RE-DEFINING THE RIGHTS AND RESPONSIBILITIES OF DATABASE OWNERS UNDER COMPETITION LAW

Singapore protects databases under copyright law. While copyright may be conceptually malleable enough to protect databases, stretching copyright over these factual compilations may be a rough and incomplete solution to regulating access. The EU Database Directive makes a clearer delineation between banal and expressive works, but suffers similar shortcomings while adding new ones with its *sui generis* right. This article reviews key developments affecting databases in the EU, US and Singapore, and suggests that competition law, with an inbuilt economic framework for determining compulsory access, offers an alternative that may better reflect the commercial expectations of database owners. However, for competition law to properly regulate databases, it is important that stakeholders are aware of analytical pitfalls in order to avoid penalising legitimate exercise of IPRs in databases.

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I. Introduction

1 Regulating access to databases may well be one of the most important and pressing issues confronting scientists, businesses and policy makers today.[1] Vast and sweeping developments in the fields of computing, telecommunications and information technology have created a new global market for informational goods and services.

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1 William Rodolph Cornish, *Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights* (Sweet & Maxwell, 4th Ed, 1999) ("*Intellectual Property*") at p 524 defined databases as "a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means". See also Estelle Derclaye, "What is a Database?" (2002) 5 JWIP 981. Dr Declaye noted that the function of a database is to store and process information in discrete, independent parts. These parts are arranged in a systematic or methodical way.

Databases are present in every modern society. They are the stores of information that drive our societies and make them hum. Medical professionals use them to understand drug interactions and determine effective medical procedures. Farmers use them to get crop, weather and soil information. Urbanites use them to search for news, street directions, jobs or to find the right house. Even the most anachronistic of them all – legal professionals rely on databases, whether for legal precedents or client information management.[2] As markets become increasingly dependent on well-structured, accurate and readily available sources of information, this increases the ability of undertakings,[3] owning intellectual property rights ("IPRs") over databases, to affect the use and dissemination of that information.[4] This, in turn, may affect the growth of these repositories of knowledge and eventually a country's socio-economic progress.

2 We use databases all the time, but like light switches, we seldom pause to consider the issues underlying their existence. It is obvious enough that databases do not come about by themselves. They are the

2 In terms of the economic effect of databases, "[t]here is barely a sector of the economy that is not significantly engaged in the creation and exploitation of digital databases, and there are many - such as insurance, banking, or direct marketing - that are completely database dependent". From 1975 through 2001, the number of databases grew from 301 to 12,111 and the number of records increased from 52 million to 16.86 billion. During the same period, the number of database producers grew from 200 to 3879. See Martha E Williams, "The State of Databases Today: 2001" *Gale Directory of Databases* (Thomson Gale, 2002) at p xx; see also Committee for a Study on Promoting Access to Scientific and Technical Data for the Public Interest, *A Question Of Balance: Private Rights And The Public Interest In Scientific And Technical Databases* (1999) <http://www.nap.edu> which noted that "almost every aspect of the natural world, human activity, and indeed every life form can be observed and captured in an electronic database". The report was based, in part, on a workshop held in Washington DC on 14–15 January 1999 in Washington DC. See Committee for a Study on Promoting Access to Scientific and Technical Data for the Public Interest, *Proceedings Of The Workshop On Promoting Access To Scientific and Technical Data For The Public Interest: An Assessment of Policy Options* <http://books.nap.edu/html/proceedings_sci_tech/>.

3 "Undertakings" may be understood as any person, being an "individual, a body corporate, an unincorporated body of persons or any other entity, capable of carrying on commercial or economic activities relating to goods or services, as the context demands, and includes individuals operating as sole proprietorships, companies, firms, businesses, partnerships, co-operatives, societies, business chambers, trade associations and non profit-making organizations": see CCS Guideline, *infra* n 128. This definition is certainly broad enough to cover the relevant IPR owners at the interface between IP and competition law ("the Interface").

4 James Turney, "Defining the Limits of the EU Essential Facilities Doctrine on Intellectual Property Rights: The Primacy of Securing Optimal Innovation" (2005) 3 Nw J Tech & Intell Prop 179, at para 7 observed that "the witnessed advancements within the information technology industry have demonstrated how vital intellectual property rights can be in keeping an economic system dynamic".

products of much skill, talent and hard work. Substantial investment of money and professional expertise are needed to ensure that database content is comprehensive and accurate. These investments continue throughout the database's useful life, since database content needs constant verification and updating. And undertakings who have so contributed expect to be rewarded.

3 Yet, where information is valuable, there would be those who would desire to be supplied without cost. Without legal or technological restraints, free riders would be able to access and sell competing database products at substantially lower prices and in greater quantities than an undertaking saddled with massive developmental and marketing costs. The IPR owner cannot match lower prices for any sustained period. Thus, by offering the same content at prices lower than those of the original compilers, "parasitical" second comers could drive the former out of business and thus depress the market for innovative future compilations.[5]

4 Electronic or digital databases are increasingly popular ways to store data.[6] Along with the benefits of digitisation, anyone who obtains a copy of a digital database can quickly reproduce its contents. The copyist can undercut the original compiler's price more than with traditional databases.[7] Left to fend for themselves, the natural lead time undertakings

5 Economic theory surrounding the concept of "information commons" suggests that society gains little by making information freely available to all, for by so doing, it reduces the quantity and quality of information produced. By reducing the monetary value attached to a socially-productive behaviour like basic research, the economic incentives to engage in such activities are diminished. Those who seek a profit from creating and maintaining the accuracy of databases are deterred where free-riding competitors could too easily duplicate their databases without making any corresponding investments of their own. See Jerome H Reichman, "Commodification of Scientific Data and the Assault on the Worldwide Public Interest in Research and Development", Paper presented to the Symposium on Information, National Policies, and International Infrastructure, Harvard Law School, Cambridge, MA (28–30 January 1996). See Pt III of the main text below for further discussion on the economic analysis of the Interface. See Julie E Cohen, "Lochner Cyberspace: The New Economic Orthodoxy of Rights Management" (1998) 97 Mich L Rev 462 at 471–473.

6 Jacqueline Lipton, "A Framework for Information Law and Policy" (2003) 82 Or L Rev 695; Gregory M Hunsucker, "The European Database Directive: Regional Stepping Stone to an International Model?" (1997) 7 Fordham Intell Prop Media & Ent LJ 697 at 727.

7 As Prof Cornish noted in *Intellectual Property*, *supra* n 1, at p 523:

> To create digital files of a hundred medical journals or a national art collection or the daily business of world stock exchanges is a costly business and an investment which could be shattered by free access for re-copying. Yet if control is not possible, they will become prey both to pirates who are looking to create

need to make their databases commercially viable might shrink dramatically. This discourages companies from compiling databases, and denies the public the benefit of useful products, leading to suboptimal production of information goods, to the public's detriment.[8]

5 To the extent that the law protecting intellectual effort and investment in databases increases their production, database protection serves to enhance society's problem-solving abilities through a comprehensive compilation of information. They also increase productivity, advance education and training and facilitate the creation of

> rival services and to those who want to extract material for their own benefit without payment.

For a US perspective, see Paul Warren's testimony before the House Committee on the Judiciary Subcommittee on Courts and Intellectual Property in support of House Bill HR 2652:

> Today, database pirates can use widely available technologies to copy or print electronic databases and distribute them around the world. The advent of digital, high-speed computer networks adds greatly to this threat of piracy. Internet users can copy and distribute large collections of information with the click of a mouse and at a fraction of the enormous costs required to develop these products. These risks will only increase as our society becomes more dependent on computers and digitized information, and as technologies provide new and even more efficient ways to copy and distribute informational products.

Cited in Samuel Trosow, "Sui Generis Database Legislation: A Critical Analysis" (2005) 7 Yale J L & Tech 94.

8 No serious commentator can deny that this creates tremendous pressure on national legislatures to extend stronger protection towards database rights. It is trite that the duration, scope and subject matter covered by IP laws have constantly expanded. The attitude of national legislatures toward IPRs are perhaps best summed up in the famous words of Peterson J in *University of London Press Ltd v University Tutorial Press Ltd* [1916] 2 Ch 601 at 610, where he said "… there remains the rough practical test that what is worth copying is *prima facie* worth protecting". It should, however be noted that more recent cases have suggested that overuse of the statement is unhelpful and potentially misleading. Copying is not invariably an indicator of unfair appropriation: see *The Crown v Licensing Authority Established under Medicines Act 1968, Ex parte Smith Kline and French Laboratories Ltd* [1990] 1 AC 64, *per* Lord Templeman, replying that "there was no law to that effect". It is recognised that in other cases, the law will take account of broader considerations in deciding the ambit of permissible/desirable business activity. For example, in the area of industrial espionage, US courts have said that the law should not allow market practices to become the law of the land and that courts have a role in encouraging higher standards of commercial morality: see Jessica Litman, "Information Privacy/Information Property" (2000) 52 Stan L Rev 1283 at 1295–1297.

a better-informed citizenry through the ease of informational access.[9] In this sense, database rights are not a response to allocative distortions resulting from scarcity, as real property law is. Rather, they are conscious decisions to *create* scarcity in a type of good in which it is ordinarily absent in order to artificially boost the economic returns to creativity or investment. It is therefore axiomatic that access to databases be protected from interlopers and thieves.[10] The law does this by providing the owner with legal sanctions which it may invoke through granting licences and initiating infringement suits. These measures give the owner an amount of commercial certainty in which to induce the owner, and others to continue to farm their information for our benefit.

6 But that is only half the equation. Our laws have also determined that rights in the information should not merely be used as a remunerative end in itself. Instead, it should spur a plethora of diverse and improved works.[11] Human progress has always turned in large measure upon the borrowing of ideas. Like seeds that need to be split

9 Indeed, even most conservative scholars support the essence of rights in the non-creative aspects of factual databases, differing only on the question of the scope of rights that should be conferred. Lyman Ray Patterson, "Copyright Overextended: A Preliminary Inquiry into the Need for a Federal Statute of Unfair Competition" (1992) 17 U Dayton L Rev 385 at 407–410 asserted that factual collections should be afforded protection for a limited time, against competitors only, not encompassing the contents of the work, and "subject to forfeiture for predatory pricing"; Malla Pollack, "The Right to Know?: Delimiting Database Protection at the Juncture of the Commerce Clause, the Intellectual Property Clause, and the First Amendment" (1999) 17 Cardozo Arts & Ent LJ 47 at 123–144 advocated statutory protection that would protect only databases at risk of market failure; Jerome H Reichman & Pamela Samuelson, "Intellectual Property Rights in Data?" (1997) 50 Vand L Rev 51. Bernt Hugenholtz, "Abuse of Database Right", Paper presented to the Symposium on Competition, Patent and Copyright, Paris (15–16 January 2004) at 137–151 suggested unfair competition and modified liability approaches to database protection.

10 See *Singapore Parliamentary Debates, Official Report* (15 June 2004) vol 78 at col 125 where Dr Ahmad M Magad argued that "[t]hese [new IP] laws should help harness an individual's or company's potential and provide a deterrent, at the very least, to unscrupulous business intentions".

11 This is aptly expressed in s 8, cl 8 of the United States Constitution which empowers Congress to legislate: "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries", available at <http://www.usconstitution.net/const.html>. Locally, Prof S Jayakumar, Minister for Law emphasised "the need to strike a balance between the interests of copyright owners and users. Like all our IP laws, copyright laws are intended to be an incentive to create original works through the granting of exclusive rights. This objective can only be achieved if the exchange of information and ideas is not unduly impeded": see *Singapore Parliamentary Debates, Official Report* (16 November 2004) vol 78 at col 1041.

open and exposed to the environment in order to grow and reproduce, kernels of protected information require a level of access to protected content to disperse the knowledge for the wider benefit of society. IPRs in databases should not be allowed to become a blocking mechanism lurking in every crevice of endeavour.[12] Yet, commercially successful databases are often those with few or single sources.[13] Much valuable data is synthetic, and is created by the database owner and cannot be reproduced through independent research. This creates barriers to entry that are rarely overcome, since entrants would have to duplicate the database owner's initial effort by collecting data independently. Sunk costs are relatively high, and the prospects for market sharing are seldom realised. Even if the entrant could produce a successful alternative, the reduced expected profits from a duopoly or oligopoly might not justify market entry with the burden of such a high sunk cost in the first place.

7 But sole source databases are only one source of access woes. In some instances, even if a true alternative is possible through independently creating another database, it may still be near impossible to persuade the market to switch from the existing database to a new database, even if it may contain features that seem to make it more attractive and valuable.[14] Database industries may be subject to network effects, so that a more widely used product yields greater consumer gains. Beyond a certain number of users, the market "tips" in favour of a database, causing it to become the industry standard. Users could find that it takes too much time and effort to re-adjust to a new database. In such cases, consumers are said to be "locked into" the owner's database.[15] This is especially troubling as a matter of policy when the database is

12 As Robert Cooter and Thomas Ulen aptly noted, "the dilemma is that without a legal monopoly not enough information will be produced but with the legal monopoly too little of the information will be used": see Robert Cooter & Thomas Ulen, *Law and Economics* (HarperCollins, 1988) at p 135.

13 This could be where a regulatory authority generates geospatial information, horseracing data, or medical histories. Other examples include historical data, data for field experiments, newspapers listings, broadcast schedules, public telephone listings, sporting event information, and government records. Some data is too expensive to reproduce or only one entity has a genuine ability to gather the data. See Justin Hughes, "How Extra-Copyright Protection of Databases Can Be Constitutional" (2002) 28 U Dayton L Rev 159 who noted that "industry sources report that as much as ninety per cent of existing electronic compilations of data are the products of sole-source providers".

14 See discussion in Pt III of the main text below, particularly with respect to *IMS Health* at paras 54–56.

15 Some controversial examples include the VHS versus Beta standards in videocassette formats, and the QWERTY and Dvorak keyboard layouts. See Peter Lewin, *The Economics of QWERTY* (Palgrave, 2002).

more expensive, or less efficient or comprehensive than what a new entrant could offer.

8 In both cases, there is a common danger that important information may fall into the hands of a database owner who has found it more beneficial to restrict access than license, even for a reasonable amount of royalty. Exclusive rights conferred by IPRs in the database may place them in a position that enables them to successfully prevent market entry. This could result in a near absolute monopoly in the primary database market as well as a corresponding downstream monopoly in derivative information products or services.[16] Faced with a captive market, database owners may enrich themselves by engaging in excessive access pricing and threatening users and competitors with infringement suits, if left unchecked.[17]

9 To balance the rights of owners against users, competitors and potential licensees, the law has therefore attempted to develop rules to ensure that database owners are able to appropriate a fair return while allowing public access to information or third parties to offer new products derived from the owners' database content. This article attempts to highlight issues that may be useful for stakeholders in Singapore to consider, and the analysis broadly proceeds in two parts.

10 The first part examines endogenous means of regulating access to databases through IP Law. It evaluates the efficacy of copyright, the EU *sui generis* database right, and more briefly – misappropriation, contract, anti-circumvention and rights management initiatives. It concludes that while these go some way to addressing access concerns, they also suffer from shortcomings that warrant external intervention. The second part examines competition law as a complementary instrument to regulate access.[18] The modest aim of this paper does *not* go to the extent of suggesting that competition law provides a panacea for the access ills of

16 See discussion in Pt III of the main text below, particularly with respect to *Magill* at paras 51–53.

17 To some, this is a compelling reason for restricting exclusive rights to cases where the borrowing is unacceptably parasitic. Malla Pollack argues that "[f]undamental scientific research requires unintimidated access to masses of data", and that this access is impeded when a "researcher is intimidated by the need to contract for, and pay for, each tidbit of data, or risk a lawsuit that would disrupt work and perhaps lead to stiff financial penalties or even criminal liability": see M Pollack, "The Right to Know?: Delimiting Database Protection at the Juncture of the Commerce Clause, the Intellectual Property Clause, and the First Amendment", *supra* n 9, at 117.

18 This paper does not seek to determine whether stronger database rights are desirable, or the form that it should take.

database access. However, when used in conjunction with existing checks within the IP regime, chances of reaching a clear and sustainable balance would be more likely. Key developments in the EU and Singapore, and to a smaller extent, the US, are discussed. The discussion then highlights some limitations courts and regulators need to be aware of when applying competition law to IPRs in databases.

II. Internal regulation

11 With the enactment of competition law in Singapore, an additional layer of analysis has been added to the debate on access and incentives in the exploitation of databases.[19] It is clear that if database owners were found to have acted anti-competitively under competition law, they would likely be compelled to grant access to their databases.[20] However, merely because the Legislature has deemed it fit to have competition law regulate databases, does not make it self-evident why it should. Exclusionary rights in database are state sanctioned rights. It follows that owners may refuse access or impose conditions on access. By encroaching on the lawful prerogatives conferred by legislation, competition law may undermine its inbuilt system of rewards and threaten investment and innovation. This has led to the argument that there must be a strong presumption against any attempt to illegalise the exploitation of their IPRs.[21] After all, IPRs have long been subject to

19 The Competition Act (Cap 50B, 2006 Rev Ed) ("the Singapore Competition Act") was enacted to ensure that commercial undertakings operate as efficiently as possible by lowering their production costs and retail prices, and improving the quality and range of products offered to consumers. The Singapore Competition Act operates to regulate mergers, anti-competitive agreements and abuse of market dominance; and it is the last that this article focuses on. For a general discussion: see Burton Ong, "The Competition Act 2004: A Legislative Landmark on Singapore's Legal Landscape" (2006) SJLS 172 at 175 who noted that firms facing stiff competition are likely to be more "responsive to consumers, more willing to innovate and engage in research and development activity, and are more likely to optimise the resources which are at their disposal". The author also pertinently noted at 174 that the Singapore Competition Act must be "understood in light on the economic principles they are premised".

20 It is clear that competition law applies to database, which in Singapore is protected under the Copyright Act (Cap 63, 2006 Rev Ed) ("the Singapore Copyright Act"). See the CCS Guideline, *infra* n 128 at para 1.2 which stated that "for the purposes of this guideline, the term 'intellectual property rights' refers to the rights granted under the Patents Act, Copyright Act, Plant Varieties Protection Act, Layout-designs of Integrated Circuits Act, Registered Designs Act and trade secrets". See also subsequent discussion in Part II.A.

21 See Richard Whish, *Competition Law* (Oxford University Press, 5th Ed, 2005) ("*Competition Law*") at p 758, "[a]s a general proposition, the issue of compulsory licensing should be addressed as a matter of IP law and not as a matter of

quasi-competition law control through internal regulation. Copyright and the *sui generis* database right both offer endogenous solutions, though there are various limitations, exceptions and defences to their exclusive rights. It must be acknowledged that the argument is a forceful one. However, as will be seen, closer scrutiny reveals that these methods do not provide satisfactory solutions.

A. Copyright

12 As a signatory to the Agreement on Trade-Related Aspects of Intellectual Property Rights[22] ("TRIPS"), Singapore protects databases as literary works under copyright law.[23] The copyright regime provides mechanisms to limit the scope of the owner's right. First, the threshold requirement for copyright protection acts as a preliminary sieve for purely factual works or data, thereby pre-empting access concerns. Assuming the work is found worthy of protection, copyright defences provide a second limitation to the owner's exclusive rights. Third, copyright law may, in very limited circumstances, grant compulsory licenses. Each will be examined in turn.

competition law". However, see a contrary view in the *Comments of the Trade Marks Patents and Designs Federation on the First Evaluation of Directive 96/9/EC on the legal protection of databases*, where it was argued that "problems stemming from the need for others to use single-source databases should be seen as aspects of competition law and dealt with under that head" <http://europa.eu.int/ISPO/infosoc/legreg/docs/969ec.html>

22 (15 April 1994) Marrakesh Agreement Establishing the World Trade Organisation Annex 1C, 33 ILM 81 40 (1994).

23 Article 10(2) of TRIPS, *ibid*, provides that members of the World Trade Organisation ("WTO") must provide copyright protection to databases, domestic and from other WTO countries, "which by reason of the selection or arrangement of their contents constitute intellectual creations". See also Art 5 of the World Intellectual Property Organisation Copyright Treaty (adopted in Geneva on 20 December 1996) ("WIPO Copyright Treaty"), <http://www.wipo.int/documents/en/diplconf/distrib/94dc.htm>. Under s 7A of the Singapore Copyright Act, *supra* n 20, databases are treated as "compilations in any form", encompassing compilations or tables consisting wholly, partly or of database other than "relevant materials or parts of relevant materials". "Relevant material" in turn has been very broadly defined as works, including computer programs, sound recordings, cinematographic films, published editions of a work, television or sound broadcasts, cable programmes and certain performance recording. The intent of this amendment was to protect multimedia compilations: see *Singapore Parliamentary Debates, Official Report* (17 August 1999) vol 70 at col 2070.

(1) Thresholds

13 First, the database must be "original". In Singapore, this is a low threshold for database owners to cross.[24] Under the Copyright Act, the subject matter must first constitute an "intellectual creation"[25] by reason of the selection or arrangement of its contents, in a manner "original" to the author.[26] However, the "originality" requirement is not one that seeks to set the high creativity-linked standard of civilian *droit d'auteur* systems as a minimum threshold, but operates as a *de minimis* control which takes into account the effort of collecting facts in determining whether the

24 In defining "originality", English copyright law has traditionally stressed a rather low standard of effort and labour of authorship in database protection. There are old English cases that have placed emphasis on the need to protect the effort of collection: see *University of London Press Ltd v University Tutorial Press Ltd*, *supra* n 8. Thus, database owners who had put in sufficient effort in compiling data would be rewarded with copyright protection. A very low level of creativity was needed. This became popularly known as "the sweat of the brow approach": see *Autospin (Oil Seals) Ltd v Beehive Spinning* [1995] RPC 683 at 698 *per* Laddie J. As Prof Wei explains, "Literary works … offer information, pleasure or instruction to a reader. Literary works represent a medium of expression … in the case of compilation of facts they will also include the arrangement of the facts into categories and sub-categories … " George Wei, *The Law of Copyright in Singapore* (Singapore: SNP, 2000), at p 440.

25 The phrase "intellectual creation" is derived from Art 2.5 of the Berne Convention for the Protection of Literary and Artistic Works. What constitutes an "intellectual creation" has not been consistently interpreted by the contracting states. Most European jurisdictions did not protect databases at all, simply because they did not reach the high standard of originality expected of works protected by copyright. Sam Ricketson, *The Berne Convention for the Protection of Literary and Artistic Works: 1886–1986* (Kluwer, 1987) at p 231 noted that "differences still remain between national laws as to what constitutes intellectual creation or originality, with the common law countries generally taking a more relaxed view of this question". In *CCH Canadian Ltd v Law Society of Upper Canada* [2004] 1 SCR 339, the Canadian Supreme Court suggested an intermediate position between sweat of the brow and creative originality. For a more detailed discussion: see Burton Ong, "Fissures in the Façade of Fair-Dealing: Users' Rights in Work Protected by Copyright" [2004] Sing JLS 150.

26 Section 27(1) Copyright Act, *supra* n 20. The most oft-cited description of the dominant British approach to the originality requirement is that of Peterson J in *University of London Press Ltd v Universal Tutorial Press Ltd*, *supra* n 8, at 608–609, who held that:

> The word "original" does not in this connection mean that the work must be the expression of original or inventive thought. Copyright Acts are not concerned with the originality of ideas, but with the expression of thought, and, in the case of "literary work", with the expression of thought in print or writing. The originality which is required relates to the expression of the thought. But the Act does not require that the expression must be in an original or novel form, but that the work must not be copied from another work – it should originate from the author.

eventual expression of the facts is original.[27] The author is rewarded for his "original work" as long as it is the fruit of his own labour and expense. If what is being protected is not the individual facts but the effort of collecting the information that is compiled, then it is hard to see how much more intellectual effort is required above the 'sweat of the brow' standard inherited from English law.[28] It follows that if the threshold for protection is low, most databases would likely receive copyright protection in Singapore. In order to counterbalance access rights under such low thresholds, it should follow that there are generous exceptions, and limitations *ex post* grant to the exclusive rights in the database.

14 Singapore's threshold for copyright protection should be contrasted with the arguably higher American standard of "modicum of creativity" exhibited in the work before it can be considered to be original, which seems to be more akin to the definition of "intellectual creation" in civil law countries. Recognising the potential access bottlenecks caused by conferring protection based on the "sweat of the brow" approach, the US Supreme Court in *Feist Publications, Inc v Rural Telephone Services Co*[29] rejected the proposition that investment and effort

27 *Re AUVI Trademark* [1992] 1 SLR 639 at 648, [32] where Chao Hick Tin J (as he then was) held that originality "does not mean novelty or uniqueness; nor does it necessarily involve inventiveness. All that needs to be shown is that the author created it and has not copied it from another, and that he has expended towards its creation a substantial amount of skill or labour". Recent cases have confirmed that "intellectual creation" under Singapore law should not be interpreted under the higher standard of "originality" found under Continental civilian standards, suggesting that the UK standard may still apply in Singapore. *Virtual Map (Singapore) Pte Ltd v Suncool International Pte Ltd* [2005] 2 SLR 157 held that against that "originality" in Singapore was less than the higher standard of "intellectual creation" as understood by civilian jurisdictions: see the judgment of Lai Kew Chai J at [19] who held that "threshold of originality in French copyright law may be considerably higher than that in Singapore copyright law". For an excellent discussion of this case: see Tan Tee Jim & Ng-Loy Wee Loon, "Intellectual Property Law" (2006) 6 SAL Ann Rev 334 at para 16.123 who observed that "naturally, because the question whether a work is of sufficient 'originality' or 'intellectual creation' to be protected by copyright is one of fact and degree, it is very difficult to pinpoint just how much higher the threshold is in the civil law countries". It is certainly hoped that the threshold of database protection will be clarified in future cases.

28 If this is correct, then Prof Loy's comment that "(t)he issues raised by the "sweat of the brow" controversy have to be answered, too, in Singapore, where our copyright law is based on English copyright system" retains some of its relevance event after the enactment of Section 7A. See Ng-Loy Wee Loon, "Copyright Protection for Traditional Compilations of Facts and Computerized Databases – Is *Sweat* Copyrightable?" (1995) SJLS 96 at 128.

29 [1991] 499 US 340 ("*Feist*"). See George Wei, "Comparison Of the TRIPS Provisions with the Current Intellectual Property Laws of Singapore", (1997) SJLS 154 at 177 (Observing that "English courts tend to avoid drawing a dividing line between the

alone entitled database owners to control access to factual databases. Instead, it ruled that databases may be protected through copyright only where the owner had expended sufficient skill and judgment in the selection and arrangement of the contents. The court reasoned that because facts were not subjectively created, but objectively discovered, copyright protection could not subsist in mere facts, no matter how great an investment had been made in their compilation.[30] Raising the bar for protection may be a potential solution, but it is unlikely that Singapore will legislatively back-paddle towards a weaker copyright regime, given its general trend towards stronger IPRs.[31]

15 Second, since copyright protects expression and not facts, only the expressive parts of the database can be protected. This is particularly

effort of setting the facts out and the preparatory work that has gone on before. The effort of selecting facts is taken into account as is the effort of creating facts. The English cases are also more receptive in taking into account the effort and labour of collecting facts. In the United States on the other hand, the Supreme Court, whilst accepting that the effort of selection is relevant, has ruled that "industrious collection" or "sweat of the brow" is not relevant to the issue of whether the expression is original".)

30 *Id*, at 345. In a famous passage, Justice Sandra Day O'Connor wrote:

> This case concerns the interaction of two well-established propositions. The first is that facts are not copyrightable; the other, that compilations of facts generally are. … The key to resolving the tension lies in understanding why facts are not copyrightable. The *sine qua non* of copyright is originality. To qualify for copyright protection, a work must be original to the author. Original, as the term is used in copyright, means only that the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity. To be sure, the requisite level of creativity is extremely low; even a slight amount will suffice … It may seem unfair that much of the fruit of the compiler's labor may be used by others without compensation. As Justice Brennan has correctly observed, however, this is not "some unforeseen byproduct of a statutory scheme". It is, rather, "the essence of copyright", and a constitutional requirement. The primary objective of copyright is not to reward the labor of authors, but "[t]o promote the Progress of Science and useful Arts." To this end, copyright assures authors the right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work .... This principle, known as the idea/expression or fact/expression dichotomy, applies to all works of authorship. As applied to a factual compilation, assuming the absence of original written expression, only the compiler's selection and arrangement may be protected; the raw facts may be copied at will. This result is neither unfair nor unfortunate. It is the means by which copyright advances the progress of science and art."

However, in enforcing this "modicum of creativity" approach, the experience post-*Feist* has not been an unduly restrictive one – as one court puts it, copyright protection in compilations may be thin, "but not anorexic". See *Key Publications, Inc v Chinatown Today Publishing Enterprises, Inc* 945 F 2d 509 (2d Cir, 1991).

31 For recent evidence of these amendments: see Ng-Loy Wee Loon, "The IP Chapter of the US-Singapore Free Trade Agreement" (2004) 16 SAcLJ 42.

important when a database is a sole source database, as there may be a close relationship between the facts and the manner in which facts are expressed because there are often limited ways to express a fact such as to include the expression in a database.[32] However, as with the threshold for "originality", "expression" also seems pegged at a lower level where databases are concerned. As Prof Wei observed:[33]

> Difficulties in determining where expression begins and the 'raw' facts end are especially acute in the case of compilations of facts. In many cases, the actual effort of arrangement or presentation may be slight and in some cases there may be no arrangement other than a simple alphabetical presentation of the facts as in a telephone directory. In such cases, the lion's share of the effort may be devoted toward the selection and choice of what information or facts to include. Whilst choice of subject matter itself cannot be regarded as part of the author's expression of that subject matter, it seems that choice in terms of selection of facts can be very important to the existence of original expression in factual compilations.

16 This raises a danger that if a third party independently gathered his set of facts, it may easily appear that his database will look substantially similar to the entries from the owner's database.[34]

32 *Total Information Processing Systems v Daman Ltd* [1992] FSR 171, *per* Baker J. As Prof Wei noted:

> Expression will often involve arrangement or presentation of the information. In most cases, broad changes in arrangement or presentation style will not directly affect the meaning 'substantive content' of facts being expressed. Another pointer toward expression is the presence of choice. The greater the room for selection, arrangement and presentation, the greater room for expression. In cases where there is little room for expression, courts are slow to find infringement so lest basic facts receive protection.

The author goes on to observe that courts will conclude that the underlying idea "so completely dominates the expression that it will be almost impossible to protect the expression without protecting the idea", *supra* n 24 at pp 454–455. In the US, where there is only one or a limited number of ways to express an idea, copyright law deploys its merger doctrine to deny any copyright protection to the expression. Indeed, it was questioned why the *Feist* case could not have been decided on the basis of merger. See Justin Hughes, "How Extra-Copyright Protection Of Databases Can Be Constitutional", *supra* n 13 at 192, who argued that "there was no other sensible way to express the information contained in the entries in Rural's telephone book, so even if Rural technically had a copyright over those entries, Feist should have been able to reproduce them". In any case, Singapore has not shown an inclination toward the merger doctrine.

33 George Wei, *supra* n 24 at p 455. See also *Ladbroke (Football) Ltd v William Hill (Football) Ltd* [1964] 1 WLR 273.

34 This raises the concern that protecting factual entries under copyright law triggers unfounded litigation and thereby high transaction, because of the substantial similarity of independently gathered databases.

Infringement can be a difficult issue to determine.[35] As long as there is enough material for there to be a work, it seems an author can assert a separate copyright for each part to establish that that page is qualitatively significant to the entire work if each existed as a discrete unit before incorporation into a larger whole. While this argument may often fail in the case of "conventional copyright" works,[36] databases are by its very nature compilations of discrete works. The compiler has to make numerous decisions as to what information is covered. This makes it much easier for the author to mount a successful action for infringement,[37] an outcome that is dissatisfactory from the point of view of those seeking access. If the answer is not to be found in the threshold of copyright protection, could defences to infringement provide a haven to access seekers?

(2) Defences

17 Copyright law certainly does provide greater latitude to the defendants where fact-based works are concerned.[38] However, infringement will still arise where instead of searching the common sources and obtaining the subject matter there, the third party parasitically appropriates the labour of his predecessor, the use would still be infringing.[39] In such instances, those sued for infringement may turn to two avenues for relief.

35 "The plaintiff will ordinarily have to prove that the allegedly infringing material is a reproduction or adaptation of the plaintiff's work. This will involve look at two elements. First, whether there is a 'sufficient degree of objective similarity' between the two works. Secondly, whether there is a causal connection between the works." See George Wei, *supra* n 24, at p 440.

36 See, *eg*, *Hyperion Records Ltd v Warner Music (UK) Ltd* (17 May 1991) (unreported). For a discussion of this case, see George Wei, *supra* n 24, at pp 464–465.

37 However, it may be that this is ameliorated somewhat by the fact that the simplicity of the work raises the degree of exactitude required to find infringement. See *Kenrick & Co v Lawrence & Co* [1890] 25 QBD 99 *per* Wills J who held that "an exact literal reproduction" is required in the case of a simple drawing.

38 See George Wei, *supra* n 24, at p 480 who observed that: "[t]he tension between protecting original expression whilst leaving facts and ideas free is at the most acute in the case of fact based works such as history books, trade directories and other compilations. Given that basic facts and underlying raw ideas are not protected by copyright it would be natural for there to be greater latitude for copying". The author cited Brightman J's observation in *Ravenscroft v Herbert* [1980] RPC 193 at 206 that factual works, in addition to providing enjoyment, is also produced "to add to the knowledge possessed by the reader and perhaps in the process to increase the sum total of human experience and understanding", and therefore "the law of copyright will allow a wider use to be made of a historical work than a novel so that knowledge can be built upon knowledge".

39 See *Kelly v Morris* (1868) LR 1 Eq 697, where the court vividly stated that "[i]n the case of a road-book, he must count the milestones for himself … he is not entitled to

18 First, they may rely on the statutory fair dealing defence. With a more robust general fair dealing provision, Singapore potentially has an instrument malleable enough to address access concerns.[40] However, with the enactment of competition law, the courts will likely be more restrained in developing fair dealing to allow copying to produce enhanced products, or compel access where the copyright owner refuses to license.[41]

19 A second haven for potential infringers is the equitable doctrine of copyright misuse. Copyright misuse is a unique invention of US jurisprudence to prevent owners from acting beyond the lawful scope of their copyright.[42] Having been found liable for infringement, defendants may raise this equitable shield to nullify the finding because the owner had acted inequitably, and should not be allowed to abuse the judicial process by benefiting from the damages that would otherwise be awarded. The misuse defence is particularly useful in the case of database protection where protection may be less justified in relation to certain

take one word of the information previously published without interpedently working out the matter for himself, so as to arrive at the same result from the same common sources of information".

40 Section 35 Singapore Copyright Act, *supra* n 20. Under the previous fair dealing system, only a narrow list of acts would be defensible. Under the new system, this "categorical" approach has been removed, allowing courts to consider more broadly whether any act constitutes "fair dealing". One notable factor is whether the work could be obtained "within a reasonable time at an ordinary commercial price". As the Minister for Law, Prof S Jayakumar, explained, this amendment "refines our fair dealing system by allowing other acts to be assessed according to a set of factors in determining whether these acts could constitute fair dealing … to preserve unimpeded exchange of information and ideas to crate an environment which is conducive to the development of creative works.": see *Singapore Parliamentary Debates, Offical Report* (16 November 2004), *supra* n 11.

41 Examples of these include pre-race data, television listings or replication of a database which has become an industry standard. See Pt III of the main text below for a detailed discussion of this issue. A potential direction for the new fair dealing defence could be to build on the US doctrine of transformative use to address this issue: see *Campbell v Acuff-Rose Music* 510 US 569 (1994).

42 In *Lasercomb America, Inc v Reynolds* 911 F 2d 970 (4th Cir, 1990) ("the *Lasercomb* case"), anti-competitive licensing agreements prohibited Lasercomb's customers from developing or assisting others to develop die-making software during the term of the standard licensing agreement for 99 years. The court held that the monopoly power does not extend to property not covered by copyright. Holding that copyright misuse barred Lasercomb's infringement action, the court concluded at 979 that "[t]he misuse arises from Lasercomb's attempt to use its copyright in a particular expression, the Interact software, to control competition in an area outside the copyright, i.e., the idea of computer-assisted die manufacture".

categories of works.[43] While there is no direct equivalent in Singapore,[44] the appeal of the US copyright misuse led Prof Ong to comment that:[45]

> If copyright law were to take on the responsibility of tackling the problem of anti-competitive refusals to license internally, but without overhauling the copyright system with an unavoidably detailed statutory scheme of compulsory licensing provisions, it might be more feasible to develop on a doctrine of 'copyright misuse'.

20 Since courts in Singapore also exercise equitable jurisdiction in copyright cases, it is conceivable that a sufficiently bold and inventive judge might be willing to consider such arguments. The immediate benefit of relying on copyright misuse to regulate access to databases is that there will not be a need to address the problems arising from grafting competition law onto copyright – a move that may cause further upset to the access-incentive balance. Like sector-specific regulation, copyright rules and remedies can be better calibrated to the needs of the stakeholders rather than be subject to broad generic rules under competition law. However, two critical limitations prevent satisfactory resolution of anti-competitive copyright abuses under this doctrine.

(a) Unclear legitimacy

21 The first limitation to copyright misuse is that the legitimacy of the doctrine is unclear. Explicit application of copyright misuse has been

43 As one commentator has observed, "the misuse defense has been strongest where the justification for copyright is weakest – cases involving fact works or functional works such as computer programs": see Paul Goldstein, *International Copyright – Principles, Law and Practice* (Oxford University Press, 2003) at p 320; Burton Ong, "Anti-competitive Refusals to Grant Copyright Licences: Reflections on the IMS Saga" (2004) 26(11) EIPR 505 at 505–514, who argued that this response from copyright law is necessitated, in part at least, because of the expansion of the copyright system to include non-expressive, quasi-functional and highly technical "works" as copyrightable subject matter.

44 UK copyright law has a statutory provision which allows courts to refuse to enforce copyright on public policy grounds. While the Singapore Copyright Act, *supra* n 20, does not have an equivalent provision, it is arguable that may equity allows a similar doctrine to be developed here, possibly in the future. Alternatively, the enterprising litigant may attempt to argue that English cases incorporating such express public policy considerations forms part of Singapore law as long as they were decided before the Application of the English Law Act (Cap 7A, 1994 Revised Edition), For a discussion of copyright and public policy in the UK, see Gerald Dworkin, 'Copyright, the Public Interest and Freedom of Speech: A UK Copyright Lawyer's Perspective',, in Jonathan Griffiths and Uma Sutheranen, Copyright and Free Speech Comparative and International Analyses (Oxford University Press, 2005), at p 153.

45 Burton Ong, "Anti-competitive Refusals to Grant Copyright Licences: Reflections on the IMS Saga", *supra* n 43, at 512.

limited to the lower courts in the US,[46] with the Supreme Court only suggesting as *dicta* that the doctrine may exist.[47] Most other courts that have considered the copyright misuse doctrine since 1990 have declined to apply it.[48] Even when one considers the law developed by lower courts, there appears to be no consensus on what the rules should be.[49]

(b) Unclear role

22 Second, it is unclear what role copyright misuse has to play in coexistence with competition law. Cases hold that in order for misuse to be established, the owner must have violated a substantial "antitrust norm", and that this violation relates directly to the claim of copyright infringement.[50] Authority is split on whether the misuse doctrine provides an open-ended defence for firms to allege that an owner has violated a distinct copyright policy or whether the doctrine merely tracks existing antitrust law standards.[51]

46 The *Lasercomb* case, *supra* n 42.

47 *United States v Loew's, Inc* 371 US 38 (1962) at 45–46.

48 Herbert Hovenkamp *et al*, *IP and Competition: An Analysis of Competition Principles Applied to Intellectual Property* (Aspen Law, 2003) at pp 3–42 ("H Hovenkamp, *IP and Competition*").

49 In *Triad Systems Corp v Southeastern Express Co* 64 F 3d 1330 (9th Cir, 1995) ("the *Triad* case"), the Ninth Circuit held that copyright misuse was inapplicable, even where the alleged use was essential for competition in a market unrelated to the copyright. Without explanation, the court expressly limited the *Lasercomb* case to situations where the license agreements prohibited customers or competitors from developing their own software. The court reasoned that there was no appreciable public benefit arising from competition with Triad in the downstream service market. The fact that such competition provided consumers with a choice for service providers was insufficient. Rivals had to develop their own operating system software and convince Triad computer owners to replace their existing software. This conclusion has been criticised as being commercially unrealistic, as it would require competitors in digital markets to incur massive costs to enter markets that only incidentally involve the owner's copyright. In contrast, the court in *Alcatel USA, Inc v DGI Technologies* 166 F 3d 772 (5th Cir, 1999) ("the *DGI Technologies* case") rejected the*Triad* case's narrow approach, and held that as long as the owner used its copyright to indirectly gain commercial control over products that are not covered by copyright, copyright misuse was present. The Fifth Circuit employed the doctrine of misuse to restrict the owner's attempt to expand copyright beyond its scope and obtain a patent-like monopoly over a secondary market. The court held that it was against public policy to afford a remedy to the owner with "unclean hands", even when copyright had been directly infringed. To find liability for infringement would in fact be sanctioning the owner's attempt to use the court to extend copyright beyond statutory bounds.

50 The *Lasercomb* case, *supra* n 42. "Antitrust" and "competition law" will be used interchangeably for the purposes of this article.

51 *USM Corp v SPS Technologies, Inc* 694 F 2d 505, 512 (7th Cir, 1982) maintained that patent misuse is best analysed using antitrust standards. See "Misuse or Fair Use: That Is the Software Copyright Question" (1997) 12 Berkeley Tech LJ 251 at 275 (collecting commentary), with the *Lasercomb* case, *supra* n 42 framing the issue as

(c) Evaluation

23 Those who argue for the continued development of copyright misuse note that copyright misuse has departed from antitrust principles procedurally and substantively.[52] Procedurally, copyright misuse applies where antitrust does not, when parties choose not to refer a case to the Department of Justice or the Federal Trade Commission. Substantively, the rationale for copyright misuse is more concerned with integrity of the judicial process and copyright policy, rather than competition. Copyright misuse is not only about "monopolistic abuse", but also about serving as an internal constraint on efforts to expand the copyright system beyond its bounds; thus, it would apply to conduct that antitrust law would not reach.[53] Given that copyright misuse is raised in the context of copyright infringement rather than an antitrust violation, US courts allowed the defence even without proof that the owner had technically violated antitrust laws.[54]

24 However, it is difficult to discern a distinct copyright policy in the misuse doctrine beyond these rather unimportant differences that seem

"whether the copyright is being used in a manner violative of the public policy embodied in the grant of a copyright". In recent years, Congress has acted to limit misuse in the patent context. Congress passed the Patent Misuse Reform Act in 1988 to prevent patent holders from asserting patent protection until the misused conduct ceased and its effects were purged. 35 USC §271(d) enumerated cases in which patent owners "shall not be denied relief or deemed guilty of misuse or illegal extension of the patent right", including derivation of revenue, licensing to others, seeking to enforce, refusing to license for use, and conditioning licensing or sale on acquisition of other licenses or rights.

52 *In re Napster, Inc Copyright Litigation* 191 F Supp 2d 1087 (ND Cal, 2002) described antitrust and public policy rationales for misuse as two different approaches. Prof Merges suggests that an independent role for intellectual property law here can complement the competitive protections developed by antitrust law. See Robert P Merges, "Reflections on Current Legislation Affecting Patent Misuse" (1988) 70 J Pat & Trademark Off Soc'y 793 at 800 where he suggested that the doctrine reasonably expands beyond antitrust because some "thin" markets for patented technology would not meet antitrust definition of a market.

53 *Mallinckrodt, Inc v Medipart, Inc* 976 F 2d 700 (Fed Cir, 1992) at 704: "The concept of patent misuse arose to restrain practices that did not in themselves violate any law, but that drew anticompetitive strength from the patent right, and thus were deemed to be contrary to public policy."

54 In the EU or Singapore, this may be where the owner is not "dominant" for competition law purposes. Significantly, the court in the *DGI Technologies* case, *supra* n 49, noted that it is irrelevant whether or not there was monopoly power involved as long as such enforcement of copyright has effects in a secondary market. See R S Katx & Adam J Safer, "Copyright Misuse: Inconsistent Cases from the 1990s and Simple Formula for the 21st century" (2000) 17 No 4 Computer Law 3 at 7, who suggested a simple rule: (a) What is the market which copyright applies? (b) Is the rights holder trying to stifle competition on a separate market?

to mirror the substantial antitrust elements of abuse. The analysis is circular, begging the issue that copyright law needs to resolve, *viz*, what are the limits to a copyright owner's ability to raise entry barriers to database markets as part of a broader commercial strategy to foreclose the market to rivals.[55] Since antitrust law targets every practice that could impair competition, it is not easy to define a separate role for abuses of copyright monopoly.[56] The owner's refusal to license is objectionable because of the threat it poses to competition. If the defendant in a copyright infringement action cannot demonstrate harm to competition sufficient to trigger antitrust laws, should the defendant be allowed access through the back door on a lower threshold under copyright misuse?

25 It is important to note that the only relevant inquiry under copyright misuse is whether the owner breached the scope of its copyright. While the degree of harm caused by the breach may be relevant, it is not a condition precedent to nullifying the copyright infringement. An owner tarred with misuse cannot enforce its copyright against any defendant, whether or not there is a relationship between the misuse and recovery it seeks.[57] This is because courts hearing subsequent infringement cases on the same infringed content are obligated to refuse to enforce a copyright for misuse.[58] Copyright owners therefore may be unable to enforce extremely valuable rights against infringers involved in later litigation because they were found to have misused their copyright in an earlier case. This may encourage blatant infringement by giving

55 Herbert Hovenkamp, *IP and Competition*, *supra* n 48, at §3.3a: "Outside a very narrow category of *per se* misuse, proving misuse will require an accused infringer to demonstrate that the patentee has power in the relevant market." *USM Corp v SPS Technologies Inc*, *supra* n 149, *per* Posner J at 512. ("If misuse claims are not tested by conventional antitrust principles, by which principles shall they be tested? Our law is not rich in alternative concepts of monopolistic abuse; and it is rather ate in the day to develop one without in the process subjecting the rights of patent holders to debilitating uncertainty.")

56 Burton Ong, "Anti-competitive Refusals to Grant Copyright Licences: Reflections on the IMS Saga" *supra* n 43, at 505–514:

> For a 'copyright misuse' doctrine to effectively respond to these scenarios, there must be a judicial consensus that (1) claiming copyright in an industry standard, when coupled by (2) conduct which induces customer dependence on that standard, such that (3) the copyrighted subject-matter is essential to market participation, and that (4) a *bona fide* request for a copyright licence for valuable consideration has been refused without any legitimate reason apart from the copyright owner's desire to exclude competitors from entering the market, should prevent the copyright holder from succeeding in an action for copyright infringement against a competitor which uses the copyrighted subject-matter in his own products.

57 Mark A Lemley, "Comment, The Economic Irrationality of the Patent Misuse Doctrine" (1990) 78 Calif L Rev 1599 at 1614–1620.

58 *Id*, at 1615.

undeserving infringers a "free-ride" even on minor copyright misuses. This automatic refusal to enforce a misused copyright is harsh, and may lead courts who anticipate the unfair result in later cases to refuse to find misuse in the first place. In this sense, copyright misuse is like Pandora's Box: once invoked, its consequences cannot be controlled. It may be suggested that at present, the boundaries of copyright misuse are poorly defined and unclear. Until this doctrine is more developed, it is submitted that competition law may provide a more reliable and consistent method of dealing with abusive conduct by database owners.[59]

(3) Compulsory licensing

26 Compulsory licensing is often the remedy for granting access in cases involving anti-competitive refusals to license. While copyright law typically provides for half a dozen intricately articulated compulsory licenses, they generally relate to distribution and reproduction for extremely fact specific cases, and do not provide a general remedy for anti-competitive refusals to license.[60] Copyright law has no general provisions along the lines of patent[61] or semiconductor legislation.[62] In

59 However, it is appropriate to acknowledge that shortcomings aside, developments in the copyright misuse doctrine have laid an important foundation for understanding the anti-competitive aspects of copyright. Daniel J Gifford, "Developing Models for a Coherent Treatment of Standard-Setting Issues Under the Patent, Copyright, and Antitrust Laws" (2003) 43 IDEA 331: "The misuse doctrines – despite their irregular development and the apparently different directions taken by the courts and Congress – are in fact pointing the way towards a new synthesis of intellectual property and antitrust."

60 These are directed towards allowing copying for educational institutions, recording of musical works, government use, licenses to publish on grounds of non-availability, licences for public performances and broadcast and cable programme licenses. See generally, George Wei, *supra* n 24, at pp 1112–1142.

61 As an example, patent owners in Singapore were initially liable for compulsory licensing if they were found not to have "used" their patents. Sections 55(1) and 55(2) of the Patents Act 1995 (Cap 221, 2005 Rev Ed) provided that compulsory licenses may be available after the first three years from the grant of a patent for non-supply or supply based on unreasonable terms. Under the current rules, the court may order compulsory licensing to correct anti-competitive practices, which may *include* non-use. However, s 55 may now be repealed in light of the introduction of competition law in Singapore.

62 The Layout-Designs of Integrated Circuits Act (Cap 159A, 2000 Rev Ed). Section 27(1) allows those requiring access to protected layout design as a remedy to anti-competitive practices to apply to the court for a compulsory license. Section 27(2) goes on to state that if the court is satisfied that this ground is satisfied, the court may order the compulsory licenses on terms which the court thinks reasonable. The license granted is non-exclusive, non-assignable and subject to the payment of remuneration specified by the court. For a discussion, see George Wei, *supra* n 24, at pp 1316–1317. However, a natural question that arises is what will constitute an anti-competitive practice.

any case, a general compulsory licensing provision will likely refer back to competition principles in its application, and result in circular analysis like the copyright misuse doctrine, at least until a more solid foundation of jurisprudence develops.

(4) Evaluation

27 Regulating database access under copyright may ultimately be an uncertain and dissatisfactory exercise. Low thresholds of "originality" and "expression" mean that for databases, filtering of factual works is likely to be minimal. While the invigorated fair dealing and copyright misuse defences have the potential to remedy access concerns endogenously, they are at present too new to the Singapore scene for any pronouncement to be made. However, it may likely be easier to envisage development of the former than the latter, given the fact that courts here can simply draw on the US experience with their statutory fair use defence to interpret our own pre-existing provision, rather than graft a new doctrine of misuse from scratch.[63] Apart from the limitations outlined above, copyright protection may tie up time sensitive data for too long.[64] As a Member of Parliament noted:[65]

63 17 USC § 107. For a discussion, see *Sega Enterprises Ltd v Accolade, Inc* 977 F 2d 1510 (9th Cir, 1992); *Sony Computer Entertainment America, Inc v Connectix Corporation* 203 F 3d 596 (9th Cir, 2000).

64 Copyright protects the duration of protection under US, EU and Singapore copyright law is the life of the author plus 70 years. See 17 USC § 302 (2000) <http://www.law.cornell.edu/uscode/html/uscode17/usc_sup_01_17.html>; Recital 25 Database Directive, infra n 71 <http://europa.eu.int/ISPO/infosoc/legreg/docs/969ec.html> read with Art 1, Council Directive 93/98/EEC of 29 October 1993 harmonising the term of protection of copyright and certain related rights; Section 28 Singapore Copyright Act, *supra* n 20 <http://statutes.agc.gov.sg/>.

65 *Singapore Parliamentary Debates, Official Report* (15 June 2004), *supra* n 10. A solution around this problem may be to incorporate the US doctrine of unfair competition. See *International News Service v The Associated Press* 248 US 215 (1918); *National Basketball Association v Motorola Inc* 105 F 3d 841 (2d Cir, 1997). Essentially, where a plaintiff incurs cost in acquiring time-sensitive information, it may prevent a direct competitor from accessing this information where it reduces the production incentive or quality of the product or service. The immediate attraction of this model is that no data is tied up in property rights. However, the problem with unfair competition in determining access issues is that it is unclear where and how a delineation of acts deemed to be "unfair" ought to be drawn. If the owner has no rights in the absence of unfair direct competition, the protection is pitifully narrow. Users who would otherwise have to pay an equitable license fee would now be able to access the information without allowing the database owner to recoup its investment. However, if a database maker has the right to exclude both indirect competitors as well as downstream users, then it would be difficult to see how the unfair competition model would ensure freer access when the potential scope of the exclusion is the same as in the Database Directive's proprietary model. Further, as commentators have rightly suggested, mere personal rights in database

> [A]s a nascent knowledge-based economy, I think this would inhibit the exchange and proliferation of intellectual property that should be brought to the domain sooner for the benefit of consumers.

28 To this, an argument may be made that this is not a problem.[66] Since databases rely primarily on their comprehensiveness and accuracy to make them attractive in the market, the market will naturally ignore outdated works or those that have later been found to be inaccurate. Consumers would be less willing to use a database without some degree of confidence that the contents are accurate. If a database owner tries to extract an inordinate licence fee, it will risk price competition and market displacement from more efficient second comers, since the facts are free for all to use.[67] However, this view presupposes that product switching is possible. Sometimes, consumer choice is limited as market entry to alternatives is impeded by the copyright owner's IPR. Copyright law is not concerned with this form of consumer harm. Protection is awarded solely on the creative effort exerted by the author in creating the work, and it is not concerned with the timeliness, utility, accuracy or reliability of the work, and has no role in meaningfully addressing society's interest in promoting an optimal degree of database maintenance, since the entire duration of exclusive protection is granted upfront. Indeed, the UK courts have held that even though the owner's database was a sole source of information, it was fully entitled to sue for copyright infringement.[68]

29 In light of the foregoing, the alternative may be to provide for a separate right running for a shorter duration with a separate set of user-owner balances.[69] This is precisely what the EU had done a decade ago.

protection are commercially emasculating, and are not adequate as economic incentives for undertakings in the database industry. For a discussion on this, see Sussanna Leong, "Legal Protection of Factual Compilations and Databases" (2002) Journal of World Intellectual Property 1047 at 1066.

66 Christian Koboldt, "The EU Directive on the Legal Protection of Databases and the Incentives to Update: An Economic Analysis" (1997) 17 Int'l Rev L & Econ 127 at 131.

67 George M Hunsucker, "Raising a Toll Fence to Protect the 'Noncreative' Labors of Database Makers: The European Database Directive" (1997) 7 Fordham Intell Prop Media & Ent LJ 697.

68 In *Football League Ltd v Littlewoods Pools Ltd* [1959] Ch 637, the court held that although the information contained in the plaintiff's chronological list was not available from any other source, infringement was found. The owner's refusal to license had to be dealt with as a competition concern rather than a copyright matter.

69 The reluctance to extend "expression" to protect the effort and labour of simply collecting facts does not mean that database protection is not important. Rather, as Prof Wei rightly noted, "it is a question of providing adequate protection of databases without stretching copyright too far". George Wei, *supra* n 24, at p 457.

The result of this "database experiment" was one of the most controversial and least balanced IPR ever created.[70]

B. The sui generis *database right*

30 The EU Database Directive ("Database Directive") established a common denominator in the EU for the protection of a wide variety of databases in the information age.[71] Under the first tier of copyright protection,[72] only original databases are protected as authors' right for the life of the author, plus 70 years. Protection does not extend to the contents itself.[73] Independent of copyright, the database owner is entitled to a *sui generis* database right. It protects the contents of a database rather than its structure or manner of classification. Not a scintilla of creativity is required.[74] The *sui generis* right is conferred where there has been

70 Jerome H Reichman & Pamela Samuelson, "Intellectual Property Rights in Data?", *supra* n 9, at 81, called it "one of the least balanced and most potentially anti-competitive intellectual property rights ever created"; see also Stephen M Maurer *et al*, "Europe's Database Experiment" (2001) 294 Sci 789.

71 Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, (OJ L 77), 27 March 1996 at pp 20–28. The Database Directive is divided into four parts. The first part explains the scope of the directive. The second part lays out the copyright provisions, while the third part lays out the *sui generis* right. The fourth part deals with, *inter alia*, the remedies to ensure "fair" access. The "sweat of the brow" copyright threshold has to be revised upwards to a standard of "intellectual creation" as understood in civilian jurisdictions. As Prof Cornish noted "[t]he *sui generis* right has its place in the Database Directive because there is no harmonised law of unfair competition as between EU states by which undue misappropriation of information could be attacked": see *Intellectual Property*, *supra* n 1 at p 525. As Dr Derclaye explained "the main reason for this protection was the threat to the producers' investment provoked by the emergence of digitisation", see E Dercalye, "The Court of Justice Interprets the Database Sui Generis Right for the First Time" (2005) 30(3) EL Rev 420 at 422.

72 Article 5 of the Database Directive, *ibid*, prohibits the temporary or permanent reproduction by any means in whole or in part; translation; adaptation, arrangement or any other alteration; any form of distribution subject to exhaustion of rights within the Community and communication, display or public performance.

73 Article 3 of the Database Directive, *ibid*, provides copyright protection for works which are the author's own intellectual creation by reason of his selection or arrangement of the contents, but not the contents themselves. Non-protection over the content echoes Art 10(2) of TRIPS, *supra* n 22, and Art 5 of the WIPO Copyright Treaty, *supra* n 23. As Prof Cornish observes "[t]his is likely to exclude from copyright the listing of mundane information such as the names and addresses in street directories, and telephone and Internet listings": see *Intellectual Property*, *supra* n 1, at p 397.

74 Recital 40 of the Database Directive, *ibid*, provides "[w]hereas the object of this *sui generis* right is to ensure protection of any investment in obtaining, verifying or presenting the contents of a database for the limited duration of the right; whereas such investment may consist in the deployment of financial resources and/or the expending of time, effort and energy". Recital 55 of the Database Directive, *ibid*, elaborates on this providing "[w]hereas a substantial new investment involving a

qualitatively and/or quantitatively a substantial investment in obtaining, verifying or presenting the contents.[75] The owner's exclusive right runs for 15 years, but is renewed where there are "substantial changes" to the database.[76] Under this right, database owners can prevent extraction and reutilisation of the whole or substantial part, evaluated qualitatively and/or quantitatively, of the content of that database.[77] In certain cases, they may also prevent the systematic extraction and/or reutilisation of insubstantial parts.[78] While this clearly extends protection over the realm of factual information traditionally denied protection by copyright law, how far does it go?[79]

31 This is not merely an academic issue for Singapore. While TRIPS sets the minimum standard required for protection, Member States are free to provide for stronger IPRs in databases.[80] In the decade since the EU adopted its Database Directive, signatories to TRIPS have had strong cause to consider its implications on database protection. An increasing number of non-EU states seeking to exploit and protect their goods in the Common Market have concluded bilateral agreements based on reciprocity in protection,[81] causing an expansion of database rights

new term of protection may include a substantial verification of the contents of the database". As Prof Cornish observes "the selective dictionary will doubtless be a clearer case than the classificatory telephone directory, but each may have some hope; the merely comprehensive will be precluded – that is the silliness of the whole construct": see *Intellectual Property*, *supra* n 1, at p 524.

75 Article 7(1) of the Database Directive, *ibid*, stated that "[m]ember states shall provide for a right for the maker of a database which shows that there has been a qualitatively or quantitatively substantial investment in either the obtaining, verification or presentation of the contents to prevent extraction and/or reutilisation of the whole or a substantial part, evaluated qualitatively and/or quantitatively, of the contents of the database".

76 Article 10 of the Database Directive, *ibid*.

77 *Ibid*.

78 Article 3 of the Database Directive, *supra* n 73.

79 Hassan A Deveci, "Databases: Is Sui Generis A Stronger Bet than Copyright?" (2004) 12 Int'l JL & Info Tech 178.

80 Article 1(1) of TRIPS, *supra* n 22. Article 3(1) of TRIPS applies to IPRs as set out in ss 1–7 of Pt II of TRIPS. There may be an argument that the new *sui generis* right is outside of Pt II and therefore not subject to national treatment principles. It is possible that the reciprocity provisions may be challenged under TRIPS on the basis of a most favoured nation argument.

81 Recital 56 of the Database Directive, *supra* n 71: "Whereas the right to prevent unauthorized extraction and/or re-utilization in respect of a database should apply to databases whose makers are nationals or habitual residents of third countries or to those produced by legal persons not established in a Member State, within the meaning of the Treaty, only if such third countries offer comparable protection to databases produced by nationals of a Member State or persons who have their habitual residence in the territory of the Community."

through a "ripple" effect across the global economy.[82] Singapore is not immune to such pressures. During a recent parliamentary debate on amendments to the Singapore Copyright Act, a member proposed:[83]

> Again, I would like to explore the further question which is whether we should really try and extend the concept of literary work to these areas, or *whether we should actually start thinking of a special right, perhaps a database right*. [emphasis added]

32 It has been said that the Database Directive "adequately balances the public's need for information access with the need for production incentives within the European Community".[84] While it may be fairly said that the Database Directive has done commendably well in attempting to make a very difficult balance work, problems with the Database Directive soon become apparent on closer scrutiny.

(1) Non-substantial extraction and reutilisation

33 The Database Directive's first flaw is the stifling of derivative innovation. The fact that extractions must be "non-substantial" and reutilisation of data is not allowed, limits the amount of information downstream customers, consumers or rivals may extract. This powerful right to prevent extraction conferred on database makers is subjected to only a small and weak set of public interest limitations. The *sui generis* database right is not subject to exceptions and limitations. The fair dealing defence does not apply. While lawful users may extract the contents of non-electronic databases for their private purposes, they may not extract the contents of electronic databases *even for purely private purposes*.[85]

34 Accordingly, even paying users would need a separate or additional license authorising "the permanent or temporary transfer of all

82 AIPPI, "Database Protection at National and International Level: Summary Report" available at <www.aippi.nl/publicaties2/Q182definitief.pdf>. Some commentators have argued that the EU would be vulnerable to a challenge that the reciprocity provision of its Database Directive violates the national treatment norm of the TRIPS Agreement. See Charles R McManis, "Taking TRIPS on the Information Superhighway: International Intellectual Property Protection and Emerging Computer Technology" (1996) 41 Vill L Rev 207 at 258–262.

83 *Singapore Parliamentary Debates, Official Report* (17 August 1999) vol 70 at col 2078 (Prof Toh See Kiat)

84 Neeta Thakur, "Database Protection In The European Union And The United States: The European Database Directive As An Optimum Global Model" (2001) IPQ 100 at 102.

85 Article 9(a) of the Database Directive, *supra* n 71.

or a substantial part of the contents"[86] to another medium. These same users may also extract data from either electronic or non-electronic databases for the limited purpose of "illustration for teaching or scientific research",[87] provided that their purpose is non-commercial and that they credit the source. Yet, any extraction or reutilisation of a substantial part of an electronic database for educational or scientific purposes other than "illustration" will almost certainly run foul of the general provision prohibiting "acts which conflict with a normal exploitation of the database or unreasonably prejudice the legitimate interests of the maker of the database".[88] This could mean that large amounts of information would be locked away from society and accessible through payment of prohibitive fees.[89] Database users need to interact freely with and transform databases in the course of their research. Where it is not clear where the dividing line between where database right protection ends and copyright begins, risk adverse users are reduced to mere consumers of a product that may be accessed and read only on a pay per use basis. Database rights potentially disrupt this pattern of usage. Under this regime, the former ability to reutilise the data, combine it with other data, and store it for later use is lost, and the pace of research in industries requiring a common pool of information, slowed.[90]

(2) Indefinite duration of protection

35 The second flaw with the Database Directive is the indefinite duration of protection it gives database owners. The term of protection of a database right is 15 years from the date of completion or from the date it was made available to the public,[91] and renewable if there are sufficient alterations to the database for another term.[92] The provision for a new 15-year-term of protection based on any substantial qualitative or quantitative change to the contents of the database creates the potential for a database right to last forever.[93] This "rolling" database right creates three problems.

86 Article 6(2) of the Database Directive, *supra* n 71.
87 *Ibid*.
88 Article 7(5) of the Database Directive, *supra* n 71.
89 Jacqueline Lipton, "Information Property: Rights And Responsibilities" (2004) 56 Fla L Rev 135 at 147.
90 *Ibid*.
91 Articles 10(1) and 10(2) of the Database Directive, *supra* n 71.
92 Article 10(3) of the Database Directive, *supra* n 71.
93 *Ibid*.

36 First, although it is far from clear what constitutes sufficient further investment to justify extension of the term, it seems to be an easy threshold to cross. The Database Directive suggests that even "verification of the contents of the database"[94] would be enough to trigger a new term of protection.[95] Thus most electronic databases will be updated sufficiently often to attract semi-permanent protection. This runs against the core of IP protection, where a limited license of monopoly power is conferred by the state in return for contribution to the existing pool of knowledge in society.[96] Second, while a relatively large number of database cases have been decided in various jurisdictions, most assume that subject matter which constitutes a database is self-evident, suggesting that it may be relatively easy for a diverse variety of subject matter to qualify as a database. The corollary to easy qualification is a potential for pervasive interference by database owners with the market for information contained in their databases. With the broad definition of databases and low threshold for protection, the Database Directive may in effect grant a perpetual monopoly over increasing swathes of public domain information. Third, the Database Directive does not indicate whether extensions of term relate only to the added material, or to the database as a whole. If protection is accorded only to newly added material, it seems to create an administratively onerous task for the court. Quite apart from the difficulties of tracing the infringing material to the database, the court must ascertain whether each alleged breach concerns old or new material.

(3) Recent developments

37 The fear of market failure and of chronic underprotection that initially motivated the quest for a *sui generis* regime to protect electronic databases has thus given way to the creation of "mini-monopolies over information".[97] Unsurprisingly, an overwhelming amount of debate has focused on the desirability of database rights.[98] However, an attempt to

94 *Ibid*.

95 Recital 55 of the Database Directive, *supra* n 71.

96 Mark A Lemley, "Property, Intellectual Property and Free Riding" (2004) John M Olin Program in Law and Economics: Working Paper No 291 available at <http://olin.stanford.edu/workingpapers/>.

97 Jerome H Reichman & Pamela Samuelson, "Intellectual Property Rights in Data?", *supra* n 9, at 54.

98 Commentators have noted that the Database Directive casts a net that is too broad, is too unchecked by institutional balancing mechanisms, and too uncertain in many of its provisions. Indeed, some have taken the extreme view that the situation is dire enough to warrant the Database Directive being repealed in its entirety as soon as

adopt an International Treaty on the Protection of Databases was rejected at a 1996 diplomatic conference held by the World Intellectual Property Organisation ("WIPO"). Since then, every effort to schedule a new diplomatic conference at WIPO has been rejected.[99] More recently, the European Commission published its first evaluation on the Database Directive in December 2005 ("Evaluation Report").[100] It was commissioned to determine whether stronger database rights had led to an increase in the rate of growth and database production in Europe. The results were startling. The Evaluation Report revealed that there was no clear correlation between the *sui generis* right on increased database production. Indeed, following the introduction of the Database Directive,

possible. For a useful summary of these views, see Hassan A Deveci, "Databases: Is Sui Generis A Stronger Bet than Copyright?", *supra* n 79.

99 As Prof Hughes noted, "The EU Database Directive prompted database protection to become a subject of discussions running up to the December 1996 diplomatic conference convened by (WIPO) to consider changes in international copyright law in response to digitization and the new Internet environment. Beginning in the late 1980s, the (EU) began studying database protection as part of a larger attempt to harmonize the copyright and related laws of its various member states. In early 1996, it appeared the US might follow the Europeans, both with domestic legislation on databases and by agreeing to international treaty provisions on the protection of non-creative databases. But opposition from the research and library communities quickly complicated the US position. At the same time, the basic copyright issues took much more time at the December diplomatic conference proceedings than had been anticipated. In the end, the conference members reached agreement only on the core copyright issues. Database protection fell into the same general pot of unresolved issues as protection of audiovisual performers and broadcasters". See Justin Hughes, "How Extra-Copyright Protection Of Databases Can Be Constitutional", *supra* n 13.

100 The Evaluation Report was conducted on the basis of an online survey addressed to the European database industry and the Gale Directory of Databases ("GDD"), the largest existing database directory in the world. Having presented its findings, stakeholders were invited to comment on four possibilities for the Database Directive:

(1) repeal the whole Database Directive;
(2) withdraw the *sui generis* right, leaving protection for creative databases unchanged;
(3) amend the *sui generis* provisions in order to clarify their scope; and
(4) maintain the status quo.

In March 2006, 55 contributions were received, the majority being database producers, with academics and users forming the remaining respondents. The majority supported options (3) or (4). Eight contributions supported option (1), three supported option (2), 26 supported option (3) and 26 supported option (4). The EC website explains that this figure exceeds the number of contributors "[s]ince some of the contributions support more than one option the numbers exceed the number of contributions received". Within those who supported option (3), 13 asked for a broader definition of the *sui generis* right and 10 for more exceptions to the *sui generis* right. See <http://ec.europa.eu/internal_market/copyright/prot-databases/prot-databases_en.htm>.

the number of EU-based database entries fell.[101] However, this did not dampen the European publishing industry's enthusiasm in arguing that *sui generis* protection was "crucial" to the continued success of their activities.[102]

38 Perhaps realising the access threat the EU had been legislatively saddled with, the European Court of Justice ("ECJ") made some dramatic pronouncements concerning database rights when the ECJ concurrently discussed four cases (collectively referred to as "*William Hill*").[103] The referring courts sought to clarify key terms defining the scope of the *sui generis* right. The ECJ held that where the database was the result of a principal activity and contains database created by the owner as a "spin-off" of that process, then there is no protection unless the owner can show that there was substantial investment in obtaining the information independent of the resources used in the principal activity.[104]

101 The fall was a dramatic one: from 4,085 entries in 2001 to 3,092 entries in 2004. Indeed, one empirical source cited by the Evaluation Report showed that database production in 2004 fell to pre-Database Directive levels. However, it should be noted that this empirical conclusion has been heavily criticised in the feedback by the relevant stakeholders. See, for example, the submission by the Data Publishers Association ("DPA") that "[t]he research on which the European Commission has based its evaluation is insufficient": Data Publishers Association, "Submission from the DPA to the European Commission DG Market in response to the Working Paper First Evaluation of Directive 96/9 on the legal protection of databases" <http://ec.europa.eu/internal_market/copyright/prot-databases/prot-databases_en.htm> ("Data Publishers Association, *Submission from the DPA*").

102 See, for example, Data Publishers Association, *Submission from the DPA*, *ibid*, that "the Sui Generis right is an innovative and valuable protection for the substantial investment made by database publishers in assembling data which may not attract copyright protection because it is factual data. In the absence of this protection such collections of data would have no protection" and "any decline in the number of databases in the period between 2000–2002 is more likely to be explained by the change in investment circumstances following the decline of investment markets in that period".

103 *Fixtures Marketing Ltd v Oy Veikkaus Ab* Case C-46/02; *The British Horseracing Board Ltd v William Hill Organisation Ltd* Case C-203/02; *Fixtures Marketing Limited v AB Svenska Spel* Case C-338/02; and *Fixtures Marketing Ltd v Organismos prognostikon agonon podosfairou* Case C-444/02. Essentially, the cases concerned parties who were being sued for breach of the database owners' *sui generis* right for taking information from football fixtures lists and horseracing data to organise betting games. The UK courts concurred with the ECJ's judgment. See *The British Horseracing Board Limited v William Hill Organisation Limited* Case C-203/02; [2005] RPC 260.

104 On the facts, the ECJ found no "substantial investment", since there was no separate substantial investment in obtaining, verifying or presenting the data. These were done at the moment of creation of the data as a result of the undertaking's principal activity, and could not be taken into account. The ECJ interpreted substantial investment in "verification" as monitoring the accuracy of materials collected when the database was created and during its operation, but not verification during creation. The fact that the British Horseracing Board Limited ("BHB") performed

Unfortunately, this left database owners who previously depended on *sui generis* database rights to protect the sweat of their brow in a legal limbo,[105] without necessarily assuring access seekers of clearer grounds for access.[106] As two commentators noted:[107]

> Whether the official body would be able to obtain the database right depends on the interpretation of the key phrase 'existing independent material', in particular the word 'independent'. Does 'independent' require that data is publicly available? Or, in line with the common dictionary definition, is it merely necessary that the material is discrete as a unit and not intertwined with other information? This is presently unclear.

39 It has been further argued that post-*William Hill*, the access problems with sole source databases will be reduced.[108] This is certainly

numerous checks while creating the horse lists when the database was created meant no "substantial investment" was made. In so doing, the ECJ narrowed the potential scope of the Database Directive. See Mark Davison & Bernt Hugenholz, "Football Fixtures, Horseraces and Spin Offs: The ECJ Domesticates the Database Right" (2005) EIPR 3, <http://www.ivir.nl/publications/hugenholtz/EIPR_2005_3_databaseright.pdf>; Charlotte Waelde, "Databases and Lawful Users: The Chink in the Armour" (2006) 3 IPQ 256; Stephen Kon & Thomas Heide, "BHB/William Hill – Europe's First" (2006) EIPR 60 at 61 described these cases as "a watershed in European IP jurisprudence the importance of which is on par with that of the US Supreme Court's *Feist* decision".

105 Some of the most authoritative databases compiled at significant expense by bodies appointed for that purpose appear to be derived of protection merely because they are the definitive official sources of the data in question, not because the material on the databases has been "obtained". See comments by Licensing Executives Society International that "[t]he net result of this is that most companies who in good faith created databases which they believed would be protected on a European wide basis by the new right were misled. They were misled because the legislation does not in fact protect them in the way which was envisaged when the legislation was created": Licensing Executives Society Britain and Ireland, "Response to European Commission's Evaluation of Directive 96/9/EC on the legal protection of databases", <http://ec.europa.eu/internal_market/copyright/prot-databases/prot-databases_en.htm>.

106 See the British Broadcasting Company's comments on the Commission's evaluation of Directive 96/9/EC on the legal protection of databases, "[w]e can only comment that the ECJ ruling has not allayed our fears that the database right is capable of 'locking up' information to which the BBC would previously had access under long-established copyright exceptions designed to safeguard freedom of expression and the public interest", <http://ec.europa.eu/internal_market/copyright/prot-databases/prot-databases_en.htm>.

107 Stephen Kon & Thomas Heide, "BHB/William Hill – Europe's First", *supra* n 104, at 65.

108 Estelle Derclaye, "The Court of Justice Interprets the Database Sui Generis Right for the First Time", *supra* n 71, argued that since a significant number of single source databases will potentially be ruled out from the protection due to the substantially raised threshold for protection, there may be a lower likelihood of information monopolies.

true if one assumes that *sui generis* database rights are the only way by which abuse can take place. However, it is also possible that database owners may continue to employ other means to prevent access. For example, owners could keep the function of data "creation" separate from database "creation" by corporate restructuring and separate budgeting. It could also introduce systems that provide a clear chronological and procedural distinction between investment in "creation" and "subsequent presentation or verification".[109] The state of database protection in the EU post-*William Hill* may therefore be more uncertain for both users and owners. This cannot be a satisfactory state of affairs, and would make the concurrent application of competition law more a dicey task for the Comission and courts. If the law at the Interface is to be properly set out in the EU, this aspect of database protection may first need to be clarified.

40 More broadly, databases whether protected by database rights or copyright could still be barred from access by owners using other IPRs or exploiting market conditions. These include misappropriation, contract, trade secret, trespass, and technology.[110] In particular, it has been observed that technological measures and rights management serve to regulate access in ways that augments the copyright owner's arsenal of rights while eroding traditional exceptions and exemptions like fair dealing and fair use.[111] If the introduction of these measures do not make the balancing of

109 Another solution may be to hire third parties so as to incur "sufficient investment" in "obtaining the data" because of the financial cost involved and the fact that the information would be "pre-existing". Further, a company could also create the data itself, sell exclusive rights to another organisation, and then re-acquire the data by making a financial investment. See also Amar A Hasan, "Sweating In Europe: The European Database Directive" (2005) 9 Computer L Rev & Tech J 479.

110 These measures, however, are not without their own limitations. See A A Hasan, "Sweating In Europe: The European Database Directive", *ibid*, "Contract remedies such as 'click-on' or 'shrink-wrap' agreements require privity of contract, proof of formation, and proof of enforceable terms. Trade secret law, by requiring 'reasonable efforts to keep information secret', is inapplicable to commercial databases that are made available to the public. Trespass claims only apply to physical property, making it difficult to prove the 'requisite injury necessary for relief'. Technological safeguards are a temporary measure because hackers eventually circumvent them. Thus, even alternative means of protection may be unavailable to non-creative databases and the additional expense of these methods retard the growth of the database industry."

111 Stanley Lai, "Anti-circumvention and its Challenges to the Law of Copyright" in *The Impact of the Regulatory Framework on E-Commerce in Singapore* (Daniel Seng ed, Singapore Academy of Law, 2002) at p 75, (Discussing the challenges to IP resulting from the "emerging legislative ethos governing anti-circumvention" (at p 76), and observing that in such a seemingly "ultra-protectionist ethos, the ultimate efficacy of anti-circumvention legislation may depend not so much on copyright, but 'copy-duty' – the duty of owners of protected property to make that property available" (at p 93))

rights between users and owners sufficiently complicated, the adoption of such legislation here and aborad on in favour of proponents of stronger rights suggest that there is much force in their argument that it may not be desirable to replicate the copyright balance as it currently exists in the analogue world.[112] Owners may also exploit market conditions such as network effects to prevent successful entry by competitors. In cases where they do occur, access blockages are created which IP law does not address. It is here that external intervention, such as regulation through competition law, may be required. Indeed, there is nothing new in the proposition that competition law plays an important role in supporting a competitive market where true alternatives are available for consumers. Most legal systems today monitor the exercise of IPRs within the framework of competition law, even though they are already internally regulated through IP legislation.[113]

(4) Evaluation

41 An earlier version of the Database Directive contained a provision on compulsory licensing which would have come into force if the information could not be obtained freely from other sources. This reflected the concerns for a monopolisation of information expressed during the Database Directive's drafting.[114] These provisions were deleted from the final Database Directive. All that is left of the compulsory licensing scheme originally envisaged is Recital 47, cautioning that:[115]

> [I]n the interests of competition between suppliers of information products and services, protection by the *sui generis* right must not be afforded in such a way as to facilitate abuses of a dominant position, in particular as regards the creation and distribution of new products and services which have an intellectual, documentary, technical, economic or commercial added value.

112 See ss 258–261 of the Singapore Copyright Act, *supra*, n 23, the EU Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain aspects of Copyright and Related rights in the Information Society OJ L167, 2001-06-22, and the Digital Millennium Copyright Act 1998 17 USC §1201 ("DMCA")

113 Organisation for Economic Co-operation and Development ("OECD"), *Report on Competition Policy and Intellectual Property Rights* (Paris 1989).

114 Article 8 ss 1 and 2, Proposal for a Council Directive on the Legal Protection of Databases, COM (92) 24 final, Brussels, 13 May 1992, OJ 1992 C156/4. See also Guido Westkamp, "Balancing Database Sui Generis Right Protection with European Monopoly Control Under Article 82 E.C." (2001) 22 ECLR 13 at 14.

115 Database Directive, *supra* n 71.

42 The final version of the Database Directive does not include this provision, indicating that EC officials could not reach an agreement regarding the controversial issue of compulsory licensing, and leaving it to the judiciary instead.[116] TRIPS itself provides for competition law to interfere where the IPR owner exceeds the permissible boundaries of the exercise of his right.[117] One reason for this has been suggested by Prof Cornish:[118]

> [I]n a period when intellectual property rights are being rapidly expanded, it must be wise for competition authorities to retain some ultimate means of curbing their range in egregious cases which, in the scramble to satisfy industrial lobbies, legislation may not have sufficiently cogitated.

116 Donna M Gitter, "The Conflict in the European Community Between Competition Law and Intellectual Property Rights: A Call for Clarification of the Essential Facilities Doctrine" (2003) 40 Am Bus LJ 217 noted that because of the problems with the general compulsory licensing provision, EU legislators decided to ensure proper access to databases through two enhancements. First, Art 16(3) of the Database Directive provides for a monitoring rule obliging the Commission to examine "in particular the application of the *sui generis* right including articles 8 and 9, and especially whether the application of this right has led to abuse of a dominant position or to other interference with free competition which would justify appropriate measures being taken, in particular the establishment of non-voluntary licensing arrangements". Second, Art 13 expressly subjects all rights granted under the Database Directive to the laws on restrictive practices and unfair competition of the Member States.

117 Article 8(2) of TRIPS, *supra* n 22, provides that "[a]ppropriate measures, provided that they are consistent with the provisions of this Agreement, may be needed to prevent the abuse of intellectual property rights by right holders or the resort to practices which unreasonably restrain trade or adversely affect the international transfer of technology". This is subject to Art 13 which confines these to "special cases" which do not conflict with the "normal exploitation" of the work and does not unreasonably prejudice the legitimate interests of the right holder. The WIPO Copyright Treaty 1996, *supra* n 23, and WIPO Performance and Phonograms Treaty 1996 (www.wipo.org/treaties/en/ip/wppt/pdf/trtdocs_wo034.pdf) both contain similar provisions. Just how a clear and workable mechanism is to be engineered is beyond the scope of this article. For example, Art 8 may explain an injunction to prevent the enforcement of an existing infringement, but it does not address the situation where the third party has not had access to the IPR, much less used it. How can interference by competition law in compelling a license not conflict with the "legitimate interests" of the right holder? However, this does not detract from the importance of this issue, and is commended for future research.

118 William R Cornish & David Llewellyn, *Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights* (Sweet & Maxwell, 5th Ed, 2003) at pp 755 and 789 noted that "[b]eyond (endogenous regulatory mechanisms) lie the corrective measures which may be taken against abuse of dominant position under Article 82 of the Rome Treaty. The *Magill* case authorises the imposition of compulsory licenses where, exceptionally, it is found that intellectual property is being licensed only on unacceptable terms. The power could prove to be of some significance in relation to database right, where the owner refuses any licence at all or offers terms so extravagant as to have the same effect".

43 Whatever response this statement invokes, there are at least three reasons why competition law will likely feature on the database landscape for the foreseeable future. First, it should be remembered that third parties may not have access to the owner's content. Internal controls in legislation conferring database rights are often *defences*, rather than affirmative courses of seeking redress for anti-competitive abuse as with competition law. Second, litigation over access to database content often takes place between private parties. If these disputes were settled by private bargaining or worse, end up in collusive agreements, the others seeking access would not benefit. In contrast, competition law actions will likely be initiated by the national competition authority. Even if the case ends before a court hears it, the written decision rendered by the authority will serve as a useful precedent for future cases. Third, competition law offers a novel and more attractive tool to regulate access. Given the growing commercial importance of IPRs and the commitment of countries to bilateral and multilateral agreements, any initiative towards diluting IPRs in database seems politically inexpedient, and therefore unlikely. Competition law has the advantage of sidestepping the thorny issues surrounding the legislative expansion of IPRs. Indeed, by submitting to a distant possibility of regulation by competition law, owners face less pressure to submit to more generous access rules under internal regulation. As will be seen, competition law is also a useful tool to bring down successful competitors by filing complaints for anti-competitive misbehaviour, or as a strategy to tap into a rival's technological riches protected by IPRs.

III. Competition law

44 In considering the issue of regulating access to databases, s 47 of the Singapore Competition Act[119] is of particular interest. Section 47 prohibits unilateral conduct by a dominant undertaking amounting to an abuse of its market power in Singapore, even where the undertaking itself is located outside Singapore.[120] The threshold requirement is that the owner must be found to occupy a dominant position in a particular market. In general, high market share is a key initial indicator of

119 *Supra* n 19.

120 Section 47 provides that: "any conduct on the part of one or more undertakings which amounts to the abuse of a dominant position in any market in Singapore is prohibited". It then proceeds to give four examples of abuses: predatory behaviour, tying, limiting production and discrimination. But this list is not exhaustive. The CCS Guideline also state that abusive conduct includes eliminating, limiting or preventing the entry of competition. See CCS Guideline, *infra* n 128 at para 4.4.

dominance,[121] although regulators are likely to look more broadly to the ability of the allegedly dominant firm to control prices in the face of pressure from competitors and to erect barriers to entry.[122] Thus, to justify interference, there must be a further finding that there are so few substitutes for the protected product or technology that the owner has the power in a relevant product market to enable it to prevent effective competition being maintained in that market.[123]

45 Database owners could contravene competition law by anti-competitively refusing to license the IPRs over their databases. The refusal could take the form of a refusal to supply an existing customer which would be eliminated from the downstream market as a result.[124] This also

121 See CCS Draft Guidelines on the s 47 Prohibition, at para 4.2. which stated that "[a] dominant undertaking is under a special responsibility not to distort competition". While, this was removed from the final version of the CCS Guideline without comment, it is the law in the EU and will likely be followed here as well. See, *eg*, *Nederlandse Banden-Industrie Michelin v Commission* Case 322/81 [1985] 1 CMLR 282 at [57] which noted that a dominant undertaking has "a special responsibility not to allow its conduct to impair genuine undistorted competition on the common market". A finding of dominance involves a two-stage procedure. The first is to determine the relevant market. Having defined the market, it is necessary to determine whether the undertaking is in a dominant position. In *United Brands Co v Commission* Case 27/76 [1978] ECR 207, the ECJ held that when a firm was able to behave independently of the market, it would be capable of several things. It could restrict output and thereby increase price above the competitive level. In the case of IPRs, the owner could prevent the technological growth by stifling the dissemination of technology. See Simon Bishop & Mike Walker, *The Economics of EC Competition Law* (Sweet & Maxwell, 2002) at para 3.04. Since a true monopoly, in the sense of having a single seller, is rare, most cases will have to determine whether the undertaking has sufficient power over the market to be caught by s 47. Market shares are an important factor in assessing market power, but not to the exclusion of other factors. See *Hoffman-La Roche v Commission* Case 85/76 [1979] ECR 461 where the ECJ held that dominance rests on finding a sustained period of having large market shares, in the absence of "exceptional circumstances". For example, the market may have lower entry barriers, thereby facilitating easy competitive entry, or the firm may be pricing close to marginal cost so market share does not accurately reflect market power. The CCS Guideline explain dominance in terms of "the extent to which there are substitutes for the technology, product, process or work to which the IPR relates". See CCS Guideline, *infra* n 128, at para 4.2. It is important to note that the exercise of exclusive rights by database owners, even those owning sole source databases do not indicate dominance. See also *AB Volvo v Erik Veng (UK) Ltd* Case 238/87 [1988] ECR I-6211; [1989] 4 CMLR 122 at [47] which held that "so far as dominant position is concerned, it is to be remembered at the outset that mere ownership of an intellectual property right cannot confer such a position".

122 Both issues turn on determining what constitutes the relevant market. The CCS Guideline recognise three levels of the production chain in market definition: innovation, technology and product markets. The problems associated with market definition are discussed in Pt III.C of the main text below.

123 *United Brands Co v Commission, supra* n 119, at 215.

124 CCS Guideline, *infra* n 128, at para 4.6 which noted that "in limited circumstances, a dominant undertaking's refusal to supply a licence may constitute an infringement

includes a constructive refusal by charging unreasonable prices or by imposing unfair trading conditions for the supply in question or by treating a particular customer in a discriminatory manner.[125] The concept of abuse is an objective one, and the undertaking does not have to intend to abuse its dominance to be caught by s 47.[126] If the database owner has been found to have abused its dominance, it will need to show that there is an objective justification for the refusal to supply to exonerate itself. This may be where, a dominant firm's practices that limit competition, do so to no greater extent than is necessary to vindicate legitimate interests.[127]

46 Apart from the broad textured wording in s 47, there is little to guide stakeholders in the database industry. In 2005, the Competition Commission of Singapore ("CCS") had released a series of guidelines[128]

under the section 47 prohibition". See also *Commercial Solvents v Commission* Cases 6, 7/73 [1974] ECR 223 where the ECJ held that ICI had abused its dominant position by refusing to supply nitropropane to Zoja, as it would eliminate the only serious competitor that it would face in the downstream market.

125 *Competition Law*, *supra* n 21, at p 664. For example. the European Commission considered that IBM had a dominant position in the supply of two key products for its System/370 computers. IBM refused to supply other manufacturers in sufficient time to produce competitive products to be used with System/370. In a settlement agreement, IBM agreed to supply, *inter alia*, in a timely manner, sufficient interface information to enable competing companies to attach both hardware and software products of their design to System/370. See also *Decca Navigation System* [1990] 4 CMLR 627 where the EC Commission held that modifying electronic signals produced by Decca's equipment without informing manufacturers of competing equipment was an abuse.

126 Refusals motivated by an intention to eliminate an actual or potential competitor have been condemned. The fact that there are abuses where evidence of intention is an integral part of establishing an infringement does not contradict this idea: see *Napier Brown - British Sugar* [1988] OJ L 284/41. Even a refusal to supply a new customer may be an abuse where an undertaking has a very large market share: see *Centre Belge d'études de marché - Télémarketing (CBEM) v CLT and IPB* Case 311/84 [1985] ECR 3261. As Prof Whish observed: "Intention is not a key component of the concept of abuse": *Competition Law*, *supra* n 21 at p 194.

127 CCS Guideline, *infra* n 128 at para 4.6: "The CCS may consider if the dominant undertaking is able to objectively justify its conduct, and whether the dominant undertaking has behaved in a proportionate way in defending its legitimate commercial interest."

128 Section 47 was drafted to be broad-textured because of the wide range of commercial conduct it would regulate. This has necessitated the CCS to issue non-binding policy statements to aid in interpretation. These guidelines reflect the CCS' socio-economic and legal policy objectives in applying the Singapore Competition Act. Amongst these, the CCS Guideline on the Treatment of Intellectual Property Rights ("CCS Guideline") is of particular interest for the present discussion. The CCS Guideline should be read with its companion guidelines in order to appreciate the various stages of analysis undertaken in determining whether conduct by a database owner is an anti-competitive abuse. Available at <www.ccs.gov.sg>. The CCS Guideline was broadly based on the US Antitrust Guidelines and the European Community's

indicating how they would administer the Singapore Competition Act, including one on the treatment of IPRs. However, those seeking to find extensive guidance will find themselves disappointed. The CCS Guideline is cautiously non-committal in its approach.[129] However, it does suggest that database owners possessing a dominant position may be forced to grant access[130] to databases where:

> (a) "[I]t relates to an *essential facility*, with the effect of (likely) substantial harm to competition".[131] The CCS Guideline explains that "a facility will be viewed as essential only if there are no potential substitutes (through duplication or otherwise) and if the facility is indispensable to the exercise of the activity in question";[132] and
>
> (b) more generally, where "the dominant undertaking attempts to *extend its market power into a neighbouring or related market, beyond the scope granted by IP law*".[133]
>
> [emphasis added]

Technology Transfer Block Exemption Rules and Guidelines. However, no guidance is given from either with respect to refusals to licence.

129 For example, para 1.6 of the CCS Guideline, <www.ccs.gov.sg>, states that "[t]he examples in this guidelines are for *illustration*. They are *not exhaustive, and do not set a limit on the investigation and enforcement activities of the CCS*"; para 4.3 states that "[a]lthough the existence of an IPR may impede entry into the market in the short term, any other undertaking may in the long term be able to enter the market with its own innovation. In markets where undertakings regularly improve the quality of their products, *a persistently high market share may indicate no more than persistently successful innovation.* The CCS will make its assessment of dominance, based on the particular facts of each case"; para 4.8 states that "[i]n determining whether a refusal to supply a licence constitutes an abuse under the section 47 prohibition, the impact on the technology and innovation markets will be considered. *Care must be taken not to undermine the incentives for undertakings to make future investments and innovations*" [emphasis added].

130 Apart from compulsory licensing, the CCS is able to, *inter alia*, levy a fine of up to 10% of an undertaking's annual turnover for each year of infringement for up to three years. Given that this may include a parent corporation controlling satellite regional subsidiaries, the amount can be staggering: see s 69 of the Singapore Competition Act, *supra* n 19. A sobering example of this draconian penalty was Microsoft, who was fined EUR280 million by the European Court of First Instance for failing to comply with, *inter alia*, orders to ensure pro-competitive access to its proprietary software. Section 83 of the Singapore Competition Act also allows for fines of up to S$10,000 and imprisonment for up to 12 months or both.

131 CCS Guideline, *supra* n 128, at para 4.6.

132 CCS Guideline, *supra* n 128, at para 4.7.

133 CCS Guideline, *supra* n 128, at paras 4.4–4.5.

47 The ability of database owners to avoid falling foul of s 47 will depend to a large extent on the quality of legal advice they receive. This, in turn, depends on how well their legal advisors understand the issues involved. How then should these key issues be understood? It is submitted that the analysis should proceed *seriatim*. The first step is to understand the conceptual interaction between database laws and competition law. The second is to examine how EU courts have applied these concepts in practice. Section 47 of the Singapore Competition Act was modeled after UK's Competition Act,[134] which was in turn modeled after Art 82 of the Treaty of Rome,[135] the basis for EC Competition Law.[136] Without a body of case law to guide owners potentially affected by the competition regime, the experiences of those in the EU and UK become more significant. The third step is to attempt to interpret the CCS Guideline in the light of analysis that these cases offer, while highlighting potential pitfalls in the competition analysis.

A. Theoretical foundations

48 The CCS Guideline's reference to "essential facilities" points to an adoption of the "essential facilities doctrine" ("EFD") from competition law in the EU and US. The EFD grew out of a number of cases in which a vertically integrated company had exclusive control over some facility, and used that control to gain an advantage over competitors in an adjacent or downstream market.[137] The focus of an EFD inquiry is not on

134 Competition Act 1998 (c 41) (UK).

135 Treaty of Amsterdam Amending the Treaty on European Union, the Treaties Establishing the European Communities and Certain Related Acts (2 October 1997), Art 230 [1997] OJ C 340/1 <www.europarl.europa.eu/topics/treaty/pdf/amst-en.pdf>.

136 The Singapore transplant was modified to take into account Singapore's specific economic characteristics and requirements, in particular, the fact that it is a small open economy. See Second Reading of the Competition Bill, *Singapore Parliamentary Debates, Official Report* (19 October 2004) vol 78 at col 863 (V Balakrishnan, then-Second Minister for Trade and Industry), <www.lawnet.com.sg >.

137 The European Commission has defined an essential facility as a "facility or infrastructure which is essential for reaching customers and/or enabling competitors to carry on their business, and which cannot be replicated by any reasonable means". See Notice on the Application of the Competition Rules to Access Agreements in the Telecommunications Sector, [1998] OJ C265/2, 22 August 1998 at para 68. A wide variety of facilities have been found to be essential. EC competition law initially applied the EFD to port facilities, but later extended it to include ground handling services, telecommunications networks, oil and gas pipelines, television listings information, computer reservation systems and most importantly, IPR. See *Competition Law*, *supra* n 21, at p 622. US courts have found a group of railroads jointly owning a key bridge that refused access in breach of the doctrine: see *United*

the conduct of the firm, but rather on the structural conditions of the relevant market, typically "bottleneck" situations, where the owner controls a "facility" which is indispensable to its competitors and refuses to grant access to it.[138] By denying access to the facility, the owner either eliminates downstream competition or imposes significant costs on them.[139] The EFD eschews IP law's rationale for protecting market power, and imposes a duty to deal fairly with rivals, or continue a relationship once it has begun.[140] Access must therefore be given on reasonable and non-discriminatory terms.

49 As a general rule of competition law, the IPR owner is under no obligation either to use or license protected works, even when offered a reasonable payment.[141] IPRs in databases provide incentives to encourage invention and bring new products to market by adjusting investment-based risk. It therefore permits firms to charge monopoly prices and

States v Terminal Railroad Assn, St Louis 361 US 116 (1959). In *Otter Tail Power Co v United States* 410 US 366 (1973), the public utility owning all the transmission lines to a municipality refused to allow the municipality to "wheel" power over those lines from outside plants because the utility itself wanted to provide power to the municipality. For a useful summary of the EFD, see Sergio Baches Opi, "The Application of the Essential Facilities Doctrine to Intellectual Property Licensing in the European Union and the United States: Are Intellectual Property Rights Still Sacrosanct?" (2001) 11 Fordham Intell Prop Media & Ent LJ 409.

138 Phillip E Areeda *et al*, *Antitrust Law: An Analysis of Antitrust Principles and their Application* vol IIA (Little Brown, 1995) at pp 650–651.

139 See, *eg*, *Aspen Skiing Co v Aspen Highlands Skiing Corp* 472 US 585 (1985); *Holyhead, B&I Line plc v Sealink Harbours Ltd and Sealink Stena Ltd* Commission Decision of 11 June 1992, [1992] 5 CMLR 255; and *Sea Containers v Stena Sealink* OJ No 15/8 (1994).

140 *Oscar Bronner GmbH & Co KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co KG, Mediaprint Zeitungsvertriebsgesellschaft mbH & Co KG and Mediaprint Anzeigengesellschaft mbH & Co KG* ("*Oscar Bronner*") (C-7/97) 26 November 1998, [1998] ECR I-7817, [1999] 4 CMLR 112, [1999] CEC 53 at 122: "[I]n certain cases a dominant undertaking must not merely refrain from anti-competitive action but must actively promote competition by allowing potential competitors access to the facilities which it has developed."

141 *AB Volvo v Erik Veng (UK) Ltd*, *supra* n 119, where the court held "the right of the proprietor of a protected design to prevent third parties from manufacturing and selling or importing, without its consent, products incorporating the design constitutes the very subject-matter of his exclusive right. It follows that an obligation imposed upon the proprietor of a protected design to grant to third parties, even in return for a reasonable royalty, a licence for the supply of products incorporating the design would lead to the proprietor thereof being deprived of the substance of his exclusive right, and that a refusal to grant such a licence cannot in itself constitute an abuse of a dominant position". However, the court also recognised that a manufacturer could still be guilty of abusing its dominant position where it refused to supply spare parts to independent repairers in an arbitrary manner, charged unfair prices for spare parts, or decided no longer to produce spare parts for models still in circulation.

profit from their lawfully obtained monopoly[142] for the same reason that database laws create property rights – to create and protect *ex ante* incentives for entrepreneurship, innovation, and commercial success.[143] To prohibit property owners from "reap[ing] where they have sown" is to negate their property rights.[144] Indeed, when one takes a long-term view of markets, IP law and competition law may share a common goal.[145] However, in practice, implementing these two regimes have proved to be more challenging.

142 *Blue Cross & Blue Shield United of Wisconsin v Marshfield Clinic* 65 F 3d 1406 (7th Cir, 1995) stated that a monopolist that has acquired and maintained its monopoly by lawful means "can ... charge any price that it wants, ... for the antitrust laws are not a price-control statute"; *Olympia Equipment Leasing Co v Western Union Telegraph Co* 797 F 2d 370 (7th Cir, 1986) ("the *Olympia Equipment* case") at 376: "[a] monopolist has no duty to reduce its prices in order to help consumers". An explanation for the apparent conflict between IP and competition law stems from competition law's focus on attaining competitive market conditions and not particular outcomes, as opposed to intellectual property law's preoccupation with ensuring the optimum amount of innovation. Competition law assumes that deterring monopolies will lead to the attainment of economic efficiency, while intellectual property law assumes that efficiency will be achieved only if regulators correctly estimate the proper mix of incentive and access to copyright as needed to provide the optimal amount of innovation.

143 Antitrust Guidelines for Collaborations Among Competitors (US) §3.2 (2000); the *Olympia Equipment* case, *id,* at 375: "[a] monopolist, no less than any other competitor, is permitted and indeed encouraged to compete aggressively on the merits".

144 William M Landes & Richard A Posner, *The Economic Structure Of Intellectual Property Law* (Harvard University Press, 2003) at p 13.

145 As the CCS recognises "[b]oth intellectual property ('IP') and competition laws share the same basic objective of promoting economic efficiency and innovation. IP law does this through the provision of incentives for innovation and its dissemination and commercialisation, by establishing enforceable property rights for the creators of new and improved products and processes. Competition law does this by helping to promote competitive markets, thereby spurring firms to be more efficient and innovative": CCS Guideline, *supra* n 128 at para 2.1. See also *Data General Corp v Grumman Sys Support Corp* 36 F 3d 1147 (1st Cir, 1994) which held that (a) neither antitrust nor IP legislation worked to erode the scope of the other; (b) the limited copyright monopoly was based on Congress' intent that the right to "exclude others from using their works creates a system of incentives that promotes consumer welfare in the long term by encouraging investment in the creation of desirable artistic and functional works of expression", and therefore could not "require antitrust defendants to prove and reprove the merits of this legislative assumption in every case where a refusal to license a copyrighted work comes under attack"; (c) IPRs, although granted by the state, were not exempt from the application of antitrust law. As a result of these three propositions, the court established that "while exclusionary conduct can include a monopolist's unilateral refusal to license a copyright, an author's desire to exclude others from use of its copyrighted work is a presumptively valid business justification for any immediate harm to consumers".

B. Lessons from Europe

50 In the EU, the leading competition law cases in relation to database exploitation are *Magill*[146] and *IMS Health*.[147] There are a number of reasons why these cases are important for Singapore. First, these cases concerned copyright. The low thresholds of copyright protection in those cases suggest that similar cases may arise in Singapore. Second, the facts of *Magill* and *IMS Health* neatly illustrate the types of access considerations that arise from sole source databases and the database as an industrial standard respectively. Third, the cases illustrate the difficulties that competition analysis runs into when applied to IP products in general, and databases in particular.

(1) Magill

51 In *Magill*, Magill TV Guides sought to publish a weekly guide to all television programming on the channels then broadcasting in Ireland. At that time, there were three companies broadcasting in the Irish market, and each published its own weekly guide. The broadcasting companies claimed copyright in their respective weekly guides, and sued Magill for copyright infringement. However, Magill asserted that the broadcasting companies had violated EU competition law by refusing to grant it a license under their copyright. The Competition Commission found a violation under Art 82 of the Treaty of Rome, because the refusal to license prevented the introduction of a new product for which there was consumer demand. The ECJ agreed, holding that "in special circumstances", the three television stations were required to license the copyright in their listings to Magill, stating that:

> (a) The television stations were the only sources of the basic information,[148] their refusal to supply this information prevented the appearance of a new product which the stations did not offer and for which there was constant consumer demand;[149]
>
> (b) There was no justification for the refusal;[150] and

146 *Radio Telefis Eireann and Independent Television Publications Ltd v Commission of the European Communities* [1995] ECR I-743; [1995] 4 CMLR 718 ("*Magill*").
147 *IMS Health GmbH & Co OHG v NDC Health GmbH & Co KG* ECJ Case C-418/01 [2004] 4 CMLR 28 ("*IMS Health*").
148 *Magill*, *supra* n 146, at [53].
149 *Id*, at [54].
150 *Id*, at [55].

> (c) The stations reserved to themselves the secondary market of weekly TV guides, by excluding all competition in that market.[151]

52 *Magill* established several landmark precedents. First, *Magill* shattered the perception that IPRs were immune from competition law interference. Maintaining effective competition in secondary markets can, in "exceptional circumstances", trump the IP policy in encouraging innovation and investment in technological progress. Second, the case developed the first EU framework to determine when IPRs can be interfered with. These elements mirror the tests set down in the CCS Guideline. The importance of *Magill* to database rights did not go unnoticed by Prof Cornish:[152]

> The *Magill* case authorises the imposition of compulsory licences where, exceptionally, it is found that intellectual property is being licensed only on unacceptable terms. This power could prove to be of some significance in relation to database right(s).

53 While the outcome seemed intuitively correct on its facts, *Magill* was criticised as being unclear,[153] and commentators expressed concern that it would erode commercial predictability inimical to stimulating the growth of the database industry.[154] For nearly a decade, this uncertainty hung like an ominous cloud over database owners until the case of *IMS Health* was brought before the ECJ, allowing it to provide further guidance.

151 *Ibid*.

152 *Intellectual Property*, *supra* n 1, at p 526.

153 See Aidan Robertson, "The Existence and Exercise of Copyright: Can It Bear the Abuse?" (1995) 111 LQR 588 at 591 who stated that after *Magill*, "[t]he extent to which EC law allows intellectual property right owners to exercise their rights has become more uncertain than ever".

154 As Prof Whish noted, "[t]he case was controversial, since it means that the owners of intellectual property rights – the copyright in the TV schedules – were required to grant licenses of those rights to third parties; compulsory licensing is more naturally a matter for intellectual property law than competition law": *Competition Law*, *supra* n 21, at p 665. See also James Turney, "Defining the Limits of the EU Essential Facilities Doctrine on Intellectual Property Rights: The Primacy of Securing Optimal Innovation", *supra* n 4, who observed that "there is little guidance as to when the essential facilities doctrine will apply and, in the aftermath of [*Magill*], both the academic and business communities were left to speculate on the scope of the principle", <http://www.law.northwestern.edu/journals/njtip/v3/n2/5/>.

(2) IMS Health[155]

54 In *IMS Health*, the largest supplier in the world of information on sales and prescription of pharmaceutical products, IMS, divided the German territory into 1860 "bricks", and claimed copyright in this "1860 brick structure". Owing to the participation of the pharmaceutical industry, this brick structure became the industry standard. NDC and AzyX, started using IMS's brick system as they could not persuade the pharmaceutical companies to switch to their grid system. IMS successfully sued them for copyright infringement. NDC and AzyX then complained to the Competition Commission that notwithstanding its copyright, IMS had to grant its competitors a compulsory license. Invoking the EFD, IMS's competitors argued that IMS abused its dominant market position by refusing, without objective justification, to license a facility that is essential for the supply of services.[156] IMS countered that such an interpretation of the EFD would render IP protection granted under national law nugatory, thereby deterring investment and innovation.

55 The ECJ found that both the degree of participation by the users in the development of the brick structure and potential switching costs that consumers might face when switching to an alternative brick system were highly relevant in determining whether the IMS brick structure is indispensable.[157] The Court laid down four concurrent conditions to find that the refusal by a copyright holder in a dominant position is abusive:

> (a) The product protected by copyright must be indispensable to compete in the secondary market;
>
> (b) The refusal to licence copyright must prevent the emergence of a new product for which there is a potential consumer demand;
>
> (c) It must not be justified by objective considerations; and

155 *Supra* n 147.

156 Commission Decision of 3 July 2001, at 18, 19, 22 and 25.

157 *IMS Health*, *supra* n 147, at [28]:

> [I]t must be determined whether there are products or services which constitute alternative solutions, even if they are less advantageous, and whether there are technical, legal or economic obstacles capable of making it impossible or at least unreasonably difficult for an undertaking to operate in the market to create, possibly in co-operation with other operators, the alternative products or services … for production on a scale comparable to that of the undertaking which controls the existing product or service.

(d) It must be likely to eliminate all competition in the secondary market.[158]

56 The conditions may be understood as follows. First, the product must be necessary for the intended activity. It must not be economically viable to produce on a scale comparable to the dominant firm, and in doing so deters reasonably enterprising undertakings from entering the relevant market. Second, the emergence of a novel, improved, product never before offered must be stifled. Exactly how much novelty is required before a product is considered "new" is not clear.[159] Third, the element of objectivity gives the court a "catch-all" provision to take into account broader considerations, including those relating to public policy. Fourth, it is not necessary to insist on the existence of distinct vertical markets. A potential market would suffice. It is submitted that *IMS Health* is a step in the right direction. By requiring a high degree of indispensability, a new product and prohibiting access to primary market competitors, this application of the EFD safeguards the incentives of database owners. However, the low threshold for a "potential market" creates a maddening ambiguity that database owners could be victimised by cleverly crafted hypothetical markets. In light of the ambiguities discussed above, *IMS Health* clearly cannot be the last word on the EFD.[160]

C. Evaluation

57 The European experience in *Magill* and *IMS Health* goes some way to shed light on how s 47 of the Singapore Competition Act[161] could affect dominant database owners in Singapore. However, whether or not the database owner is using its IPR as an instrument to abuse its dominant position can be a difficult question to determine. Can legal

158 *Id*, at [38] and [52].

159 This is further discussed in paras 68–74 of the main text below.

160 Indeed, recently, there have been two cases. At the EU level, *EC Commission v Microsoft* [2004] Case T-201/04 raises new and intriguing questions about what happens when IPRs cover software that has become a superdominant standard. *Attheraces v British Horseracing Board* [2005] EWHC 3015 (Ch) is a sequel to *William Hill*. Essentially, ATR, a customer of BHB's claimed that it effectively had a monopoly in the supply of pre-race data to information on runners and riders that was necessary to enable bookmakers to take bets on horse races. BHB abused its market dominance by refusing to supply ATR with pre-race data and threatened to terminate the supply of data to ATR even though ATR was an existing customer of BHB and pre-race data is an essential facility controlled by BHB. Although ATR could obtain the data from public sources, the judge found that this would be prohibitively expensive and impractical. The court found that BHB had abused its dominant position in relation to pre-race data, which was an essential facility.

161 *Supra* n 19.

advisors pronounce with confidence whether a database is "essential" or whether by refusing access, its owner is attempting to "extend its market power into a neighbouring or related market"?

58 While it is tolerably clear that it is the *abuse* of dominance, rather than dominance itself that is prohibited,[162] this understates the difficulty for a database owner to determine how far an undertaking can exploit its IPRs. The problem is that it may not think of market strategy in terms of competition law and may have regarded exploitation in the secondary market as important dollars to invest. Promoting investment is not only the goal of database law; it is important to competition law as well. The cost of errors in punishing investments that advance the repositories of human knowledge is rather high. Even ambiguity regarding the legal rules risks deterring effort in creating new databases. It is crucial that courts, regulators and legal advisors are aware of potential pitfalls. This article discusses two of the most obvious ones.

(1) Equating essentiality with abuse

59 "Essentiality" and "abuse" are closely intertwined, since an undertaking owning an "essential" database could soon mean an abuse of dominance for the database owner who refuses access. However, mere exploitation of market power without regard for rivals has never been itself viewed as abusive under competition law.[163] The cost and resources required to construct a commercially viable database severely limits the number of possible players, and a finding of dominance often makes the defendant vulnerable to a conclusion that the defendant holds a *de facto* monopoly in downstream markets.[164]

60 A narrow definition of a product market will likely eliminate all possible substitutes, resulting in databases being deemed as a "sole-source" or conferring a *de facto* monopoly.[165] As Prof Whish warned:[166]

162 CCS Guideline on the s 47 Prohibition, at para 2.1, "The section 47 prohibition only prohibits abuse of a dominant position. It does not prohibit undertakings from having a dominant position or striving to achieve it." See n 121.

163 Ron Myrick, "Will Intellectual Property on Technology still be viable in a Unitary Market?" (1992) EIPR 298, argued that to find a refusal to supply or licence abusive, something more must be shown by the competition authorities to allow the imputation of an abusive motive to the database owner's conduct other than a refusal to supply or licence as such.

164 *Magill*, *supra* n 146.

165 This may be evinced in *Magill*, where the court held that dominance was established because the defendant not only owned relevant IP, but also enjoyed a *de facto* monopoly in the TV listings market. *Magill*, *supra* n 146, at [45], "IPO criticizes this

> The definition of the essential facility in the upstream market will inevitably be influenced by the downstream market… (but) the definition of the upstream market does not, by itself, determine the outcome of the case. It is possible for an undertaking to have a dominant position in the upstream market and yet for it not to have an obligation to grant access to the essential facility under its control… defining the market and determining essentiality are not one and the same thing. Nor would there be an abuse unless the refusal to grant access would eliminate all competition in the downstream market.

61 Prof Anderman further explains that:[167]

> Even when an IP protected product reaches the status of a *de facto* monopoly and falls within the scope of Article 82, the mere achievement of that status is not itself viewed as abusive under EU law. A firm that has achieved a *de facto* monopoly by virtue of its investment in R&D and IP protection is normally entitled to continue to compete by exercising its exclusionary rights even in 'aftermarkets'. To find a refusal to supply or license abusive, something more must be shown by the competition authorities to allow the imputation of an abusive motive to the IP owner's conduct other than a refusal to supply or licence as such.

62 These statements may be understood as follows. Competition law is more concerned with the use of market power than the mere possession of it.[168] Accordingly, the courts have therefore limited harmful conduct to activity that departs from normal practices expected from firms in that particular industry.[169] Thus seen, competition law operates at

conception in so far as it artificially links economic dependence with the intention of a third party, who would always have the possibility of undertaking some other economic venture. For IPO, the concept of 'factual monopoly' appears to be an artificial construct whereby the Commission seeks to justify the use of competition law in order to change the specific subject-matter of copyright".

166 *Competition Law*, *supra* n 21, at p 675.

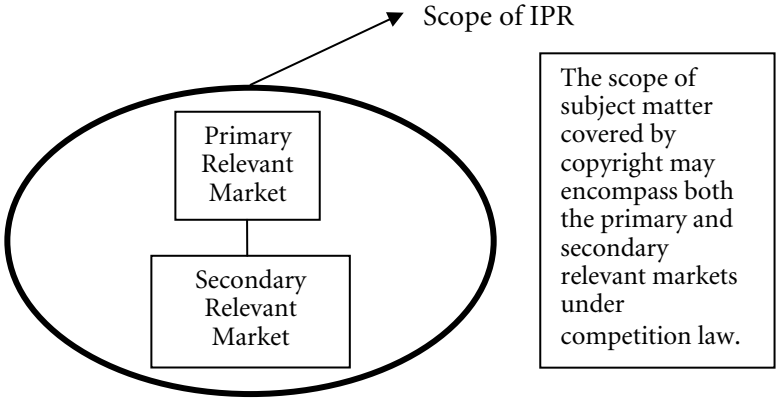
167 Steven D Anderman, "Does the Microsoft Case offer a New Paradigm for the 'Exceptional Circumstances' Test and Compulsory Copyright Licenses under EC Competition Law?" (2004) 1(2) Comp L Rev at 7 <http://www.clasf.org/CompLRev/assets/CompLRevVol1Issue2.pdf>.

168 See CCS Guideline, *supra* n 128, at para 2.5, "[t]he possession of an IPR does not necessarily create market power in itself"; and at para 4.3, "a persistently high market share may indicate no more than persistently successful innovation". As Learned Hand J put it in *United States v Aluminium Co of America* 148 F 2d 416 (2d Cir, 1945) at 430: "A single producer may be the survivor of a group of active competitors, merely by virtue of his superior skill, foresight and industry. In such cases a strong argument can be made that, although the result may expose the public to the evils of monopoly, the (Sherman) Act does not mean to condemn the resultant of those very forces which it is its prime objective to foster… the successful competitor, having been urged to compete, must not be turned upon when he wins."

169 *Hoffman-La Roche v Commission, supra* n 119, at [91], in which the ECJ defined "abuse" by referring to methods "different from those which condition normal

a behavioural level on an *ad hoc* basis, interfering only when it detects anti-competitive behaviour extending beyond the IPR grant. Competition law therefore should restrict itself to addressing anti-competitive behaviour consistent with the ambit of database laws.[170]

63 The database owner's primary market generally gives an indication where the permissible boundaries of the exercise of IPRs lie. However, as the figure below shows, exploitation of databases may often transcend more than one relevant market for competition law purpose. The scope of a *legal* monopoly is defined by the normative boundaries of IP law, not by what a court determines is the relevant market. In contrast, the scope of an *economic* monopoly refers to a firm's power to control the price of a product in a properly defined relevant competition market. Since the reward of IP law is the right to exploit the entire field it covers, it can implicate multiple competition markets. Accordingly, there should not be liability for refusing to license within the market defined by its legal monopoly, regardless of the number of competition markets this implicates. The CCS Guideline seems to recognise this, by adopting a position that it would act, where the owner exercised its rights "beyond the scope granted by IP law".[171]



64 It is clear that no case to date has gone so far as to deem IPRs themselves to be essential facilities. US courts have been reluctant to

competition". But see Steven D Anderman, *EC Competition Law and Intellectual Property Rights: The Regulation of Innovation* (Oxford University Press, 1998) at p 184 who noted that "normal" competition is assessed by reference to competition policy concerns, not by reference to customary commercial practice.

170 Paul Torremans, *Holyoak and Torremans Intellectual Property Law* (Butterworths, 3rd Ed, 2001) at pp 302–309; see also the introductory comments in *Competition Law*, *supra* n 21 at p 676.

171 CCS Guideline, *supra* n 128 at para 4.4.

adopt this omnibus approach, and have often downplayed the use of EFD, to the extent of denying its existence except in the lower courts.[172] Even in the EU where the EFD was embraced, it was to be applied "only in cases in which the dominant undertaking has a genuine stranglehold on the related market", not where control of the essential facility merely gives the undertaking a competitive advantage.[173] This suggests that a narrow view should be taken of what is "essential".[174] Otherwise, dominance is effortlessly established, without regard for the market effects or justifications for a refusal.[175] If niche markets are selected as relevant, many facilities will be found to be essential.[176] In these cases, the EFD is most likely to condemn copyright in precisely those circumstances in which intervention is least defensible: the more an invention is unique, valuable, and difficult to duplicate, the greater is the obligation to share it.[177]

172 *Verizon Communications Inc v Law Offices of Curtis V Trinko, LLP* 540 US 398 (2004): "[t]he Court's conclusion would not change even if it considered to be established law the "essential facilities" doctrine crafted by some lower courts … we have never recognized such a doctrine, and we find no need either to recognize it or to repudiate it here." Indeed, many prominent scholars have argued that the EFD should be abolished outright. Others who favour its continued existence nonetheless concede that it is properly applied only in rare cases. See Philip Areeda, "Essential Facilities: An Epithet in Need of Limiting Principles" (1989) 58 Antitrust LJ 841: "[t]he so-called essential facilities doctrine is one of the most troublesome, incoherent and unmanageable of bases for … liability. The competition world would almost certainly be a better place if it were jettisoned".

173 *Oscar Bronner, supra* n 140, at [40].

174 As was done in *Oscar Bronner, supra* n 140, where the ECJ held that for there to be an abuse, it would have to show that refusal to grant access to the home-delivery service would be likely to eliminate all competition in the daily newspaper market and that the home-delivery service was indispensable to carrying on business in the newspaper market. It is not sufficient to argue that it is not economically viable to create a system comparable with the "facility".

175 Thus, a broadcaster may have a 10% market share in TV programmes, but by defining the relevant market with respect to its TV listings, it would have a 100% market share over an "essential facility". See Guido Westkamp, "Balancing Database Sui Generis Right Protection with European Monopoly Control Under Article 82 E.C." *supra* n 114 at 16, who argued that "(d)ominance can effortlessly be established since here it is the third party who would determine to which information access is required".

176 Advocate General Jacobs warned against a wide concept of essential facilities for reducing the incentive to the original investment, to duplicating it and requiring regulation over the price to be paid for access: see *Oscar Bronner*, *supra* n 140, at [64]. Guido Westkamp, "Balancing Database Sui Generis Right Protection with European Monopoly Control Under Article 82 E.C.", *supra* n 114 at 21, "[i]t appears doubtful that the essential facilities doctrine can be applied to information at all". See also John Hogan, "Magill Revisited" (2000) Irish Student Law Review vol 8 at 8, who argued that "[a]n essential facility is not be considered a market in itself". Available at <http://www.islr.ie/Reviews/2000/magill_revisited.php>.

177 Abbott B Lipsky, Jr & J Gregory Sidak, "Essential Facilities" (1999) 51 Stan L Rev 1187 at 1219.

65 This analysis is also supported by *Magill*[178] and *IMS Health*.[179] Compared to the approach taken by the *Magill* court, the *IMS Health* court arguably took a narrower approach. It gave greater regard to the potentially eviscerating effect on the scope of the IPR owner's rights whenever competition law intervenes. The divergence from *Magill* may be explained as follows. In *Magill*, the broadcasting companies were seeking to deny competitors access to information they produced. The copyright in the owner's TV program guide was merely a veneer used to monopolise the program listings to which the owners produced and therefore controlled the very source of sustenance for any related market to exist. In doing so, they used copyright as a means of preventing competitors from producing a competing product that the market sought after. The only way to ensure any viable competition was to neuter the owners' right to sue for copyright infringement.

66 In contrast, IMS, though similarly seeking to prevent competition, was merely denying access to the specific subject matter of the copyright. Since the copyright covered the brick structure, it was subject to the scrutiny by competition law only because the brick structure had become an industry standard based on the collaborative efforts of IMS's customers. The complainants sought access to the subject of copyright, the "brick" structure, and not the information contained within that "brick" structure, in order to copy the owner's work merely so that they could offer a near replica of the original. This suggests that competition law may be less willing to require compulsory licensing to database content where it is inextricable from the exercise of the owner's right of enforcement. One way of avoiding conflating "essentiality" with "abuse" is to be more conservative in market definition. The CCS Guideline recognises this:[180]

> In defining markets, *care will have to be taken in choosing the initial focal product* and in identifying if secondary products formed a separate but related market, or part of the same market as the primary product. [emphasis added]

67 This, however, begs the question: where does a primary "IP" market end and competition regulation begin? After all, market definition is more a legal construct than a reflection of bright line distinctions on a production chain.

178 *Supra* n 146.
179 *Supra* n 147.
180 CCS Guideline, *supra* n 128, at para 4.4.

(2) Distinction between primary and secondary markets

68 The CCS Guideline does not indicate whether *IMS Health*'s standard of "potential markets" should be adopted in defining secondary markets. An obvious concern from IMS Health is that rivals and regulators can simply construct hypothetical markets to demand access? The absence of clear guidance from *IMS Health* on the secondary market issue is unfortunate as the ECJ had all the facts necessary to answer the question. Pegged low enough, database owners will be forced to licence competitors even if they are offering mere clones of the owner's database.[181] The argument goes that access should be given in the interests of fostering competition. This will ensure that even if dynamic efficiency is not fostered through innovation, at least allocative efficiency will be achieved through in price competition.[182]

69 It is submitted that it cannot be right for competition law to require access to databases merely to produce mere clones, even allowing for functional improvements. The very purpose of database protection is the prevention of copying by a competitor seeking to compete head-to-head with the original compiler. This assumes some displacement of allocative efficiency in favour of dynamic efficiency. To allow access to the primary market would be to usurp the legislation's role in defining the scope of IP law. It also discounts the commercial decisions that occurred *ex ante* to market entry. The incumbent may well have been the most efficient competitor which triumphed in a market structure that tends towards monopoly. This led one commentator to note that:[183]

181 See Josef Drexl, "IMS Health and Trinko – Antitrust Placebo for Consumers instead of Sound Economics in Refusal-to-Deal Cases" (2004) 35 IIC 708 at 808.

182 Allocative efficiency refers to a static market condition where competition for market shares drives prices to equal marginal cost of production, which in turn maximises the output of society's resources. The European Competition Commission alleged that the 1860 brick structure in *IMS Health* was an industry standard, and therefore subject to application of the EFD. In the case of dynamic efficiency, competition takes place *for* the market. Firms compete through innovation to dominate the market. Those that succeed enjoy a "fragile monopoly" because they can only retain their position if they continue to innovate. Scale economies in production together with network effects may result in a few dominant firms able to function at the lowest costs. Successful innovators must charge more than marginal cost to compensate for their fixed costs and risky investment. The average returns for competitors, adjusted for risk, are normal. But winners receive huge profits and control the industry standard with its IPRs. However, this may not mean that competition has failed.

183 James Turney, "Defining the Limits of the EU Essential Facilities Doctrine on Intellectual Property Rights: The Primacy of Securing Optimal Innovation", *supra* n 4.

> While it is conceded that the licensing of intellectual property where the third party is in direct competition with the right holder can, in some circumstances, benefit the consumer, the difficulty remains where the third party merely makes the same goods more cheaply or of a higher quality. In such circumstances, there would also be a benefit for consumers, but to grant a compulsory license would significantly undermine the property right. It is submitted that in order to qualify under the essential facilities doctrine, a third party must demonstrate that it has developed a distinct product from that of the right holder, but need not show that it will compete in a different market.

70 While it may be true that incumbent database owners may have simply entered a "thin" market and prevailed simply by being the first comer, rather than winning by skill or efficiency, competition policy still has a legitimate interest in ensuring that later innovators can enter or provide consumers with a superior product. However, it is difficult to see how superior a product that requires access to facilitate heavy duplication of the incumbent's technology can be. Further, the incumbent may well have decided not to invest in the first place had it known that the returns on its investments would be eroded by the law granting compulsory access to rivals, leaving consumers without the benefit to *any* product. Because finding the right balance is a difficult judgement to make, it is crucial that regulators understand that however useful competition law may be, the regulation of database rights, like other IPRs is a matter requiring the highest caution: too heavy regulation may lead to a stifling of innovation and the cessation of otherwise socially beneficial enterprises.

71 Again, the analysis in *Magill* and *IMS Health* supports this conclusion. *IMS Health* shows that in regulating access to database content, competition law makes a distinction between the primary market where the database right is exercised, and secondary derivative market which may exceed the scope of interference to market competition allowed by database laws. Where parties are competitors that exist at a horizontal level as in *IMS Health*, competition law is generally more willing to allow market forces to play out the result undisturbed. IMS Health enjoyed no separate market for the brick structure and derives its primary benefit from excluding others from using this system to organise pharmaceutical sales data. To impinge on its exercise of those rights in a horizontal context could be to eviscerate them completely. Therefore, access to primary markets, even where it concerns an essential facility is allowed only in the most stringent cases, where the essential

facility cannot be duplicated by any entity.[184] Even so, the compensation paid must adequately reflect that risk involved in the investment.[185]

72 In the contrast to the deferential approach taken in primary markets, courts will bear more heavily in preventing downstream abuse. This approach has been justified on the grounds that the return and incentives from control over exclusive exploitation in secondary markets is sharply distinct from exploitation in the primary market.[186] In exploiting its database rights in the primary market, the owner has already been rewarded according to any fair expectations it might have under the database legislation. Therefore, where the dominant undertaking had acted in a secondary downstream market to reinforce its dominance in the primary market, it is abusive.[187]

73 A dissatisfactory point remains. If competition law here accepts a hypothetical market for the IPR itself, as *IMS Health* seemed to suggest, then the requirement for a secondary market could become meaningless, as it would be met in all or almost all cases.[188] It is submitted that one test for IP markets susceptible to competition regulation in secondary markets is the requirement for a "new product". But this raises other questions. What is a "new" product? Is it measured incrementally or categorically?

184 As the court in *Oscar Bronner*, *supra* n 140, at [65] held:

> [I]n order for refusal of access to amount to an abuse, it must be extremely difficult not merely for the undertaking demanding access but for any other undertaking to compete. Thus, if the cost of duplicating the facility alone is the barrier to entry, it must be such as to deter any prudent undertaking from entering the market. In that regard it seems to me that it will be necessary to consider all the circumstances, including the extent to which the dominant undertaking, having regard to the degree of amortisation of its investment and the cost of upkeep, must pass on investment or maintenance costs in the prices charged on the related market.

185 *Oscar Bronner, supra* n 140, at [64]:

> While generally the exercise of intellectual property rights will restrict competition for a limited period only, a dominant undertaking's monopoly over a product, service or facility may in certain cases lead to permanent exclusion of competition on a related market. In such cases competition can be achieved only by requiring a dominant undertaking to supply the product or service or allow access to the facility. If it is so required the undertaking must however in my view be fully compensated by allowing it to allocate an appropriate proportion of its investment costs to the supply and to make an appropriate return on its investment having regard to the level of risk involved.

186 Guido Westkamp, *supra* n 112.

187 *AKZO v Commission* Case C-62/86 (1991) ECR I-3359.

188 James Killick, "IMS and Microsoft judged in the Cold Light of IMS" (2004) 1 Comp L Rev 25, available at <http://www.clasf.org/CompLRev/assets/CompLRevVol1Issue2.pdf>.

74 It may be said that the court could not have reasonably been expected to settle upon a single standard, since what is considered "new" may largely be a matter of subjective judgment. A riposte to this would be that courts routinely determine novelty with respect to design and patent claims. It is then difficult to see why they should suddenly stumble upon having to perform the same exercise in the competition law context. Yet, it should be recognised that the economic analysis permeating competition law actions does make seemingly routine determinations more unwieldy, and therefore more subject to malleability according to the particular facts of each case. These are issues that will have to be sorted out in the years to come. However, it is critical that in applying s 47 of the Singapore Competition Act[189], competition law does not also allow the EFD to become a doctrine of "convenient facilities".

IV. Conclusion

75 The legal issues raised in respect of the protection of factual compilations are not new, but the speed and complexity of today's business and legal environment makes regulation a more daunting task than ever.[190] As the society we live in becomes more dependent on databases, the polarity between those with an interest in accessing that information and those who seek to profit by limiting access to it will increase with it. Singapore, like the EU and US, must attempt to answer the question of how best to regulate access to databases as best as it can. It is undeniable that if investment in databases is to be encouraged, there must be assurance of sufficient legal protection. It is therefore tempting to respond by instituting an excessively broad and powerful legal monopoly. However, the danger in this is that society trades a chronic state of underprotection for one of overprotection. For a country aiming to become a global hub for IP and technology, it is imperative that clear and equitable rules are articulated.

189 *Supra* n 19.

190 Daniel Kanter, "IP and Compulsory Licensing on Both Sides of the Atlantic – an Appropriate Antitrust Remedy or a Cutback on Innovation?" (2006) ECLR 351 at 351, noted that "the interplay between intellectual property and antitrust law is becoming increasing significant in the global economy". See also Dr A M Magad, "[i]n approaching IP broadly, it is important to appreciate the extent to which competition is increasingly pre-eminent in our law. This was indeed acknowledged by the Minister earlier": *Singapore Parliamentary Debates, Official Report* (15 June 2004), *supra* n 10.

76 Copyright law has an internal regulatory mechanism to balance user and owner rights, but for various reasons, this is dissatisfactory in regulating access to databases. Ten years after the European Database Directive[191] was introduced, the debate over the nature and extent of database protection seems to have returned to where it all began. *William Hill* has shorn off some of the sting many feared would lead to a monopolisation of data. However, the internal checks are still tilted too far in favour of the owners, and like copyright, it does little to address access restraints posed by market conditions. While well suited to determine the scope and duration of exclusionary rights at the point of grant, IP law is a blunt instrument in regulating access and curbing potential anti-competitive effects that block access *ex post*. IPRs are fixed in length and scope and non-derogable save in the case of an invalid grant or a judicial finding of non-infringement, and incorporate scant consideration of the economic impact of granting access or upholding the refusal to grant access.

77 Competition law appears more promising. Database owners are regulated in their exploitation *ex post* grant based on commercial advantages that allow them to deter less privileged rivals from competing aggressively. At the same time, by factoring in considerations such as market power and market position, competition law is better positioned to determine the level of intervention needed to ensure proper access based on the effect the denial of access has on the market. Modern competition analysis is done under a rigorous synthesis of legal and economic tests. Expert witnesses are almost always a necessity. When driven by robust economic analysis, it arrests abusive behaviour by IPR owners and better reflects commercial expectations.

78 There is much to be said for shifting the pressure of ensuring access regulation from the stage of the grant of database rights to that of its exercise. The assurance of stronger upfront rights to protect investment would encourage database entrepreneurship, while ensuring robust action against the errant few who abuse their rights to prevent effective competition. In defining the boundaries between permitted and prohibited conduct, competition laws have developed a supple framework of rules regulating access to information contained in databases, while preserving the incentive to invest in a rapidly growing database industry.

191 *Supra* n 71.

79 However, it would go too far to say that competition law provides the panacea to the problem of regulating access. Competition law itself is in a nascent state of development where regulating as complex a creature as IPRs are concerned. Singapore will likely have to go through a fair number of cases before the rules on this are clear.

80 In future years, a significant focus of the database debate will likely be on resolving the tension between internal regulation and external regulation. The interface between competition law and intellectual property has always been a volatile one, and will likely remain so as long as IP laws continue to expand over factual or functional works to give its owners appreciable market power. In particular, Singapore has to consider how competition law interacts with the fair dealing defence and other statutory provisions that grant third parties access rights to database content.

81 Given the inherent difficulties in applying competition law to database rights, an eventual return to copyright misuse may be the best means of regulating the Interface, once a better understanding of the anticompetitive effects of IPRs has been achieved. However, that does not seem to be the case for some time yet. In the meantime, courts and regulators should therefore be cautious about condemning the exploitation of database rights unless they are confident that the conduct in question truly harms effective competition.