy*...”¹⁸⁶ there is no one court competent to hear and determine all issues between these parties.¹⁸⁷

As can be seen, their own competition frameworks restrict each jurisdiction’s regulators as each framework can be implemented only in its own jurisdiction with limited extraterritorial reach. Although some restrictions in international enforcement can be overcome by means of regulatory cooperation agreements,¹⁸⁸ these are not without their own difficulties. Also, whilst many countries enter into such agreements, not all countries are signatories, which further limits the effectiveness of those agreements.¹⁸⁹ The regulation of potential *synopolies* therefore is exacerbated, it is suggested, because regulators generally are unable to consider conduct occurring outside of the relevant jurisdiction.

Part IX – Conclusion

It is clear from the research and the opinions of various authors¹⁹⁰ that the uses to which IP rights may be put are unique when compared to existing economic modelling. This

75AZQ(4) to (7) (inclusive) and 75AYA and Part VIII were, by express provision, confined in their operation to engaging in conduct to the extent to which the conduct takes place in the course of or in relation to:

(i) trade or commerce between Australia and places outside Australia;...”

¹⁸⁴ For example (albeit in relation to section 45) see the discussion in *ACCC v April international Marketing Services Australia Pty Ltd* [2007] FAC 2024 (21 December 2007) per Bennet J [65] – [66].

¹⁸⁵ Microsoft EU Case – *Order of the President of the Grand Chamber of the Court of First Instance*, 28 November 2005, CJE/04/63 and MEMO/07/359 [10]; *AMD v Intel* Complaint [131].

¹⁸⁶ Ramsey *supra* note 26 at 128.

¹⁸⁷ As evidenced by the fact that Microsoft made changes to its royalty structure in respect of the EEA market (in an attempt to comply with the EU Order) but not regarding ‘worldwide rates’. EUROPA Press Release, ‘Antitrust: Commission imposes € 899 million penalty on Microsoft for non-compliance with March 2004 Decision’, Brussels, 27 February 2008, IP/08/318.

¹⁸⁸ Macey *supra* note 45 at 1377.

¹⁸⁹ *Pacta tertiis nec nocent nec prosunt*.

¹⁹⁰ For a comprehensive discussion of the potential uses of IP see Barton *supra* note 51.

applies to both the rights themselves and the methods of using/licensing those rights.¹⁹¹ As Brannon and Ginsburg recently observed the Supreme Court of America “*will increasingly face novel antitrust issues to which there is no consensus among academic economists.*”¹⁹² It is suggested that the courts of other jurisdictions will be no less immune from such issues of which *synopolies* are but one. Competition regulators need to strike a balance between the benefits of IT and possible methods by which it may be used inappropriately to control markets in order to appropriately address what other authors have referred to as ‘... “*High Tech*” *competition technology.*’¹⁹³

It will be important, in the identification of *synopolies* and potential *synopolies*, to accurately identify the relevant market/s and then to determine what is and what is not inappropriate monopolistic conduct with those markets. As the market for IT is so dynamic it is possible that by the time the litigation for an alleged competition infringement is heard before the court,¹⁹⁴ even without judgment being handed down, both the IT and the market will have substantially changed and the IT may in fact be obsolete. Research also is required in respect of specific economic considerations relevant to synopoly structuring and operations and their impact on the market.

A difficulty for regulators is that knowing behaviour is anticompetitive is not the same as being able to satisfy a court that the conduct complained of satisfies the legal elements to prove an antitrust breach. The ability to gather and present the necessary evidence is an issue which must be addressed and one which it is suggested is made more difficult by *black box*

¹⁹¹ Barton *supra* note 51 at [1].

¹⁹² Douglas Ginsburg and Leah Brannon, ‘Antitrust Decisions of the U.S. Supreme Court, 1967 to 2007’, Competition Policy International, Vol 3, No. 2, Autumn 2007.

¹⁹³ Stefan Depypere, ‘Speech - Why do we need a competition policy?’ *Europa*. Speech delivered 14 February 1995 http://europa.eu.int/comm/competition/speeches/text/sp1995_014_en.html (5 November 2004).

¹⁹⁴ For example in the ongoing *AMD v Intel* dispute whilst the alleged anticompetitive conduct of Intel commenced in the late 1990s the trial, including the consolidated Class Action (*In Re: Intel Corp. Microprocessor Antitrust Litigation* MDL Docket No. 05-1717-JJF in the US District Court for the District of Delaware) will not commence until “*Thursday, April 27, 2009*” - Case Management Order No. 2, 27 September, 2006 http://www.amd.com/us-en/assets/content_type/DownloadableAssets/Case_Management_Order_No_2.pdf (15 January 2007).

technology. Regrettably, an impediment to appropriate enforcement that cannot be fixed by amending legislation is that regulators “*have limited enforcement resources*”.¹⁹⁵ Appropriate funding of competition regulators;¹⁹⁶ and a clear determination of the role that public enforcement, as opposed to private enforcement, of competition laws is to play in the future,¹⁹⁷ are issues for governments to address as a matter of priority if regulators are to have the “teeth” need to deal with *global synopolies*.

Enforcement of IP rights and the strategic alliances¹⁹⁸ now favoured by corporations, including *synopolies*, may not breach any existing competition law. However, these laws are not always able to distinguish between inappropriate behaviour and agreements that may be in fact competitive.¹⁹⁹ There is a risk therefore that without specific attention *synopolies* will not be appropriately considered and addressed. In order for competition laws to appropriately address the issues raised by IT, regulators must appreciate that it may not be appropriate to ‘force’ existing laws to apply to new, undreamed of technology.²⁰⁰ Consideration also must be given to the ability of contract law to control IP rights independently of any IP laws.²⁰¹

The starting point to addressing *synopolies* is acknowledging that courts and regulators are “...*confined by national laws that were never framed with global markets in*

¹⁹⁵ Michal Gal, ‘Reality Bites (or Bits): The Political Economy of Antitrust Enforcement’ in *International Antitrust. Law and Policy* (Barry Hawk, ed., Juris. Publishing, 2002), 605 (Chapter 23) 608.

¹⁹⁶ Ross Cranston, ‘Regulating Business: Law and Consumer Agencies (1979) in Ramsey *supra* note 26 at 375 – “*The limitations inherent in the lack of resources cannot be overcome by the dedication of enforcement officers or the efficiency of consumer agencies.*”

¹⁹⁷ As Ramsey (*supra* note 26 at 128) discusses – “...*recent changes at European ...level encourage private enforcement of EU ...competition law...thus decentralising the enforcement of competition law and raising questions about the optimal balance of public and private regulation of competition law.*”

¹⁹⁸ Barton *supra* note 51 paragraph 20.

¹⁹⁹ J. William Rowley, D. Martin Low and Omar K. Wakil (2002) In *American Bar Association Antitrust Section, International Cartel Workshop*, McMillan Binch LLP at 9 http://www.mcbinch.com/upload/Publications/Recent%20Trends%20in%20the%20prosecution%20of%20Cartels%20in%20Canada_Feb%202002.pdf (26 November 2004).

²⁰⁰ John Perry Barlow, *Selling Wine Without Bottles – The Economy of Mind on the Global Net* (http://www.eff.org/pub/Misc/Publications/John_Perry_Barlow/idea_economy.article) (accessed 1/12/2003)

²⁰¹ Richard Zeckhauser, ‘The challenge of contracting for technological information’, presented at a symposium entitled “Science, Technology, and the Economy, A. Pakes and K. L. Sokolof. Irvine, CA, Proc. Natl. Acad. Sci. USA. 93: 12743 - 12748.

mind.”²⁰² Once States acknowledge they are not able individually to address this behaviour, they can work towards a global solution. As Macey identified “...*regulatory globalization is likely to occur...when...increased global competition...makes it difficult or impossible for administrative agencies...to regulate national firms.*”²⁰³ The authors suggest that time is now.

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²⁰² Louise Longdin, ‘Copyright: The Last Trade Barrier in a Globalised World?’, Conference Paper, 2006 – *Annual Conference on New Directions in Copyright*, 27 – 28 June, AHRB Copyright Research Network, Birkbeck University of London, at 21.

²⁰³ Macey *supra* note 45 at 1355.

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